



**INVITATION FOR BID (IFB #11-1467-OV)
Anna Maria Island, Coquina Beach, Artificial Reef
Construction Project (Manatee County, FL)**

Manatee County, a political subdivision of the State of Florida, (hereinafter the "County") will receive sealed bids from individuals, corporations, partnerships, and other legal entities organized under the laws of the State of Florida or authorized to conduct business in the State of Florida.

NON-MANDATORY INFORMATION CONFERENCE

In order to insure that all prospective bidders have sufficient information and understanding of the County's needs, an **Information Conference** will be held **April 7, 2011 at 2:00 PM. Location: Manatee County Administration Building, 1112 Manatee Avenue West, Suite 803, Purchasing Division, Bradenton, FL 34205.**

Attendance is non- mandatory, however, highly encouraged.

REF: Article B.04, page 00020-2; Inspection of Site: Contractors note: It is mandatory that a site visit be performed at the location to familiarize yourselves with the full scope of the construction site. The site visit is a requirement to bid the project and shall be acknowledged in Section 00300, Bid Form, page 00300-1.

A site inspection is a requirement to submit a Bid.

DEADLINE FOR CLARIFICATION REQUESTS: April 12, 2011 Article A.06, page 00010-3.

TIME AND DATE DUE: April 26, 2011 at 2:00 PM

Manatee County Purchasing, 1112 Manatee Avenue West, Suite 803, Bradenton, FL 34205

Important Note: Lobbying is prohibited (reference Bid Article A.08)

**FOR INFORMATION CONTACT:
Olga Valcich (941) 749-3055
Email: olga.valcich@mymanatee.org**

AUTHORIZED FOR RELEASE. 

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Coast Permit (0281452-001-JC) 53 Total Pages

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Appendix TS-4 Artificial Reef Materials Cargo Manifest and Material
Placement Report 3 Total Pages

SECTION 00010
INFORMATION TO BIDDERS

A.01 OPENING LOCATION

These bids will be **publicly opened** at **Manatee County Purchasing, 1112 Manatee Avenue West, Suite 803, Bradenton, Florida 34205** in the presence of County officials at the time and date stated, or soon thereafter. All bidders or their representatives are invited to be present.

Any bids received after the stated time and date will not be considered. It shall be the sole responsibility of the bidder to have their bid **delivered to the Manatee County Purchasing Division** for receipt on or before the stated time and date. If a bid is sent by **U.S. Mail**, the bidder shall be responsible for its timely delivery to the Purchasing Division. Bids delayed by mail shall not be considered, shall not be opened at the public opening, and arrangements shall be made for their return at the respondent's request and expense.

A.02 SEALED & MARKED

One original and two copies of your **signed bid** shall be submitted in one **sealed** package, clearly marked on the outside **"Sealed Bid #11-1467-OV / Anna Maria Island, Coquina Beach, Artificial Reef Construction Project (Manatee County, FL)."**

Address package to: Manatee County Purchasing Division
 1112 Manatee Avenue West, Suite 803
 Bradenton, Florida 34205

A.03 SECURING OF DOCUMENTS

Complete individual copies of the bidding documents for the project and/or products can be obtained, free of charge, at the Manatee County Administration Building located at 1112 Manatee Avenue West, Suite 803, Purchasing Division; phone No. 941-749-3014. Documents may be obtained between the hours of 8:00 AM to 4:00 PM Monday through Friday, exception of holidays. Complete set of the bidding document must be used in preparing bids. The County assumes no responsibility for errors and misinterpretations resulting from the use of incomplete sets of bidding document.

A.04 BID DOCUMENTS

Bids on <http://www.mymanatee.org>. Bid documents and the Notices of Source Selection related to those Bids are available for download in a portable document format (.PDF) file on the Manatee County web page on the Purchasing tab under "Bids." You may view and print these files using Adobe Acrobat software. You may download a free copy of this software (Adobe) from the County's web page if you do not have it. **Manatee County collaborates with the Manatee Chamber of Commerce** on distributing solicitations using the RFP Tool web page on the Chambers website: <http://www.Manateechamber.com> to post Bid documents in a portable document

A.04 BID DOCUMENTS (Continued)

format (.PDF) file. This step is in addition to the posting on Manatee County Government web pages.

Manatee County may also use an internet service provider to distribute Bids. A link to that service, <http://www.DemandStar.com>, is provided on this website under the Tab "DemandStar". Participation in the DemandStar system is not a requirement for doing business with Manatee County.

Note: The County posts the Notice of Source Selection seven calendar days prior to the effective date of the award.

IT IS THE RESPONSIBILITY OF EACH VENDOR, PRIOR TO SUBMITTING THEIR BID, TO CONTACT THE MANATEE COUNTY PURCHASING OFFICE (see contact information on page one of this document) TO DETERMINE IF ADDENDA WERE ISSUED AND TO MAKE SUCH ADDENDA A PART OF THEIR BID .

A.05 MODIFICATION OF BID SPECIFICATIONS

If a bidder wishes to recommend changes to the bid specifications, the bidder shall furnish in writing, data and information necessary to aid the County in evaluating the request to modify the specifications. The County is not obligated to make any changes to the bid specifications. Unless an addendum is issued, the bid specifications shall remain unaltered. **Bidders must fully comply with the bid specifications, terms, and conditions.**

A.06 DEADLINE FOR CLARIFICATION REQUESTS

April 12, 2011 at 5:00 PM shall be the deadline to submit all inquiries, suggestions, or requests concerning interpretation, clarification or additional information pertaining to the Invitation for Bids to the Manatee County Purchasing Office.

ALL QUESTIONS FOR CLARIFICATION SHALL BE EMAILED TO: olga.valcich@mymanatee.org.

This deadline has been established to maintain fair treatment for all potential bidders, while maintaining the expedited nature of the Economic Stimulus that the contracting of this work may achieve.

A.07 CLARIFICATION & ADDENDA

Each bidder shall examine all Invitation for Bids documents and shall judge all matters relating to the adequacy and accuracy of such documents. Any inquiries, suggestions or requests concerning interpretation, clarification or additional information pertaining to the Invitation for Bids shall be made through the Manatee County Purchasing Office. The County shall not be responsible for oral interpretations given by any County employee, representative, or others. The issuance of a written addendum is the only official method whereby interpretation, clarification or additional information can be given.

A.07 CLARIFICATION & ADDENDA (Continued)

If any addenda are issued to this Invitation for Bid, the County will Broadcast the addenda on the Demand Star distribution system to "Planholders" on this web service, and post the documents on the Purchasing Division's web page at <http://www.mymanatee.org> which can be accessed by clicking on the "Purchasing" button and then clicking on the "Bids" button. It shall be the responsibility of each bidder, prior to submitting their bid, to contact Manatee County Purchasing (see contact on page 1) to determine if addenda were issued and to make such addenda a part of their bid.

A.08 LOBBYING

After the issuance of any Invitation For Bid, prospective bidders, or any agent, representative or person acting at the request of such bidder shall not contact, communicate with or discuss any matter relating in any way to the Invitation For Bid with any officer, agent or employee of Manatee County other than the Purchasing Director or as directed in the Invitation For Bid. This prohibition begins with the issuance of any Invitation For Bid, and ends upon execution of the final contract or when the invitation has been canceled. Violators of this prohibition shall be subject to sanctions as provided in the Manatee County Purchasing Code.

The County reserves the right to amend or to add to the names listed as persons to contact. All amendments or additions to the names listed as persons to contact shall be issued by the Purchasing Division, in writing.

A.09 UNBALANCED BIDDING PROHIBITED

Manatee County recognizes that large and/or complex projects will often result in a variety of methods, sources and prices; however, where in the opinion of the County such variation does not appear to be justified, given bid specifications and industry and market conditions, the bid will be presumed to be unbalanced. Examples of unbalanced bids will include:

1. Bids showing omissions, alterations of form, additions not specified or required conditional or unauthorized alternate bids.
2. Bids quoting prices that substantially deviate, either higher or lower, from those included in the bids of competitive bidders for the same line item unit costs.
3. Bids where the unit costs offered are in excess of or below reasonable cost analysis values.

In the event the County determines that a bid is presumed unbalanced, it will request the opportunity to, and reserves the right to, review all sources quotes, bids, price lists, letters of intent, etc., which the bidder obtained and upon which the bidder relied upon to develop the bid. The County reserves the right to reject as non-responsive any

A.09 UNBALANCED BIDDING PROHIBITED (Continued)

presumptive unbalanced bids where the bidder is unable to demonstrate the validity and/or necessity of the unbalanced unit costs.

A.10 FRONT END LOADING OF BID PRICING PROHIBITED

Prices offered for performance and/or acquisition activities to occur early in the project schedule, such as: mobilization, clearing and grubbing; or maintenance of traffic, that are substantially higher than pricing of competitive bidders within the same portion of the project schedule, will be presumed to be front end loaded. Front end loaded bids could reasonably appear to be an attempt to obtain unjustified early payments creating a risk of insufficient incentive for the Contractor to complete the work or otherwise creating an appearance of an under-capitalized bidder.

In the event the County determines that a bid is presumed to be front end loaded, it will request the opportunity to, and reserves the right to, review all source quotes, bids, price lists, letters of intent, etc., which the bidder obtained and upon which the bidder relied upon to develop the pricing or acquisition timing for these bid items. The County reserves the right to reject as non-responsive any presumptive front end loaded bids where the bidder is unable to demonstrate the validity and/or necessity of the front end loaded costs.

A.11 WITHDRAWAL OF OFFERS

Vendors may withdraw offers as follows: a) Mistakes discovered before the opening of a solicitation may be withdrawn by written notice from the bidder submitting the offer. This request must be received in the office designated for receipt of offers in the solicitation document prior to the time set for delivery and opening of the offers. A copy of the request shall be retained and the unopened offer returned to that vendor. b) After the responses to a solicitation are opened or a selection has been determined, but before a contract is signed, a vendor alleging a material mistake of fact may be permitted to withdraw their offer if: (1) the mistake is clearly evident on the solicitation document; or (2) the bidder submits evidence which clearly and convincingly demonstrates that a mistake was made. Request to withdraw and offer must be in writing and approved by the Purchasing Official.

A.12 IRREVOCABLE OFFER

Any bid may be withdrawn up until the date and time set for opening of the bid. Any bid not so withdrawn shall, upon opening, constitute an irrevocable offer for a period of 90 days to sell to Manatee County the goods or services set forth in the attached specifications until one or more of the bids have been duly accepted by the County.

A.13 BID EXPENSES

All expenses for making bids to the County are to be borne by the bidder.

A.14 RESERVED RIGHTS

The County reserves the right to accept or reject any and/or all bids, to waive irregularities and technicalities, and to request resubmission. Also, the County reserves the right to accept all or any part of the bid and to increase or decrease quantities to meet additional or reduced requirements of the County. Any sole response received by the first submission date may or may not be rejected by the County depending on available competition and current needs of the County. For all items combined, the bid of the lowest responsive, responsible bidder will be accepted, unless all bids are rejected. The lowest responsible bidder shall mean **that bidder who makes the lowest bid to sell goods and/or services of a quality which** conforms closest to or most exceeds the quality of goods and/or services set forth in the attached specifications or otherwise required by the County, and who is fit and capable to perform the bid as made.

To be responsive, a bidder shall submit a bid which conforms in all material respects to the requirements set forth in the Invitation For Bid. To be a responsible bidder, the bidder shall have the capability in all respects to perform fully the contract requirements, and the tenacity, perseverance, experience, integrity, reliability, capacity, facilities, equipment, and credit which will assure good faith performance. Also, the County reserves the right to make such investigation as it deems necessary to determine the ability of any bidder to furnish the service requested. Information the County deems necessary to make this determination shall be provided by the bidder. Such information may include, but shall not be limited to: current financial statements, verification of availability of equipment and personnel, and past performance records.

A.15 APPLICABLE LAWS

Bidder must be authorized to transact business in the State of Florida. All applicable laws and regulations of the State of Florida and ordinances and regulations of Manatee County will apply to any resulting agreement. Any involvement with any Manatee County procurement shall be in accordance with Manatee County Purchasing Code of Laws as amended. Any actual or prospective bidder who is aggrieved in connection with the solicitation or award of a contract may protest to the Board of County Commissioners of Manatee County as required in Section 2-26/61 of the Purchasing Code.

A protest with respect to this Invitation For Bid shall be submitted in writing prior to the scheduled opening date of this bid, unless the aggrieved person did not know and could not have been reasonably expected to have knowledge of the facts giving rise to such protest prior to the scheduled opening date of this bid. The protest shall be submitted within seven calendar days after such aggrieved person knows or could have reasonably been expected to know of the facts giving rise thereto.

A.16 COLLUSION

By offering a submission to this Invitation For Bid, the bidder certifies that he has not divulged, discussed or compared their bid with other bidder, and has not colluded with any other bidder or parties to this bid whatsoever. Also, bidder certifies, and in the case

A.16 COLLUSION (Continued)

of a joint bid each party thereto certifies as to their own organization, that in connection with this bid:

- a. any prices and/or cost data submitted have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices and/or cost data, with any other bidder or with any competitor;
- b. any prices and/or cost data quoted for this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder, prior to the scheduled opening, directly or indirectly to any other bidder or to any competitor;
- c. no attempt has been made or will be made by the bidder to induce any other person or firm to submit or not to submit a bid for the purpose of restricting competition;
- d. the only person or persons interested in this bid, principal or principals is/are named therein and that no person other than therein mentioned has any interest in this bid or in the contract to be entered into; and
- e. no person or agency has been employed or retained to solicit or secure this contract upon an agreement or understanding or a commission, percentage, brokerage, or contingent fee excepting bona fide employees or established commercial agencies maintained by bidder for purpose of doing business.

A.17 CODE OF ETHICS

With respect to this bid, if any bidder violates or is a party to a violation of the Code of Ethics of Manatee County per Manatee County Purchasing Code Ordinance 08-43, Article 3, Ethics in Public Contracting, and/or the State of Florida per Florida Statutes, Chapter 112, Part III, Code of Ethics for Public Officers and Employees, such bidder may be disqualified from performing the work described in this bid or from furnishing the goods or services for which the bid is submitted and shall be further disqualified from submitting any future bids for work or for goods or services for Manatee County. The County anticipates that all statements made and materials submitted in a bid will be truthful. If a bidder is determined to be untruthful in its bid or any related presentation, such bidder may be disqualified from further consideration regarding this Invitation For Bid.

A.18 BID FORMS

Bids must be submitted on attached County forms, although additional pages may be attached. **Bidders must fully complete all pages of the Bid Form. Bid Form must be executed by an authorized signatory who has the legal authority to make the offer and bind the company. Bidders must fully comply with all specifications, terms and conditions.**

A.19 LEGAL NAME

Bids shall clearly indicate the legal name, address and telephone number of the bidder. Bids shall be signed above the typed or printed name and title of the signer. The signer must have the authority to bind the bidder to the submitted bid.

A.20 DRUG FREE WORK PLACE

The Manatee County Board of County Commissioners adopted a policy regarding bidders maintaining a Drug Free Work Place, prohibiting the award of bids to any person or entity that has not submitted written certification to the County that it has complied with those requirements. A Drug Free Work Place Certification Form is attached to this bid for this purpose.

A.21 BE GREEN

All Bidders are encouraged to use as many environmentally preferable "green" products, materials, supplies, etc. as possible in order to promote a safe and healthy environment. Environmentally preferable are products or services that have a reduced adverse effect on the environment.

A.22 PUBLIC CONTRACTING AND ENVIRONMENTAL CRIMES

A person or affiliate who has been placed on the State's convicted vendor list following a conviction for a public entity crime, as that term is defined in Florida Statute § 287.133, may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in Florida Statute § 287.017 for CATEGORY TWO for a period of 36 months following the date of being placed on the convicted list.

In addition, the Manatee County Code prohibits the award of any contract to any person or entity who/which has, within the past 5 years, been convicted of, or admitted to in court or sworn to under oath, a public entity crime or of any environmental law that, in the reasonable opinion of the purchasing official, establishes reasonable grounds to believe the person or business entity will not conduct business in a responsible matter.

A.22 PUBLIC CONTRACTING AND ENVIRONMENTAL CRIMES (Continued)

To insure compliance with the foregoing, the Code requires all persons or entities desiring to contract with the County to execute and file with the purchasing official an affidavit, executed under the pain and penalties of perjury, confirming that person, entity and any person(s) affiliated with the entity, does not have such a record and is therefore eligible to seek and be awarded business with the County.

In the case of a business entity other than a partnership or a corporation, such affidavit shall be executed by an authorized agent of the entity. In the case of a partnership, such affidavit shall be executed by the general partner(s). A Public Contracting and Environmental Crimes Certification is attached for this purpose.

A.23 DISCOUNTS

Any and all discounts must be incorporated in the prices contained in the bid and not shown separately. The prices as shown on the bid form shall be the price used in determining award.

A.24 TAXES

Manatee County is exempt from Federal Excise and State Sales Taxes. (F.E.T. Exempt Cert. No. 59-78-0089K; FL Sales Tax Exempt Cert. NO 85-8012622206C-6); therefore, the vendor is prohibited from delineating a separate line item in his bid for any sales or service taxes. Nothing herein shall affect the vendor's normal tax liability.

A.25 DESCRIPTIVE INFORMATION

Unless otherwise specifically provided in the specifications, all equipment, materials and articles incorporated in the work covered by this contract shall be new and of the most suitable grade for the purpose intended. Unless otherwise specifically provided in the specifications, reference to any equipment, material, article or patented process, by trade name, brand name, make or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition.

A.26 AMERICANS WITH DISABILITIES ACT

The Board of County Commissioners of Manatee County, Florida, does not discriminate upon the basis of any individual's disability status. This non-discrimination policy involves every aspect of the County's functions including one's access to, participation, employment, or treatment in its programs or activities. Anyone requiring reasonable accommodation for an **Information Conference** or **Bid Opening** should contact the person named on the first page of this bid document at least twenty-four (24) hours in advance of either activity.

A.27 EQUAL EMPLOYMENT OPPORTUNITY CLAUSE

Manatee County, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 and the Regulations of the Department of Commerce (15 CFR, Part 8) issued pursuant to such Act, hereby notifies all vendors that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this advertisement and will not be discriminated against on the grounds of race, color or national origin in consideration for an award.

A.28 MBE/WBE

The State of Florida, **Office of Supplier Diversity** provides the certification process and the database for identifying certified MBE/WBE firms. This service may be directly accessed at: <http://www.osd.dms.state.fl.us/iframe.htm>

If you have any questions regarding this State service, please contact their office at (850) 487-0915.

A.29 MATHEMATICAL ERRORS

In the event of multiplication/extension error(s), the unit price shall prevail. In the event of addition error(s) the extension totals will prevail. All bids shall be reviewed mathematically and corrected, if necessary, using these standards, prior to additional evaluation.

A.30 DISCLOSURE

Upon receipt, all inquires and responses to inquires related to this Invitation for Bid become "Public Records" and are subject to public disclosure consistent with Chapter 119, Florida Statutes.

Bids become "Public Records" ten (10) days after the bid opening or if an award decision is made earlier than this time as provided by Florida Statute 119.071. No announcement or review of the bid documents shall be conducted at the public opening of the bids.

Based on the above, Manatee County will receive bids at the date and time stated, and will make public at the opening the names of the business entities of all that submitted an offer and any amount presented as a total offer without any verification of the mathematics or the completeness of the offer. Upon the expiration of the statutory term for exemption the actual documents may be inspected or copied. When County staff have completed a mathematic validation and inspected the completeness of the offers, tabulation shall be posted on www.mymanatee.org.

NOTE: ANY OR ALL STATEMENTS CONTAINED IN THE FOLLOWING SECTIONS: BASIS OF AWARD, TERMS AND CONDITIONS OF THE CONTRACT, OR SPECIFICATIONS, WHICH VARY FROM THE INFORMATION TO BIDDERS, SHALL HAVE PRECEDENCE.

END OF SECTION "A"

SECTION 00020
BASIS OF AWARD

B.01 BASIS OF AWARD

Award shall be to the responsive, responsible bidder meeting specifications and having the lowest Total Bid Price for the requirements listed on the Bid Form for the Work as set forth in this Invitation For Bid. Bid Prices shall include costs for furnishing all labor, equipment and/or materials for the completion of the Work in accordance with and in the manner set forth and described in the Contract Documents to the County's satisfaction within the prescribed time.

In evaluating bids, the County shall consider the qualifications of the bidders; and may also consider the qualifications of the subcontractors, suppliers, and other persons and organizations proposed. County may also consider the operating costs, maintenance requirements, performance data and guarantees of major items of materials and equipment proposed for incorporation in the Work.

Whenever two or more bids are equal with respect to price, quality and service, the bid received from a local business shall be given preference in award. Whenever two or more bids which are equal with respect to price, quality and service are received, and neither of these bids are received from a local business, the award shall be determined by a chance drawing conducted by the Purchasing Office and open to the public.

Local business is defined as a business duly licensed and authorized to engage in the sale of goods and/or services to be procured, which has a place of business in Manatee County with full time employees at that location.

B.02 SUBCONTRACTORS

Subcontractors shall be bound by the terms and conditions of this contract insofar as it applies to their Work, but this shall not relieve the prime contractor from the full responsibility of the County for the proper completion of all Work to be executed under this contract.

The employment of unauthorized aliens by any vendor is considered a violation of Section 274 (e) of the Immigration and Employment Act. If the vendor knowingly employs unauthorized aliens, such violation shall be cause for unilateral cancellation of this agreement.

B.03 QUALIFICATIONS OF BIDDERS

Each bidder must secure all licenses required (in accordance with Chapter 489 Florida Statutes) for the Work which is the subject of this bid; and shall submit a true copy of all applicable licenses with the Bid Form.

The Contractor, within the last ten (10) years shall have constructed underwater artificial reefs and / or pipelines in the Gulf of Mexico or Atlantic Ocean using controlled and accurate underwater placement of objects such as boulders or pipelines with the utilization and guidance of certified commercial divers(s) in order to control and accurately place the required object.

To demonstrate qualifications to perform the Work, each bidder must be prepared to submit within five days of County's request; written evidence such as financial data, previous experience, present commitments and other such data as may be requested. Bidder must be able to provide evidence of Bidder's qualification to do business in the state of Florida. Each bidder shall submit as a portion of their bid, a completed Contractor's Questionnaire included as Section 00430.

A complete list of all subcontractors proposed for any portion of the Work may be requested of any Bidder deemed necessary by the County. Subcontracts shall be awarded only to those subcontractors considered satisfactory by the County.

B.04 INSPECTION OF SITE

Prior to submission of a bid, each bidder shall visit the site to become familiar with all conditions that may affect services that are required to completely execute the full intent of these specifications. Site visit shall be acknowledged in Section 00300, Bid Form, page 00300-1.

B.05 PREPARATION OF CONTRACT

A written notice confirming award or recommendation thereof will be forwarded to the Successful Bidder accompanied by the required number of unsigned counterparts of the Agreement. **Within 7 days thereafter**, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement with any other required documents to County. (Note: Contract must be approved in accordance with the Manatee County Code of Laws, Chapter 2-26, Manatee County Purchasing Ordinance and the Standards and Procedures approved by the County Administrator).

END OF SECTION "B"

SECTION 00030
GENERAL TERMS AND CONDITIONS OF THE CONTRACT

C.01 CONTRACT FORMS

The agreement resulting from the acceptance of a bid shall be in the form of the agreement stated in this bid.

C.02 ASSIGNMENT OF CONTRACT

Contractor shall not assign, transfer, convey, sublet or otherwise dispose of this Contract or of his right, title, or interest therein, or his power to execute such Contract, or to assign any monies due or to become due there under to any other person, firm or corporation unless first obtaining the written consent of the County. The giving of such consent to a particular subcontractor assignment shall not dispense with the necessity of such consent to any further or other assignment.

C.03 COMMENCEMENT AND COMPLETION OF WORK

The Contractor shall commence work under this contract within seven (7) days after the Notice to Proceed with a Substantial Completion of the project to be achieved not later than 180 days following issuance of the Notice to Proceed. Final completion must be achieved within 210 Calendar Days of the Notice to Proceed.

C.04 LIQUIDATED DAMAGES

If the Contractor refuses or fails to prosecute the Work, or any separable part thereof, with such diligence as will hinder its completion within the time specified, the County may seek damages. The actual damages for delay will be impossible to determine and in lieu thereof, the Contractor shall pay to the County the sum of **\$2,000.00** as fixed, agreed, and liquidated damages for each calendar day of the delay until the Work is finally accepted by the County and the Contractor and his Surety shall be liable for the amount thereof.

C.05 PAYMENT

Contractor may apply for partial payment on monthly estimates, based on the amount of Work done or completed in compliance with the provisions of the Contract. Contractor shall submit an application, on a form provided or approved by the County, of an approximate estimate of the proportionate value of the Work done, items and locations of the Work performed up to and including the last day of the period then ending. The County will then review said estimate and make any necessary revisions so that the estimate can receive approval for payment. If the Contractor and the County do not agree on the approximate estimate of the proportionate value of the Work done for any pay period, the determination of the County will be binding. The amount of said estimate after deducting any required retainage and all previous payments shall be due and payable to the Contractor within 20 days after the pay estimate has been approved by the County. **If Outside Agent approval is required, payment shall be due 25 business days after the pay estimate has been approved by the agent for the County.** It is the Contractor's responsibility for the care of the materials.

C.05 PAYMENT (Continued)

Any damage to or loss of said materials is the full responsibility of the Contractor. Any Periodical Pay Estimate signed by the Contractor shall be final as to the Contractor for any or all work covered by the Periodical Pay Estimate. Any requests for payment of materials stored on site must be accompanied with a paid receipt. The Contractor warrants and guarantees that title to all work, materials and equipment covered by any application for payment, whether incorporated in the project or not, will pass to the County at the time of payment free and clear of all liens, claims, security interests and encumbrances (hereafter referred to as "Liens").

The Contractor agrees to furnish an affidavit stating that all laborers, material men, and subcontractors have been paid on the project for Work covered by the application for payment and that a partial or complete release of lien, as may be necessary, be properly executed by the material men, laborers, subcontractors on the project for Work covered by the application for payment, sufficient to secure the County from any claim whatsoever arising out of the aforesaid Work.

In accordance with the Prompt Payment Act, Section 218.735 (7), Florida Statutes, a Punch List shall be developed.

For projects with an estimated cost of less than \$10 million, the punch list shall be provided within 30 calendar days after reaching substantial completion. If substantial completion is not defined in the contract; upon reaching beneficial occupancy or use.

For projects with an estimated cost of \$10 million or more, within 30 calendar days, OR if extended by contract, up to 60 calendar days after reaching substantial completion. If substantial completion is not defined in the contract; upon reaching beneficial occupancy or use.

The final contract completion date must be at least 30 days after delivery of the list of items. If the list is NOT provided to the Contractor by the agreed upon date, the contract completion time must be extended by the number of days the County exceeded the delivery date.

When the Contractor has completed the Work in compliance with the terms of the Contract Documents, he shall notify the County in writing that the project is ready for final inspection. The County will then advise the Contractor as to the arrangements for final inspection and what Work, if any, is required to prepare the project or a portion thereof for final inspection. When the County determines the project or portion thereof is ready for final inspection, the County shall perform same. Upon completion of final inspection, the County will notify Contractor of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies. When all such errors have been corrected, a final re-inspection will be made. The process will be repeated until, in the opinion of the County, the project has been completed in compliance with the terms of the Contract Documents.

C.05 PAYMENT (Continued)

When final acceptance has been made by the County, the County will make final payment of the Contract amount, plus all approved additions, less approved deductions and previous payments made. The Contract will be considered complete when all work has been finished, the final inspection made, approved as-builts received, and the project finally accepted in writing by the County. The Contractor's responsibility shall then terminate except as otherwise stated.

C.06 RETAINAGE

A **retainage** of 2.5% of the total contract amount shall be withheld from payments after 75% completion of the Work. Upon substantial completion, this retainage shall be reduced to 1% of the total contract amount plus such amount as the County may reasonably deem necessary to repair, replace, complete or correct any damaged, defective, incorrect or incomplete work. Upon final acceptance, the remaining retainage shall be included in the final payment.

C.07 WARRANTY AND GUARANTEE PROVISIONS

All work, materials, and equipment furnished as defined herein shall be guaranteed and warranted by the contractor for a minimum period of three (3) years, unless otherwise specified, from final acceptance by the County to be free from defects due either to faulty materials or equipment or faulty workmanship.

All materials, equipment, and workmanship furnished and installed by the contractor is warranted and guaranteed by the contractor to be such as to meet the required standards and to accomplish the purpose and function of the project as defined, detailed, and specified herein.

The County shall, following discovery thereof, promptly give written notice to the contractor of faulty materials, equipment, or workmanship within the period of the guarantee and the contractor shall promptly replace any part of the faulty equipment, material, or workmanship at his own cost. These warranty and guarantee provisions create no limitations on the County as to any claims or actions for breach of guaranty or breach of warranty that the County might have against parties other than the contractor, and do not constitute exclusive remedies of the County against the contractor.

C.08 ROYALTIES AND PATENTS

The contractor shall pay all royalties and license fees for equipment or processes in conjunction with the equipment and/or services being furnished. Contractor shall defend all suits or claims for infringement of any patent, trademark or copyright, and shall save the County harmless from loss on account thereof, including costs and attorney's fees.

C.09 AUTHORIZED PRODUCT REPRESENTATION

The contractor, by virtue of submitting the name and specifications of a manufacturer's product, will be required to furnish the named manufacturer's product. Failure to perform accordingly may, in the County's sole discretion, be deemed a breach of contract, and shall constitute grounds for the County's immediate termination of the contract.

C.10 REGULATIONS

It shall be the responsibility of the bidder to assure compliance with any OSHA, EPA and/or other federal or state of Florida rules, regulations or other requirements, as each may apply.

C.11 CANCELLATION

Any failure of the contractor to furnish or perform the Work (including, but not limited to, commencement of the Work, failure to supply sufficient skilled workers or suitable materials or equipment) in accordance with the contract, the County may order the stop of the Work, or any portion thereof, until the cause for such order has been eliminated. If the contractor persistently fails to perform the Work in accordance with the contract, the County reserves the right to terminate the contract and select the next qualified bidder or re-advertise this procurement in part or in whole. The County reserves the right to cancel all or any undelivered or unexecuted portion of this contract with or without cause.

C.12 INDEMNIFICATION

The contractor covenants and agrees to indemnify and save harmless the County, its agents and employees, from and against all claims, suits, actions, damages, causes of action, or judgments arising out of the terms of the resulting agreement for any personal injury, loss of life, or damage to the property sustained as a result of the performance or non-performance of services or delivery of goods; from and against any orders, judgments, or decrees, which may be entered against the County, its agents or employees; and from and against all costs, attorney's fees, expenses and other liabilities incurred in the defense of any such claim, suit or action, and the investigation thereof. Nothing in the award, resulting agreement, contract or Purchase Order shall be deemed to affect the rights, privileges and immunities of the County as set forth in Florida Statute Section 768.28.

C.13 MANUALS, SCHEMATICS, HANDBOOKS

All manuals, schematics and handbooks shall be provided which are applicable to the equipment delivered. An operators manual, parts manual and technician manual must also be provided. Parts lists (manuals) must include OEM part numbers for items not manufactured by the bidder. Vendor shall furnish two (2) copies of each.

C.13 MANUALS, SCHEMATICS, HANDBOOKS

All manuals, schematics and handbooks shall be provided which are applicable to the equipment delivered. An operators manual, parts manual and technician manual must also be provided. Parts lists (manuals) must include OEM part numbers for items not manufactured by the bidder. Vendor shall furnish two (2) copies of each.

C.14 INSURANCE (FOR THIS PROJECT, CONTRACTORS SHALL REFER TO SUPPLEMENTAL GENERAL CONDITIONS PAGES SGC 8 THROUGH AND INCLUDING SGC 11. MARINE INSURANCE IS A REQUIREMENT FOR THIS PROJECT).

The contractor will not commence work under a contract until all insurance under this section and such insurance coverage as might be required by the County has been obtained. The contractor shall obtain, and submit to Purchasing within **7 calendar days** of request, at his expense, the following minimum amounts of insurance (inclusive of any amounts provided by an umbrella or excess policy):

a. Workers' Compensation/Employers' Liability

Part One - There shall be no maximum limit (other than as limited by the applicable statute) for liability imposed by Florida Workers' Compensation Act or any other coverage required by the contract documents which are customarily insured under Part One of the standard Workers' Compensation Policy.

Part Two - The minimum amount of coverage required by the contract documents which are customarily insured under Part Two of the standard Workers' Compensation Policy shall be:

<u>\$100,000</u>	(Each Accident)
<u>\$500,000</u>	(Disease-Policy Limit)
<u>\$100,000</u>	(Disease-Each Employee)

b. Commercial General Liability

The limits are to be applicable only to work performed under this contract and shall be those that would be provided with the attachment of the Amendment of Limits of Insurance (Designated Project or Premises) endorsement (ISO Form CG 25 03) a Commercial General Liability Policy with the following minimum limits.

General Aggregate:

Products/Completed Operations Aggregate	<u>\$1,000,000</u>
Personal and Advertising Injury	<u>\$300,000</u>
Each Occurrence	<u>\$300,000</u>
Fire Damage (Any One Fire)	<u>\$Nil</u>
Medical Expense (Any One Person)	<u>\$Nil</u>

C.14 INSURANCE (Continued)**c. Business Auto Policy**

Each Occurrence Bodily Injury and Property Damage Liability Combined	<u>\$300,000</u>
Annual Aggregate (if applicable):	<u>\$1,000,000</u>

d. Owners Protective Liability Coverage

The minimum OPC Policy limits per occurrence and, if subject to an aggregate, annual aggregate to be provided by the contractor shall be the same as the amounts shown above as the minimum per occurrence and general policy aggregate limits respectively required for the Commercial General Liability coverage. The limits afforded by the OPC Policy and any excess policies shall apply only to the County and the County's officials, officers, agents and employees and only to claims arising out of or in connection with the work under this contract.

e. Property Insurance

If this contract includes construction of or additions to above ground buildings or structures, contractor shall provide "**Builder's Risk**" insurance with the minimum amount of insurance to be 100% of the value of such addition(s), building(s), or structure(s).

f. Installation Floater

If this contract does not include construction of or additions to above ground building or structures, **but does involve** the installation of machinery or equipment, contractor shall provide an "**Installation Floater**" with the minimum amount of insurance to be 100% of the value of such addition(s), building(s), or structure(s).

g. Certificates of Insurance and Copies of Policies

Certificates of Insurance in triplicate evidencing the insurance coverage specified in the six above paragraphs a., b., c., d., e., and f., shall be filed with the Purchasing Director before operations are begun. The required certificates of insurance shall name the types of policy, policy number, date of expiration, amount of coverage, companies affording coverage, and also shall refer specifically to the bid number, project title and location of project. Insurance shall remain in force at least one year after completion and acceptance of the project by the County, in the amounts and types as stated herein, with coverage for all products and services completed under this contract.

ADDITIONAL INSURED: The contractor shall name Manatee County as additional insured in all applicable policies.

C.14 INSURANCE (Continued)

If the initial insurance expires prior to the completion of operations and/or services by the contractor, renewal certificates of insurance and required copies of policies shall be furnished by the contractor and delivered to the Purchasing Official thirty (30) days prior to the date of their expiration.

Nothing herein shall in any manner create any liability of the County in connection with any claim against the contractor for labor, services, or materials, or of subcontractors; and nothing herein shall limit the liability of the contractor or contractor's sureties to the County or to any workers, suppliers, material men or employees in relation to this contract.

C.15 BID BOND/CERTIFIED CHECK

By offering a submission to this Invitation For Bid, the bidder agrees should the bidder's bid be accepted, to execute the form of contract and present the same to Manatee County for approval within **7 days** after being notified of the awarding of the contract. The bidder further agrees that failure to execute and deliver said form of contract **within 7 days** will result in damages to Manatee County and as guarantee of payment of same a **bid bond/certified check** shall be enclosed within the submitted sealed bid in the amount of five (5%) percent of the total amount of the bid.

The bidder further agrees that in case the bidder fails to enter into a contract, as prescribed by Manatee County, the bid bond/certified check accompanying the bid shall be forfeited to Manatee County as agreed liquidated damages. If the County enters into a contract with a bidder, or if the County rejects any and/or all bids, accompanying bond will be promptly returned.

C.16 PERFORMANCE AND PAYMENT BONDS

The successful bidder shall furnish surety bonds as security for faithful performance of the contract awarded as a result of this bid, and for the payment of all persons performing labor and/or furnishing material in connection therewith. Surety of such bonds shall be in an amount equal to the bid award (100% each) and from a duly authorized and nationally recognized surety company, authorized to do business in Florida, satisfactory to this County. The attorney-in-fact who signs the bonds must file with the bonds a certificate and effective dated copy of power-of-attorney. (Reference Florida Statute 255.05)

Furnishing the performance and payment bonds shall be requisite to execution of a contract with the County. Said performance and payment bonds will remain in force for the duration of the contract with the premiums paid by the contractor. Failure of successful bidder to execute such contract and to supply the required bonds shall be just cause for annulment of the award.

C.16 PERFORMANCE AND PAYMENT BONDS (Continued)

The County may then contract with another acceptable bidder or re-advertise this Invitation For Bid. If another bidder is accepted, and notice given within 90 days after the opening of bids, this acceptance shall bind the bidder as though they were originally the successful bidder.

Failure of the County at any time, to require performance by the contractor of any provisions set out in the contract will in no way affect the right of the County, thereafter, to enforce the provisions. **Bonds to remain in effect for one year after final payment becomes due.**

C.17 NO DAMAGES FOR DELAY

No claim for damages or any claim other than for an extension of time shall be made or asserted against the County by reason of any delays. The Contractor shall not be entitled to an increase in the Total Contract Price or payment or compensation of any kind from the County or direct, indirect, consequential impact or other costs, expenses for damages, including but not limited to costs of acceleration or inefficiency arising because of delay, disruption, interference or hindrance from any cause whatsoever; provided, however, that this provision shall not preclude recovery or damages by the Contractor for hindrance or delays due solely to fraud, bad faith, or active interference on part of the County or its agents. Otherwise, the Contractor shall only be entitled to extensions of the Contract Time as the sole and exclusive remedy for such resulting delay, in accordance with and to the extent specifically provided above.

C.18 NO INTEREST

Any monies not paid by the County when claimed to be due to the Contractor under this Contract shall not be subject to interest including prejudgment interest. Any monies not paid by the County when claimed to be due to the Contractor for damages awarded in the case of construction delays shall not be subject to prejudgment interest.

C.19 CONSTRUCTION OF CONTRACT

This Contract and the rights and responsibilities hereunder shall not be construed more strongly against either party, regardless of the extent to which such party may have participated in the preparation hereof.

END OF SECTION "C"

SECTION 00100
BID SUMMARY

D.01 THE WORK

Contractors Note: The Contractor shall commence the Work under this Contract within seven (7) calendar days after the Contractor receives the Notice to Proceed with a Substantial Completion of the project to be achieved not later than 180 days following issuance of the Notice to Proceed. Final completion must be achieved within 210 calendar days following the issuance of the Notice to Proceed.

The Work of this project provides for the construction of a limestone boulder artificial reef off of the southern end of Anna Maria Island, Manatee County, FL, as identified on the Plans. The Work shall include, but is not be limited, to the supply, transport and placement of limestone boulders, to create an artificial underwater reef, as well as final cleanup, and restoration of any disturbed area within or adjacent to the project.

The Work shall fully meet the requirements of all current federal, state and county laws, rules, regulations and standards, with the most stringent applying.

D.02 SUBCONTRACTORS, SUPPLIERS AND OTHERS

The identity of subcontractors, suppliers, and other persons and organizations (including those who are to furnish the principal items of material and equipment) may be requested by the County for each bid item from any of the Bidders; and the Bidder shall respond within five days after the date of such request. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such subcontractor, supplier, persons or organization if requested by County. If County, after due investigation, has reasonable objection to any proposed subcontractor, supplier, other person or organization, County may, before the Notice of Award is given, request the apparent successful Bidder to submit an acceptable substitute without an increase in Contract Price or Contract Time.

If apparent successful Bidder declines to make any such substitution, County may award the contract to the next lowest qualified Bidder that proposes to use acceptable subcontractors, suppliers, and other persons who County does not make written objection to. Contractor shall not be required to employ any subcontractor, supplier, other person or organization who Contractor has reasonable objection to. Subcontractors shall be bound by the terms and conditions of this contract insofar as it applies to their Work, but this shall not relieve the prime contractor from the full responsibility to the County for the proper completion of all Work to be executed under this contract.

No more than 30% of the WORK shall be performed by the subcontractor(s).

D.03 BIDS

Bids are to be submitted in triplicate, one original and two copies, upon the County supplied forms. All blank spaces must be filled in as noted with amounts extended and totaled and no changes shall be made in the wording of the forms or in the items mentioned therein. In the event a change is made in your submittal, the Bidder shall write its initials by the change. Any bid may be rejected which contains any omissions, alterations, irregularities of any kind, or which shall in any manner fail to conform to bid requirements.

A bid made by an individual, either in his/her own or proper person or under a trade or firm name, shall be executed under the individual's signature. If made by a partnership, the bid shall be executed by two or more of the general partners. If made by a corporation, the bid shall be executed by its President or other legally authorized corporate officer or agent.

D.04 EXAMINATION OF CONTRACT DOCUMENTS AND SITE

It is the responsibility of each Bidder before submitting a Bid, to (a) examine the Bid Documents thoroughly; (b) visit the site to become familiar with local conditions that may affect cost, progress, performance, or furnishing of the Work; (c) consider federal, state, and local codes, laws, and regulations that may affect costs, progress, performance, or furnishing of the Work; (d) study and carefully correlate Bidder's observations with the Bid Documents; and (e) notify County of all conflicts, errors, or discrepancies in the Bid Document.

The accuracy of the existing utility locations shown on the plans is approximate and without express or implied warranty. Each Bidder may, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests and studies, and obtain any additional information and data which pertain to the physical conditions at or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing of the Work and which Bidder deems necessary to determine his Bid for performing and furnishing the Work in accordance with the time price and other terms and conditions of the Contract Documents.

County will provide each Bidder access to the site to conduct such explorations and tests. Bidder shall fill all holes, clean up and restore the site to its former condition upon completion of such explorations. The lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and other lands designated for use by Contractor in performing the Work identified in the Contract Documents.

All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by Contractor. Easements for permanent structures or permanent changes in existing structures are to be obtained and paid for by County unless otherwise provided in the Contract Documents.

D.05 MATERIALS AND WORKMANSHIP

All materials and apparatus required for this Work, except as specifically specified otherwise, shall be new, of first class quality, and shall be furnished, delivered, connected and finished in every detail. Construction shall be prescribed by good industry practice and in accordance with manufacturer's recommendations for the type being installed.

Use skilled workman trained and experienced in the necessary trades and who are completely familiar with the specified requirements and the methods needed for proper performance of the Work of this section.

D.06 REGULATIONS AND MATERIAL DISPOSAL

It shall be the responsibility of the contractor to assure compliance with any OSHA, EPA, federal, state, and/or local rules, regulations or other requirements as each may apply.

D.07 DISCRETIONARY WORK

This Bid Item entails minor increases (that may be directed by staff) to existing bid item quantities or minor modification items not bid which were unforeseen and necessary during the construction to provide a safe, complete project in accordance with Bid Documents. (This will not affect the requirement for change orders involving major modifications to the project.) Payment for all Work under this item shall be made only at the County's discretion in order to satisfactorily complete the project. In general, this item is for unanticipated conflicts and/or design changes required during construction which are necessary to complete the project without changing the initial scope of Work and without costly delays.

END OF SECTION "D"

SECTION 00150

MANATEE COUNTY LOCAL PREFERENCE LAW AND VENDOR REGISTRATION**E.01 Vendor Registration**

All vendors are encouraged to register with Manatee County using the on-line "Vendor Registration" web page on www.mymanatee.org.

Enclosed are a copy of the current Manatee County law that details the County's Local Preference and the County's definition of a Local Business.

If you assert that your firm meets the stated definition of a Local Business, we ask that in addition to registering on the County's Web page, you fill out the attached "**Affidavit As To Local Business Form**" that is included in this section, have the completed document notarized, and mail the original to the following address: Manatee County Administration Center, 1112 Manatee Avenue West, Suite 803, Bradenton, FL 34205.

Your cooperation in registering your business with Manatee County will enhance our opportunities to identify sources for goods and services, plus identify Local Businesses. This information is used for soliciting quotations up to \$250,000.00 and for competitive solicitations of larger purchases.

You will note that Manatee County collaborates with the Manatee Chamber of Commerce, posting bids on www.manateechamber.com as well as using the same vendor categories for registration.

Our staff can assist you with your registration as needed. Our office hours are 8:00 A.M. to 5:00 P.M., Monday through Friday on regular business days. Please call (941) 749-3014 if you wish to have a purchasing staff member assist you.

Quick steps to registration:**www.mymanatee.org**

A link to "Purchasing" is listed under "Quick Links" on page one of the County Web Site.

On the left hand side of the Purchasing Web page, click on "Vendor Registration".

This will bring up the Vendor Registration form for on-line input. Please note that the definition of a "Local Business" changed on March 17, 2009. The Web page will be updated to include the current Law which has been provided in this section of the bid.

Thank you for reviewing this information and considering registering your business with Manatee County. Registration is not mandatory; however, by taking the time to register, you are helping the County to provide timely notifications of quotation, bid and proposal opportunities to your business.

E.02 Section 2-26-6. Local preference, tie bids, local business defined.

(a) Whenever a responsible local business bidder and a responsible non-local business bidder are found, upon the opening of bids, to have both submitted the lowest responsive bid, the bid of the local bidder shall be awarded the contract. Should more than one responsible local business bidder match the responsible non-local business bidder's lowest responsive bid, or should no responsible local business bidder match the lowest responsive bid but two or more responsible non-local business bidders submit lowest responsive bids for equal amounts, then the award of the contract shall be determined by a chance drawing, coin toss, or similar tie-breaking method conducted by the purchasing office and open to the public. Any bidders seeking to be recognized as local businesses for purposes of this local business preference provision may be required by the terms of the bid announcement to certify they meet the definition of local business set forth in this section, and to register as a local business with the county in the manner prescribed by the county to facilitate the county's ability to track the award of contracts to local businesses and to allow the county to provide future notifications to its local businesses concerning other bidding opportunities.

(b) Nothing herein shall be deemed to prohibit the inclusion of requirements with respect to operating and maintaining a local place of business in any invitation for bids when the bidder's location materially affects the provisions of the services or supplies that are required by the invitation.

(c) Local business is defined as a business legally authorized to engage in the sale of the goods and/or services to be procured, and which certifies within its bid that for at least six (6) months prior to the announcement of the solicitation of bids it has maintained a physical place of business in Manatee, Desoto, Hardee, Hillsborough, Pinellas or Sarasota County with at least one full-time employees at that location.

(d) Each solicitation for bids made by the county shall contain terms expressly describing the local business preference policies of the county, and shall provide that by electing to submit a bid pursuant to a request for bids, all bidders are deemed to understand and agree to those policies.

(e) For all contracts for architecture, professional engineering, or other professional services governed by Florida Statute § 287.055, the Consultants' Competitive Negotiation Act, the county shall include the local business status of a firm among the factors considered when selecting which firms are "most highly qualified." In determining which firm is the "most qualified" for purposes of negotiating a satisfactory contract, preference shall be given to a local business where all other relevant factors are equal.

(f) Local preference shall not apply to the following categories of contracts:

1. Goods or services provided under a cooperative purchasing agreement or similar "piggyback" contract;
2. Contracts for professional services subject to Florida Statute § 287.055, the Consultants' Competitive Negotiation Act, except as provided for in subsection (e) above;

E.02 Section 2-26-6. Local preference, tie bids, local business defined. (Continued)

3. Purchases or contracts which are funded, in whole or in part, by a governmental or other funding entity, where the terms and conditions of receipt of the funds prohibit the preference;
 4. Purchases or contracts made pursuant to a non-competitive award process, unless otherwise provided by this section;
 5. Any bid announcement which specifically provides that the general local preference policies set forth in this section are suspended due to the unique nature of the goods or services sought, the existence of an emergency as found by either the county commission or county administrator, or where such suspension is, in the opinion of the county attorney, required by law.
- (g) To qualify for local preference under this section, **a local business must certify to the County that it:**
1. Has not within the five years prior to the bid announcement admitted guilt or been found guilty by any court or state or federal regulatory enforcement agency of violation of any criminal law, or a law or administrative regulation regarding fraud;
 2. Is not currently subject to an unresolved citation or notice of violation of any Manatee County Code provision, except citations or notices which are the subject of a current legal appeal, as of the date of the bid announcement;
 3. Is not delinquent in the payment of any fines, liens, assessments, fees or taxes to any governmental unit or taxing authority within Manatee County, except any such sums which are the subject of a current legal appeal.

Ref: Ordinance 09-21 and 09-23 **PASSED AND DULY ADOPTED** in open session, with a quorum present and voting, on the 17th day of March, 2009.

Contractors Note: Contractors who have previously submitted an **AFFIDAVIT AS TO LOCAL BUSINESS** are not required to resubmit an AFFIDAVIT, provided that any and all information has remained unchanged.

END OF SECTION "00150"

**MANATEE COUNTY GOVERNMENT
AFFIDAVIT AS TO LOCAL BUSINESS
(Complete and Initial Items B-F)**

A. Authorized Representative

I, [name] _____, am the [title] _____

and the duly authorized representative of: [name of business] _____
_____, and that I possess direct personal knowledge to make informed responses to these certifications and the legal authority to make this Affidavit on behalf of myself and the business for which I am acting; and by electing to submit a bid pursuant to this Invitation for Bids, shall be deemed to understand and agree to the local business preference policies of Manatee County; and that I have the direct knowledge to state that this firm complies with all of the following conditions to be considered to be a Local Business as required by the Manatee County Code of Law, Section 2-26-6.

B. Place of Business: I certify that the above business is legally authorized to engage in the sale of goods and/or services and has a physical place of business in Manatee, DeSoto, Hardee, Hillsborough, Pinellas or Sarasota County with at least one (1) fulltime employee at that location. The physical address of the location which meets the above criteria is: _____ [Initial] _____

C. Business History: I certify that business operations began at the above physical address with at least one fulltime employee on [date] _____ [Initial] _____

D. Criminal Violations: I certify that within the past five years of the date of this Bid announcement, this business has not admitted guilt nor been found guilty by any court or local, state or federal regulatory enforcement agency of violation of any criminal law or administrative regulation regarding fraud. [Initial] _____

E. Citations or Code Violations: I certify that this business is not currently subject to any unresolved citation or notice of violation of any Manatee County Code provision, with the exception of citations or notices which are the subject of a legal current appeal within the date of this bid announcement. [Initial] _____

F. Fees and Taxes: I certify that within this business is not delinquent in the payment of fines, liens, assessments, fees or taxes to any governmental unit or taxing authority within Manatee County, with the exception of those which are the subject of a legal current appeal. [Initial] _____

Each of the above certifications is required to meet the qualification of "Local Business" under Manatee County Code of Law, 2-26-6.

Signature of Affiant _____

STATE OF FLORIDA

COUNTY OF _____

Sworn to (or affirmed) and subscribed before me this ____ day of _____, 20____, by (name of person making statement).

(Notary Seal) Signature of Notary: _____

Name of Notary (Typed or Printed) _____

Personally Known ____ OR Produced Identification ____ Type of Identification Produced _____

Submit executed copy to Manatee County Purchasing, Suite 803, 1112 Manatee Avenue W., Bradenton, FL 34205.

BID FORM – IFB #11-1467-OV – SECTION 00300
For: Anna Maria Island, Coquina Beach Artificial Reef Construction
Manatee County, FL
BASE BID

Item No.	Description	Qty	Unit Price	Total Price
1	Mobilization/Demobilization (Shall not exceed 10% of the entire cost of the project)	1 LS	\$	\$
2	Provide and Place Limestone Boulders (4.87 Acres)	33,750 Tons	\$	\$
3	Surveys	1 LS	\$	\$
4	Discretionary Work	1 LS		\$37,600.00
BASE BID TOTAL:				\$
Number of days required for completion of Work: <u>Not to Exceed 210 Calendar Days.</u>				

ALTERNATE BID 1

Item No.	Description	Qty	Unit Price	Total Price
1	Provide and Place Limestone Boulders (3.50 Acres)	23,700 Tons	\$	\$
2	Surveys	1 LS	\$	\$
3	Discretionary Work	1 LS		\$26,400.00
ALTERNATE 1 BID TOTAL:				\$
Number of days required for completion of Work: <u>Not to Exceed 210 Calendar Days</u>				
GRAND TOTAL FOR BASE BID AND ALTERNATE BID 1:				\$
Number of days required for completion of <u>Work Not to Exceed 210 Calendar Days.</u>				
*Contractor shall commence work under this contract within seven (7) days after the Notice to Proceed has been issued				

BID FORM – IFB #11-1467-OV
SECTION 00300 (Continued)

For: Anna Maria Island, Coquina Beach Artificial Reef Construction
Manatee County, FL

We, the undersigned, hereby declare that we have carefully reviewed the bid documents, and with full knowledge and understanding of the aforementioned herewith submit this bid, meeting each and every specification, term, and condition contained in the Invitation for Bids.

We understand that the bid technical specifications, terms, and conditions in their entirety shall be made a part of any agreement or contract between Manatee County and the successful bidder. Failure to comply shall result in contract default, whereupon, the defaulting contractor shall be required to pay for any and all re-procurement costs, damages, and attorney fees as incurred by the County.

Bidder:_____

Authorized Signature:_____

**BID FORM – IFB #11-1467-OV
SECTION 00300 (Continued)**

**For: Anna Maria Island, Coquina Beach Artificial Reef Construction
Manatee County, FL**

Communications concerning this Bid shall be addressed as follows:

Person's Name:

Address:

_____ Phone: _____

Date: _____ FLContractorLicense# _____

Bidder is a WBE/MBE Vendor? _____ Certification _____

COMPANY'S NAME:

AUTHORIZED

SIGNATURE(S): _____

Name and Title of Above Signer(s)

CO. MAILING ADDRESS:

STATE OF INCORPORATION _____ (if applicable)

TELEPHONE: () _____ FAX: (_____

Email address:

Acknowledge Addendum No. _____ Dated: _____ Acknowledge Addendum No. _____ Dated _____

SIGN AND CONFIRM DATE OF PROJECT VISIT: _____ DATE: _____

**SWORN STATEMENT
THE FLORIDA TRENCH SAFETY ACT**

THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR BY AN OFFICER AUTHORIZED TO ADMINISTER OATHS.

1. This Sworn Statement is submitted with IFB No. #11-1467-OV
2. This Sworn Statement is submitted by _____
whose business address is _____
and, if applicable, its Federal Employer Identification Number (FEIN) is _____.
If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement _____.
3. Name of individual signing this Sworn Statement is: _____,
Whose relationship to the above entity is: _____.
4. The Trench Safety Standards that will be in effect during the construction of this project shall include, but are not limited to: Laws of Florida, Chapters 90-96, TRENCH SAFETY ACT, and OSHA RULES AND REGULATIONS 29 CFR 1926.650 Subpart P, effective October 1, 1990.
5. The undersigned assures that the entity will comply with the applicable Trench Safety Standards and agrees to indemnify and hold harmless the Owner and Engineer, and any of their agents or employees from any claims arising from the failure to comply with said standard.
6. The undersigned has appropriated the following costs for compliance with the applicable standards:

Trench Safety Measure (Description)	Units of Measure (LF, SY)	Unit Quantity	Unit Cost	Extended Cost
a. _____	_____	_____	\$ _____	_____
b. _____	_____	_____	\$ _____	_____
c. _____	_____	_____	\$ _____	_____
d. _____	_____	_____	\$ _____	_____

7. The undersigned intends to comply with these standards by instituting the following procedures:

_____.

THE UNDERSIGNED, in submitting this Bid, represents that they have reviewed and considered all available geotechnical information and made such other investigations and tests as they may deem necessary to adequately design the trench safety system(s) to be utilized on this project.

(AUTHORIZED SIGNATURE / TITLE)

SWORN to and subscribed before me this ___ day of _____, 20___.
(impress official seal)

Notary Public, State of Florida
My commission expires: _____

SECTION 00430
CONTRACTOR'S QUESTIONNAIRE
(Submit in Triplicate)

The Bidder warrants the truth and accuracy of all statements and answers herein contained.
(Include additional sheets if necessary.)

THIS QUESTIONNAIRE MUST BE COMPLETED AND SUBMITTED WITH YOUR BID.

1. LICENSE # and COMPANY'S NAME: _____
CO. PHYSICAL ADDRESS: _____
TELEPHONE NUMBER: (____) _____ FAX (____) _____
EMAIL ADDRESS: _____

2. Bidding as an; individual ___a partnership___ a corporation; ___a joint venture; ___

3. If a partnership: list names and addresses of partners; if a corporation: list names of officers, directors, shareholders, and state of incorporation; if joint venture: list names and address of ventures' and the same if any venture are a corporation for each such corporation, partnership, or joint venture:

4. Your organization has been in business under this firm's name as a _____
for how many years? _____

5. Provide list of key personnel you propose to use and their qualifications and experience.

6. Provide and describe the largest, most complex project of this nature that you have completed.

7. Provide at least three (3) example of a similar project which you have completed satisfactorily within the past ten (10) years.

8. Provide your present commitments, including owner, scope and location of the project, cost of the project and estimated completion date.

9. Describe and give the date and owner of the last **three (3) government projects** you've completed which are similar in cost, type, size, and nature as the one proposed (for a public entity). Include contact name and phone number: Also include: project title, location and work summary, Contractor's Project Manager.

10. Describe and give the date and owner of the last **three (3) private contracts** you have completed which are similar in cost, type, size and nature. Include contact name and phone number: Also include: project title, location and work summary, Contractor's Project Manager.

11. Have you ever been assessed liquidated damages under a contract during the past five (5) years? If so, state when, where (contact name, address, and phone number) and why.

12. Have you ever failed to complete work awarded to you? If so, state when, where and provide Contact name, address, phone number and why?

13. Have you ever been debarred or prohibited from bidding on a governmental entity's construction project? If yes, name the entity and describe the circumstances:

14. Name three individuals, governmental entities, or corporations for which you have performed similar work and to which you refer. Include contact name and phone number.

- 1. _____
- 2. _____
- 3. _____

15. What specific steps have you taken to examine the physical conditions at or contiguous to the site, including but not limited to, the location of existing underground facilities? State date of site visit.

16. What specific physical conditions, including, but not limited to, the location of existing underground facilities have you found which will, in any manner, affect cost, progress, performance, or finishing of the work?

17. State the Proposed method for completing the work under this contract, including discussion on the length of time proposed to complete this project.

18. Provide a list of In-house staff that will be associated with this project. Provide: Full Name, Title, and Area of Responsibility.

19. Provide a list of **Subcontractors**, which you intend to utilize. Should you not intend to Subcontract any portion of the work, please so state. (Include additional sheets if necessary.)

Trade or Scope	Subcontractor Name and Address	License #

20. Provide a list of **Certified Commercial Divers** which you intend to utilize. (Include additional sheets if necessary.)

Diver's Name and Address	Number of Years of Experience

21. What equipment do you own to accomplish this Work?

22. What equipment will you purchase/rent for the Work? (Specify which)

23. List the following in connection with the Surety which is providing the Bond(s):

Surety's Name: _____

Surety's Address: _____

Name, address and phone number of Surety's resident agent for service of process in Florida:

Phone: (_____) _____

Email: _____

SECTION 00491
Drug Free Work Place Certification

SWORN STATEMENT PURSUANT TO SECTION 6-101 (7) (B),
MANATEE COUNTY PURCHASING CODE

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

This sworn statement is submitted to the Manatee County Board of County Commissioners by _____

[Print individual's name and title]

_____ for _____

Whose business address is _____?

and (if applicable) its Federal Employer Identification Number (FEIN) is _____
(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____)

I understand that no person or entity shall be awarded or receive a county contract for public improvements, procurement of goods or services (including professional services) or a county lease, franchise, concession or management agreement, or shall receive a grant of county monies unless such person or entity has submitted a written certification to the County that it will provide a drug free work place by:

(1) providing a written statement to each employee notifying such employee that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance as defined by . 893.02(4), Florida Statutes, as the same may be amended from time to time, in the person's or entity's work place is prohibited specifying the actions that will be taken against employees for violation of such prohibition. Such written statement shall inform employees about:

- (i) the dangers of drug abuse in the work place;
- (ii) the person's or entity's policy of maintaining a drug free environment at all its work places, including but not limited to all locations where employees perform any task relating to any portion of such contract, business transaction or grant;
- (iii) any available drug counseling, rehabilitation, and employee assistance programs; and
- (iv) the penalties that may be imposed upon employees for drug abuse violations.

2) Requiring the employee to sign a copy of such written statement to acknowledge his or her receipt of same and advice as to the specifics of such policy. Such person or entity shall retain the statements signed by its employees. Such person or entity shall also post in a prominent place at all of its work places a written statement of its policy containing the foregoing elements (i) through (iv).

(3) Notifying the employee in the statement required by subsection (1) that as a condition of employment the employee will:

- (i) abide by the terms of the statement; and
- (ii) notify the employer of any criminal drug statute conviction for a violation occurring in the work place no later than five (5) days after such a conviction.

(4) Notifying the County within ten (10) days after receiving notice under subsection (3) from an employee or otherwise receiving actual notice of such conviction.

(5) Imposing appropriate personnel action against such employee up to and including termination; or requiring such employee to satisfactorily participate in a drug abuse assistance or rehabilitation program approved for such purposes by a federal, state, or local health, law enforcement, or other appropriate agency.

(6) Making a good faith effort to continue to maintain a drug free work place through implementation of sections (1) through (5) stated above.

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR MANATEE COUNTY IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT ANY CONTRACT OR BUSINESS TRANSACTION SHALL PROVIDE FOR SUSPENSION OF PAYMENTS, OR TERMINATION, OR BOTH, IF THE CONTRACTING OFFICER OR THE COUNTY ADMINISTRATOR DETERMINES THAT:

- (1) Such person or entity has made false certification.
- (2) Such person or entity violates such certification by failing to carry out the requirements of sections (1), (2), (3), (4), (5), or (6) or subsection 3-101 (7) (B); or
- (3) Such a number of employees of such person or entity have been convicted of violations occurring in the work place as to indicate that such person or entity has failed to make a good faith effort to provide a drug free work place as required by subsection 3-101(7) (B).

[Signature]

STATE OF FLORIDA
COUNTY OF _____

Sworn to and subscribed before me this _____ day of _____, 2010
by _____.

Personally known _____ OR produced identification _____
[Type of identification]

My commission expires _____
Notary Public Signature

[Print, type or stamp Commissioned name of Notary Public]

Signatory Requirement: In the case of a business entity other than a partnership or a corporation, this affidavit shall be executed by an authorized agent of the entity. In the case of a partnership, this affidavit shall be executed by the general partner(s). In the case of a corporation, this affidavit shall be executed by the corporate president.

PUBLIC CONTRACTING AND ENVIRONMENTAL CRIMES CERTIFICATION
SWORN STATEMENT PURSUANT TO ARTICLE 5,
MANATEE COUNTY PURCHASING CODE

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

This sworn statement is submitted to the Manatee County Board of County Commissioners by

_____ [print individual's name and title]

_____ for _____ [print name of entity submitting sworn statement]

Whose business is: _____

and (if applicable) its Federal Employer Identification Number (FEIN) is _____ If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____

I understand that no person or entity shall be awarded or receive a county contract for public improvements, procurement of goods or services (including professional services) or a county lease, franchise, concession or management agreement, or shall receive a grant of county monies unless such person or entity has submitted a written certification to the County that it has not:

- (1) been convicted of bribery or attempting to bribe a public officer or employee of Manatee County, the State of Florida, or any other public entity, including, but not limited to the Government of the United States, any state, or any local government authority in the United States, in that officer's or employee's official capacity; or
- (2) been convicted of an agreement or collusion among bidders or prospective bidders in restraint of freedom of competition, by agreement to bid a fixed price, or otherwise; or
- (3) been convicted of a violation of an environmental law that, in the sole opinion of the County's Purchasing Official, reflects negatively upon the ability of the person or entity to conduct business in a responsible manner; or
- (4) made an admission of guilt of such conduct described in items (1), (2) or (3) above, which is a matter of record, but has not been prosecuted for such conduct, or has made an admission of guilt of such conduct, which is a matter of record, pursuant to formal prosecution. An admission of guilt shall be construed to include a plea of nolo contendere; or
- (5) where an officer, official, agent or employee of a business entity has been convicted of or has admitted guilt to any of the crimes set forth above on behalf of such and entity and pursuant to the direction or authorization of an official thereof (including the person committing the offense, if he is an official of the

business entity), the business shall be chargeable with the conduct herein above set forth. A business entity shall be chargeable with the conduct of an affiliated entity, whether wholly owned, partially owned, or one which has common ownership or a common Board of Directors. For purposes of this Form, business entities are affiliated if, directly or indirectly, one business entity controls or has the power to control another business entity, or if an individual or group of individuals controls or has the power to control both entities. Indicia of control shall include, without limitation, interlocking management or ownership, identity of interests among family members, shared organization of a business entity following the ineligibility of a business entity under this Article, or using substantially the same management, ownership or principles as the ineligible entity.

Any person or entity, who claims that this Article is inapplicable to him/her's/it because a conviction or judgement has been reversed by a court of competent jurisdiction, shall prove the same with documentation satisfactory to the County's Purchasing Official. Upon presentation of such satisfactory proof, the person or entity shall be allowed to contract with the County.

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR MANATEE COUNTY IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT ANY CONTRACT OR BUSINESS TRANSACTION SHALL PROVIDE FOR SUSPENSION OF PAYMENTS, OR TERMINATION, OR BOTH, IF THE CONTRACTING OFFICER OR THE COUNTY ADMINISTRATOR DETERMINES THAT **SUCH PERSON OR ENTITY HAS MADE FALSE CERTIFICATION.**

[Signature]

STATE OF FLORIDA
COUNTY OF _____

Sworn to and subscribed before me this _____ day of _____, 2010 by _____.

Personally known _____ OR produced _____
[Type of identification]

Notary Public Signature My commission expires _____

[Print, type or stamp Commissioned name of Notary Public]

Signatory Requirement - In the case of a business entity other than a partnership or a corporation, this affidavit shall be executed by an authorized agent of the entity. In the case of a partnership, this affidavit shall be executed by the general partner(s). In the case of a corporation, this affidavit shall be executed by the corporate president.

SECTION 00500
**FORM OF AGREEMENT
 BETWEEN THE
 COUNTY OF MANATEE, FLORIDA
 AND THE CONTRACTOR AS IDENTIFIED BELOW
 ON THE BASIS OF A STIPULATED UNIT COST CONTRACT PRICE**

THIS AGREEMENT is made and entered into by and between the COUNTY OF MANATEE, a political subdivision of the state of Florida, hereinafter referred to as the "COUNTY" and _____ hereinafter referred to as the "CONTRACTOR," duly authorized to transact business in the state of Florida, with offices located at _____.

Article 1. WORK

CONTRACTOR shall furnish all labor, materials, supplies, and other items required to complete the Work for IFB No. IFB #11-1467-OV Anna Maria Island, Coquina Beach, Artificial Reef Construction Project (Manatee County, FL) in strict accordance with Contract Documents and any duly authorized subsequent addenda thereto, all of which are made a part hereof.

Article 2. ENGINEER

The County of Manatee, Natural Resources Department is responsible as the COUNTY and Coastal Planning & Engineering, Inc., hereinafter referred to as "ENGINEER," designed this project and is responsible for technical/engineering reviews and decisions. The ENGINEER is a member of the COUNTY'S project management team which is collectively responsible in ensuring the Work is completed in accordance with the Contract Documents. All communications involving this project will be addressed to Charlie Hunsicker, Director Natural Resources Department and Coastal Planning & Engineering. All Invoices will be addressed to Mr. Hunsicker with copies of invoices to Coastal Planning & Engineering.

County of Manatee
 Natural Resources Department
 Charlie Hunsicker, Director
 415 10th Street West
 Bradenton, FL 34205
 Phone (941) 745-3727)

Coastal Planning & Engineering
 Richard H. Spadoni, Senior Vice President
 Engineer of Record
 2481 N.W. Boca Raton Boulevard
 Boca Raton, FL 33431
 (561) 391-8102, Ext. 142

Where the terms ENGINEER and/or COUNTY are used in the Contract Documents, it shall mean the COUNTY'S project management team.

Article 3. CONTRACTOR'S REPRESENTATIONS

In order to induce COUNTY to enter into this Agreement, CONTRACTOR makes the following representations:

- 3.1 CONTRACTOR has familiarized itself with the nature and extent of the Bid Documents, Work, site, locality and all local conditions and laws and regulations that in any manner may affect cost, progress, performance or furnishing of the Work.
- 3.2 CONTRACTOR has studied carefully all drawings of the physical conditions upon which CONTRACTOR is entitled to rely.
- 3.3 CONTRACTOR has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests, reports and studies which pertain to the physical conditions at or contiguous to the site or which otherwise may affect the cost, progress, performance or furnishing of the Work as CONTRACTOR considers necessary for the performance or furnishing of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Bid Documents; and no additional examinations, investigations, explorations, tests, reports, studies or similar information or data are or will be required by CONTRACTOR for such purposes.
- 3.4 CONTRACTOR has reviewed and checked all information and data shown or indicated on the Bid Documents with respect to existing underground facilities at or contiguous to the site and assumes responsibility for the accurate location of said underground facilities. Any additional examinations, investigations, explorations, tests, reports, studies or similar information or data in respect of said underground facilities conducted by the CONTRACTOR will be done at the CONTRACTOR'S expense.

- 3.5 CONTRACTOR has correlated the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Bid.
- 3.6 CONTRACTOR has given COUNTY written notice of all conflicts, errors or discrepancies that have been discovered in the Bid Documents and the written resolution thereof by OWNER is acceptable to CONTRACTOR.
- 3.7 CONTRACTOR shall schedule and perform the Work subject to COUNTY'S approval and shall hold COUNTY harmless from all liabilities incurred due to CONTRACTOR'S failure to coordinate with the COUNTY.

Article 4. CONTRACT DOCUMENTS

The Contract Documents which comprise the entire Agreement between COUNTY and CONTRACTOR concerning the Work consist of the following:

- 4.1 This Agreement and Bid Document IFB#11-1467-OV
- 4.2 Performance and/or other Bonds and Insurance Certificate(s)
- 4.3 Drawings (not attached)
- 4.4 Addendum ___ to ___ inclusive.
- 4.5 CONTRACTOR'S Bid Form and any other information submitted by Contractor prior to Notice of Award.

- 4.6 The following which may be delivered or issued after the effective date of the Agreement and are not attached hereto: all written Change Orders and other documents amending, modifying, or supplementing the Contract Documents.
- 4.7 The documents listed in paragraphs above are attached to this Agreement (except as noted otherwise above). There are no Contract Documents other than those listed above in this Article 4.

Article 5. MISCELLANEOUS

- 5.1 Terms used in this Agreement are defined in Article 1 of the General Conditions.
- 5.2 No assignment by a party hereto of any rights under or interest in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law); and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignee from any duty or responsibility under the Contract Documents.
- 5.3 COUNTY and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents.

The OWNER will pay, and the CONTRACTOR will accept in full consideration for the performance of the Work (IFB No. #11-1467-OV, Anna Maria Island, Coquina Beach, Artificial Reef Construction Project (Manatee County, FL) subject to additions and deduction as provided therein, the sum of \$_____ (Cents)_____ (\$_____) based on the commencement of work within seven (7) after the issuance of the Notice to Proceed. Liquidated damages are **\$2,000.00** for each calendar day of delay.

CONTRACTOR

BY: _____
Signature

Name and Title of Signer (printed)

Date: _____

MANATEE COUNTY GOVERNMENT

BY: _____ For the County
Signature

R. C. "Rob" Cuthbert, C.P.M., CPPO, Purchasing Official
Name and Title of Signer

Date: _____

SECTION 00700
GENERAL CONDITIONS

ARTICLE I - DEFINITIONS

Whenever used in the Bid Documents, the following terms have the meaning indicated which are applicable to both the singular and plural thereof:

Addendum - Written or graphic instruments issued prior to the opening of bids which clarify or change the bidding documents or the contract documents.

Agreement - The written Agreement between County and Contractor covering the Work to be performed; other contract documents are attached to the Agreement and made a part thereof as provided therein.

Amendment - A written amendment of the contract documents, signed by County and Contractor on or after the effective date of the Agreement and normally dealing with the non-engineering or non-technical rather than strictly work related aspects of the contract documents.

Application for Payment - The form accepted by Project Representative which is to be used by Contractor in requesting progress or final payments and which is to include such supporting documentation as is required by the contract documents.

Award - Acceptance of the bid from the person, firm, or corporation which in the County's sole and absolute judgment will under all circumstances best serve the public interest. Award shall be made by a majority vote of a quorum of Manatee County Board of County Commissioners in open session; or by the Purchasing Official in accordance with Manatee County Code of Laws.

Bid - The offer of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

Bidder - One who submits a bid directly to the County, as distinct from a sub-bidder, who submits a bid to a Bidder.

Bidding Documents - Consists of the Invitation For Bid, which includes but is not limited to: the bid form, drawings, Contract Documents, terms and conditions, and the proposed contract documents (including all Addenda issued prior to receipt of bids); and becomes a part of the Agreement.

Bonds - Performance and payment bonds and other instruments of security.

Change Order - A document recommended by Project Representative which is signed by Contractor and County and authorizes an addition, deletion, or revision in the Work or an adjustment in the contract price or the contract time, issued on or after the effective date of the Agreement.

Compensable Delay - Any delay beyond the control and without the fault or negligence of the Contractor resulting from County-caused changes in the Work, differing site conditions, suspensions of the Work, or termination for convenience by County.

Contract Documents - The Agreement, Addenda (which pertain to the contract documents), Contractor's bid (including documentation accompanying the bid and any post-bid documentation submitted prior to the Notice of Award), the bonds, the specifications and the drawings, together with all amendments, modifications and supplements issued on or after the effective date of the Agreement.

Contract Price - The monies payable by County to Contractor under the contract documents as stated in the Agreement.

Contract Time - The number of days or the date stated in the Notice to Proceed for the completion of the Work.

Contractor - The person, firm or corporation with whom County has entered into an Agreement.

County - Manatee County, Florida, Board of County Commissioners.

Days - All references to days are to be considered calendar days except as specified differently.

Defective - An adjective which when modifying the work refers to work that is unsatisfactory, faulty or deficient, or does not conform to the contract documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the contract documents, or has been damaged prior to Project Representative's recommendation of final payment (unless responsibility for the protection thereof has been assumed by County).

Discretionary - Payment for all work that shall be made only at the County's discretion in order to satisfactorily complete the project in accordance with the Plans and Specifications.

Drawings - The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by Engineer and are referred to in the bidding and contract documents.

Effective Date of the Agreement - The date indicated in the Agreement on which it becomes effective (date of execution).

Excusable Delay - Any delay beyond the control and without the negligence of the Contractor, the County, or any other contractor caused by events or circumstances such as, but not limited to, acts of God or of the public enemy, fires, floods, freight embargoes, acts of government other than County, or epidemics. Labor disputes and above average rainfall shall give rise only to excusable delays.

Float or Slack Time - The time available in the progress schedule during which an unexpected activity can be completed without delaying substantial completion of the Work.

Inexcusable Delay - Any delay caused by events or circumstances within the control of the Contractor, such as inadequate crewing, slow submittals, etc., which might have been avoided by the exercise of care, prudence, foresight, or diligence on the part of the Contractor.

Non-prejudicial Delay - Any delay impacting a portion of the Work within the available total float or slack time and not necessarily preventing completion of the Work within the contract time.

Notice of Award - The written notice to the successful bidder stating Award has been approved by the Board of County Commissioners; or by the Purchasing Official in accordance with Ordinance 09-52, Manatee County Purchasing Code.

Notice of Intent to Award - The written notice to the apparent low bidder stating Award has been recommended with final Award to be authorized by the Board of County Commissioners.

Notice to Proceed - Written notice by County (after execution of contract) to Contractor fixing the date on which the contract time will commence to run and on which Contractor shall start to perform (ten (10) days from date of such notice) Contractor's obligations under the contract documents.

Preconstruction Conference - Prior to starting the Work, a meeting scheduled by County with Contractor to review the Work schedules, to establish procedures for handling shop drawings and other submissions, for processing periodical pay estimates, and such other matters as may be pertinent to the project.

Prejudicial Delay - Any excusable or compensable delay impacting the Work and exceeding the total float available in the progress schedule, thus preventing completion of the Work within the contract time unless the Work is accelerated.

Pre-operation Testing - All field inspections, installation checks, water tests, performance tests and necessary corrections required of Contractor to demonstrate that individual components of the work have been properly constructed and do operate in accordance with the contract documents for their intended purposes.

Project - The total construction of which the Work to be provided under the contract documents may be the whole or a part as indicated elsewhere in the contract documents.

Project Representative - The authorized representative of County who is assigned to the project or any part thereof.

Shop Drawings - All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for Contractor to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a supplier and submitted by Contractor to illustrate material or equipment for some portion of the Work.

Specifications - Those portions of the contract documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

Subcontractor - An individual or corporation having a direct contact with Contractor or with any other subcontractor for the performance of a part of the Work at the site. Such person or firm has contractual relations with the Contractor, not with the County.

Substantial Completion - The Work (or a specified part thereof) has progressed to the point when, in the opinion of the Engineer as evidenced by Engineer's definitive certificate of Substantial Completion, it is sufficiently complete in accordance with contract documents so that the work can be utilized for the purposes for which it is intended; or if there be no such certificate issued, when final payment is due.

Successful Bidder - The lowest qualified, responsible and responsive bidder to whom an award is made.

Supplier - A manufacturer, fabricator, supplier, distributor, materialman or vendor.

Underground Facilities - All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments and any encasement containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

Unit Price Work - Work to be paid for on the basis of unit prices.

Work - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the contract documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the contract documents.

Work Directive Change - A written directive to contractor, issued on or after the effective date of the Agreement and signed by County and recommended by Project Representative ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed or to emergencies. A work directive change may not change the contract price or the contract time; but is evidence that the parties expect that the change directed or documented by a work directive change will be incorporated in a subsequently issued change order following negotiations by the parties as to its effect, if any, on the contract price or contract time.

ARTICLE 2 - PRELIMINARY MATTERS

Computation of Time: When time is referred to in the contract documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or legal holiday, such day will be omitted from the computation.

- 2.1 The Contractor must submit a proposed schedule of the Work at the preconstruction conference. The purpose of this schedule is to enable the County to govern the Work, to protect the functions of the local government and its citizens and to aid in providing appropriate surveillance. The County shall have the right to reschedule work provided such rescheduling is in accord with the remainder of terms of the contract. The schedule shall show, as a minimum, the approximate dates on which each segment of the work is expected to be started and finished, the proposed traffic flows during each month, the anticipated earnings by the Contractor for each month and the approximate number of crews and equipment to be used. The County, after necessary rescheduling and obtaining additional information for specific purposes, shall review and approve the schedule. The Contractor shall also forward to the County, as soon as practicable after the first day of each month, a summary report of the progress of the various parts of the work under the contract, in fabrication and in the field, stating the existing status, estimated time of completion and cause of delay, if any. Together with the summary report, the Contractor shall submit any necessary revisions to the original schedule for the County's review and approval. In addition, more detailed schedules may be required by the County for daily traffic control.
- 2.2 A Notice to Proceed may be given at any time within thirty (30) days after the effective date of the Agreement. The contract time will commence at the time specified in such notice. Contractor shall start to perform the Work on the date specified in the notice to proceed, but no work shall be done at the site prior to the date on which the contract time commences to run.
- 2.3 If at any time the materials and appliances to be used appear to the County as insufficient or improper for securing the quality of work required or the required rate of progress, the County may order the Contractor to increase his efficiency or to improve the character of his work and the Contractor shall conform to such an order. The failure of the County to demand any increase of such efficiency of any improvement shall not release the County from his obligation to secure the quality of work or the rate of progress necessary to complete the Work within the limits imposed by the contract. The County may require the Contractor to remove from the Work such employees as the County deems incompetent, careless, insubordinate or otherwise objectionable, or whose continued employment on the Work is deemed to be contrary to the County's interest.
- 2.4 The County reserves the right to let other Contracts in connection with this Work. The Contractor shall afford other Contractors reasonable opportunity for the introduction and storage of their materials and execution of their Work, and promptly connect and coordinate the Work with theirs.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, RE-USE

- 3.1 The contract documents comprise the entire Agreement between County and Contractor concerning the work. The contract documents are complementary; what is called for by one is as binding as if called for by all. The contract documents will be construed in accordance with the laws and ordinances of the State of Florida and the County of Manatee.

Should a conflict exist within the contract documents, the precedence in ascending order of authority are as follows: 1) Standard Printed Contract Documents, 2) Special Conditions, 3) General Conditions and 4) Drawings. Note: Computed dimensions shall govern over scaled dimensions.

- 3.2 It is the intent of the contract documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the contract documents. Any work, materials or equipment that may reasonably be inferred from the contract documents as being required to produce the intended result will be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe work, materials, or equipment, such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or laws or regulations in effect at the time of opening of bids, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the contract documents) shall be effective to change the duties and responsibilities of County, Contractor or Engineer, or any of their agents or employees from those set forth in the Contract Documents.

- 3.3 The contract documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

- 3.3.1 A Formal Written Amendment
- 3.3.2 A Change Order
- 3.3.3 Administrative Contract Adjustment (ACA)

- 3.4 In addition, the requirements of the contract documents may be supplemented and minor variations and deviations in the Work may be authorized in one or more of the following ways:

- 3.4.1 Discretionary Work – Field Directive
- 3.4.2 Engineer's approval of a Shop Drawing or sample.

ARTICLE 4 - CONTRACTOR'S RESPONSIBILITIES

- 4.1 Contractor shall keep on the Work at all times during its progress a competent resident superintendent; who shall be the Contractor's representative at the site and shall have authority to act on behalf of Contractor. All communications given to the superintendent shall be as binding as if given to Contractor.
- 4.2 Contractor shall provide competent, suitable qualified personnel to survey and lay out the Work and perform construction as required by the contract documents. Contractor shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons or the Work or property at the site or adjacent thereto and except as otherwise indicated in the contract documents, all Work at the site shall be performed during regular working hours and Contractor will not permit overtime work or the performance of work on Saturday, Sunday or legal holiday without County's written consent given after prior notice to Engineer (at least 72 hours in advance).
- 4.2.1 Contractor shall pay for all additional engineering charges to the County for any overtime work which may be authorized. Such additional engineering charges shall be a subsidiary obligation of Contractor and no extra payment shall be made by County on account of such overtime work. At County's option, overtime costs may be deducted from Contractor's monthly payment request or Contractor's retainage prior to release of final payment.
- 4.3 Unless otherwise specified, Contractor shall furnish and assume full responsibility for all bonds, insurance, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.
- 4.4 All materials and equipment shall be of good quality and new, except as otherwise provided in the contract documents. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instruction of the applicable supplier except as otherwise provided in the contract documents.
- 4.5 Contractor shall be fully responsible to County for all acts and omissions of the subcontractors, suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with Contractor just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents shall create any contractual relationship between County or Engineer and any such subcontractor, supplier or other person or organization, nor shall it create any obligation on the part of County to pay or to see to the payment of any monies due any such subcontractor, supplier or other person or organization.

- 4.6 Permits: Unless otherwise provided, Contractor shall obtain and pay for all construction permits and licenses. County shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work.
- 4.7 During the progress of the Work, Contractor shall keep the premises free from accumulation of waste materials rubbish and other debris resulting from the Work. At the completion of the Work, Contractor shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery and surplus materials and shall leave the site clean and ready for occupancy by County. Contractor shall restore to original conditions all property not designated for alteration by the Contract Documents.
- 4.8 Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.
- 4.9 **Safety and Protection**: Contractor shall comply with the Florida Department of Commerce Safety Regulations and any local safety regulations. Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of and shall provide the necessary protection to prevent damage, injury or loss to:
- 4.9.1 all employees on the work and other persons and organizations who may be affected thereby;
 - 4.9.2 all the work and materials and equipment to be incorporated therein, whether in storage on or off the site; and
 - 4.9.3 other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and underground facilities not designated for removal, relocation or replacement in the course of construction.

Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall provide and maintain all passageways, guard fences, lights and other facilities for the protection required by public authority or local conditions. Contractor shall provide reasonable maintenance of traffic way for the public and preservation of the County's business, taking into full consideration all local conditions. Contractor's duties and responsibilities for the safety and protection of the work shall continue until such time as all the work is completed.

- 4.10 Emergencies: In emergencies affecting the safety or protection of persons or the work or property at the site or adjacent thereto, Contractor, without special instruction or authorization from Engineer or County, is obligated to act to prevent threatened damage, injury or loss. Contractor shall give County prompt written notice if Contractor believes that any significant changes in the work or variations from the contract documents have been caused thereby. If County determines that a change in the contract documents is required because of the action taken in response to an emergency, a Work Directive Change or Change Order will be issued to document the consequences of the changes or variation.
- 4.11 For substitutes not included with the bid, but submitted after the effective date of the Agreement, Contractor shall make written application to Engineer for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will also contain an itemized estimate of all costs and delays or schedule impacts that will result directly or indirectly from review, acceptance and provisions of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by the Engineer in evaluating the proposed substitute. Engineer may require Contractor to furnish at Contractor's expense, additional data about the proposed substitute. In rendering a decision, County/Engineer and Contractor shall have access to any available float time in the construction schedule. In the event that substitute materials or equipment not included as part of the bid, but proposed after the effective date of the agreement, are accepted and are less costly than the originally specified materials or equipment, then the net difference in cost shall be credited to the County and an appropriate change order executed.
- 4.11.1 If a specific means, method, technique, sequence of procedure of construction is indicated in or required by the contract documents, Contractor may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to Engineer if Contractor submits sufficient information to allow Engineer to determine that the substitute proposed is equivalent to that indicated or required by the contract documents.
- 4.11.2 Engineer will be allowed a reasonable time within which to evaluate each proposed substitute. Engineer will be the sole judge of acceptability and no substitute will be ordered, installed or utilized without Engineer's prior written acceptance which will be evidenced by either a change order or an approved shop drawing. County may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- 4.11.3 Contractor shall reimburse County for the charges of Engineer and Engineer's Consultants for evaluating each proposed substitute submitted after the effective date of the Agreement and all costs resulting from any delays in the work while the substitute was undergoing review.

- 4.12 The Contractor shall furnish, free of charge, all labor, stakes, surveys, batter boards for structures, grade lines and other materials and supplies and shall set construction stakes and batter boards for establishing lines, position of structures, slopes and other controlling points necessary for the proper prosecution of the construction work. Where rights-of-way, easements, property lines or any other conditions which make the lay-out of the project or parts of the project critical are involved, the Contractor will employ a competent surveyor who is registered in the State of Florida for lay-out and staking. These stakes and marks shall constitute the field control by and in accord with which the Contractor shall govern and execute the work. The Contractor will be held responsible for the preservation of all stakes, marks and if for any reason any of the stakes or marks or batter boards become destroyed or disturbed, they will be immediately and accurately replaced by the Contractor.
- 4.13 The Contractor has, by careful examination, satisfied himself as to the nature and location of the work and all other matters which can in any way affect the work under this contract, including, but not limited to details pertaining to boring, as shown on the drawings, are not guaranteed to be more than a general indication of the materials likely to be found adjacent to holes bored at the site of the work, approximately at the locations indicated. The Contractor shall examine boring data, where available, and make his own interpretation of the subsoil investigations and other preliminary data, and shall base his bid on his own opinion of the conditions likely to be encountered. In no event shall an extension of time be considered for any conditions that existed at the time of bidding, nor shall the Contractor receive extra compensation for completion of the project as intended by the drawings and in keeping with the contract documents. No verbal agreement or conversation with any officer, agent or employee of the County, before or after the execution of this contract, shall affect or modify any of the terms or obligations herein contained.
- 4.14 If the Contractor, in the course of the work, finds that the drawings and/or Contract Documents cannot be followed, he shall immediately inform the County in writing, and the County shall promptly check the accuracy of the information. Any work done after such discovery, until any necessary changes are authorized, will be done at the Contractor's risk.

ARTICLE 5 - OWNER'S RESPONSIBILITIES

- 5.1 County shall furnish the data required of County under the contract documents promptly and shall make payments to the Contractor within a reasonable time (no more than 45 days) after the Work has been accepted by the County. The form of all submittals, notices, change orders and other documents permitted or required to be used or transmitted under the contract documents shall be determined by the County/Engineer. Standard County forms shall be utilized.
- 5.2 The County shall provide the lands upon which the Work under this contract is to be done, except that the Contractor shall provide all necessary additional land required for the erection of temporary construction facilities and storage of his materials, together with right of access to same.

- 5.3 The County shall have the right to take possession of and use any completed portions of the work, although the time for completing the entire work or such portions may not have expired, but such taking possession and use shall not be deemed an acceptance of any work not completed in accordance with the Contract Documents.

ARTICLE 6 - CHANGES IN THE WORK

- 6.1 Without invalidating the Agreement and without notice to any surety, County may, at any time, order additions, deletions or revisions in the Work. These will be authorized by a written amendment, a change order, or a work directive change. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the contract documents (except as otherwise specifically provided).
- 6.2 Contractor shall not be entitled to an increase in the contract price or an extension of the contract time with respect to any Work performed that is not required by the contract documents as amended, modified and supplemented.
- 6.3 County and Contractor shall execute appropriate change orders (or written amendments) covering changes in the Work which are ordered by County, or which may be required because of acceptance of defective Work.
- 6.4 At any time Engineer may request a quotation from Contractor for a proposed change in the Work and within twenty-one (21) calendar days after receipt, Contractor shall submit a written and detailed proposal for an increase or decrease in the contract price or contract time for the proposed change. Engineer shall have 21 calendar days after receipt of the detailed proposal to respond in writing. The proposal shall include an itemized estimate of all costs and time for performance that will result directly or indirectly from the proposed change. Unless otherwise directed, itemized estimates shall be in sufficient detail to reasonably permit an analysis by Engineer of all material, labor, equipment, subcontracts, overhead costs and fees, and shall cover all Work involved in the change, whether such Work was deleted, added, changed or impacted. Notwithstanding the request for quotation, Contractor shall carry on the Work and maintain the progress schedule. Delays in the submittal of the written and detailed proposal will be considered non-prejudicial.

ARTICLE 7 - CHANGE OF CONTRACT PRICE

- 7.1 The contract price constitutes the total compensation (subject to authorized adjustments) payable to Contractor for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at his expense without change in the contract price.

- 7.2 The contract price may only be changed by change order or by a written amendment. Any claim for an increase or decrease in the contract price shall be based on written notice delivered by the party making the claim to the other party. Notice of the amount of the claim with supporting data shall be delivered within ten (10) days from the beginning of such occurrence and shall be accompanied by claimant's written statement that the amount claimed covers all known amounts (direct, indirect and consequential) to which the claimant is entitled as a result of the occurrence of said event.
- 7.3 The value of any Work covered by a change order or of any claim for an increase or decrease in the contract price shall be determined in one of the following ways (at County's discretion):
- 7.3.1 Where the Work involved is covered by unit prices contained in the contract documents, cost will be determined by application of such unit prices to the quantities of the items involved.
 - 7.3.2 By mutual acceptance of lump sum.
 - 7.3.3 On the basis of the cost of the Work, plus a 20% Contractor's fee for overhead and profit. (Contractor shall submit an itemized cost breakdown together with supporting data.)
- 7.4 Either County or Contractor may make a claim for an adjustment in the contract price. The unit price of an item of unit price Work shall be subject to re-evaluation and adjustment under the following conditions:
- 7.4.1 If the total cost of a particular item of unit price Work amounts to 5% or more of the contract price and the variation in the quantity of the particular item of unit price Work performed by Contractor differs by more than 15% from the estimated quantity of such item indicated in the Agreement; and
 - 7.4.2 If there is no corresponding adjustment with respect to any other item of Work; and
 - 7.4.3 If a Contractor believes that it has incurred additional expense as a result thereof; or
 - 7.4.4 If County believes that the quantity variation entitles it to an adjustment in the unit price; or
 - 7.4.5 If the parties are unable to agree as to the effect of any such variations in the quantity of unit price Work performed.

ARTICLE 8 - CHANGE OF CONTRACT TIME

- 8.1 Contract time may only be changed by a change order or a written amendment. Any claim for an extension or shortening of the contract time shall be based on written notice delivered by the party making the claim to the other party. Notice of the extent of the claim with supporting data shall be delivered within fifteen (15) days from detection or beginning of such occurrence and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event.
- 8.2 The contract time will be extended in an amount equal to time lost due to delays beyond the control of Contractor. Such delays shall include, but not be limited to, acts or neglect by County or others performing additional work; or to fires, floods, epidemics, abnormal weather conditions or acts of God.
- 8.3 All time limits stated in the contract documents are of the essence.

ARTICLE 9 - WARRANTY, TEST/INSPECTION, CORRECTION

- 9.1 Contractor warrants (for a minimum period of three years or as otherwise stated herein) and guarantees to County that all work will be in accordance with the contract documents and will not be defective; that County, representatives of County, governmental agencies with jurisdictional interests will have access to the work at reasonable time for their observation, inspecting and testing (Contractor shall give Engineer timely notice of readiness of the work for all required approvals and shall assume full responsibility, including costs, in obtaining required tests, inspections, and approval certifications and/or acceptance, unless otherwise stated by County).
- 9.2 If any work (including work of others) that is to be inspected, tested, or approved is covered without written concurrence of Engineer, it must, if requested by Engineer, be uncovered for observation. Such uncovering shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice. Neither observations by Engineer nor inspections, tests, or approvals by others shall relieve Contractor from Contractor's obligations to perform the work in accordance with the contract documents.

9.3 If the work is defective, or Contractor fails to supply sufficient skilled workers, or suitable materials or equipment, or fails to furnish or perform the work in such a way that the completed work will conform to the contract documents, County may order Contractor to stop the work, or any portion thereof and terminate payments to the Contractor until the cause for such order has been eliminated. Contractor shall bear all direct, indirect and consequential costs for satisfactory reconstruction or removal and replacement with non-defective work, including, but not limited to fees and charges of engineers, architects, attorneys and other professionals and any additional expenses experienced by County due to delays to other Contractors performing additional work and an appropriate deductive change order shall be issued. Contractor shall further bear the responsibility for maintaining schedule and shall not be entitled to an extension of the contract time and the recovery of delay damages due to correcting or removing defective work.

9.3.1 If Contractor fails within seven (7) days after written notice to correct defective work, or fails to perform the work in accordance with the contract documents, or fails to comply with any other provision of the contract documents, County may correct and remedy any such deficiency. To the extent necessary to complete corrective and remedial action, County may exclude Contractor from all or part of the site, take possession of all or part of the work, Contractor's tools, construction equipment and machinery at the site or for which County has paid Contractor but which are stored elsewhere. All direct, indirect and consequential costs of County in exercising such rights and remedies will be charged against Contractor in an amount approved as to reasonableness by Engineer and a change order will be issued incorporating the necessary revisions.

9.3.2 If within three years after the date of completion or such longer period of time as may be prescribed by laws or regulations or by the terms of any applicable special guarantee required by the contract documents, any work is found to be defective, Contractor shall promptly, without cost to County and in accordance with County's written instructions, either correct such defective work or if it has been rejected by County, remove it from the site and replace it with non-defective work. If Contractor does not promptly comply with the terms of such instruction, County may have the defective work corrected/removed and all direct, indirect and consequential costs of such removal and replacement will be paid by Contractor.

ARTICLE 10 - SUSPENSION/TERMINATION OF WORK

- 10.1 County may, at any time and without cause, suspend the work or any portion thereof for a period of not more than ninety (90) days by written notice to Contractor, which will fix the date on which work will be resumed. Contractor shall be allowed an increase in the contract price or an extension of the contract time, or both, directly attributable to any suspension if Contractor makes an approved claim therefore.
- 10.2 County may terminate the contract if Contractor commences a voluntary case under any chapter of the Bankruptcy Code or any similar action by filing a petition under any other federal or state law relating to the bankruptcy or insolvency; if a petition is filed against the Contractor under any chapter of the Bankruptcy Code or similar relief under any other federal or state law; if Contractor persistently fails to perform the work in accordance with the contract documents; if Contractor disregards laws or regulations of any public body having jurisdiction or the Engineer; or otherwise violates in any substantial way any provisions of the contract.
- 10.2.1 County may, after giving Contractor (and the surety, if there is one) seven (7) days written notice and to the extent permitted by laws and regulations, terminate the services of Contractor; exclude Contractor from the site and take possession of the work and of all Contractor's tools, construction equipment and machinery at the site and use the same to the full extent they could be used (without liability to Contractor for trespass or conversion); incorporate in the work all materials and equipment stored at the site or for which county has paid Contractor but which are stored elsewhere, and finish the work as County may deem expedient. In such case, Contractor shall not be entitled to receive any further payment beyond an amount equal to the value of material and equipment not incorporated in the work, but delivered and suitably stored, less the aggregate of payments previously made. If the direct and indirect costs of completing the work exceed the unpaid balance of the contract price, Contractor shall pay the difference to County. Such costs incurred by County shall be verified by County and incorporated in a change order; but in finishing the work, County shall not be required to obtain the lowest figure for the work performed. Contractor's obligations to pay the difference between such costs and such unpaid balance shall survive termination of the Agreement.

- 10.3 If, through no act or fault of Contractor, the work is suspended for a period of more than ninety (90) days by County or under an order of court or other public authority, or Engineer fails to act on any application or fails to pay Contractor any sum finally determined to be due; then Contractor may, upon seven (7) days written notice to County terminate the Agreement and recover from County payment for all work executed, any expense sustained plus reasonable termination expenses. In lieu of terminating the Agreement, if Engineer has failed to act on any application of payment or County has failed to make any payment as aforesaid, Contractor may upon seven (7) days written notice to County stop the work until payment of all amounts then due.

ARTICLE 11 - CONTRACT CLAIMS

- 11.1 The rendering of a decision by Engineer with respect to any such claim, dispute or other matter (except any which have been waived by the making or acceptance of final payment) will be a condition precedent to any exercise by County or Contractor of such right or remedies as either may otherwise have under the contract documents or by laws or regulations in respect of any such claim, dispute or other matter. No action, either at law or at equity, shall be brought in connection with any such claim, dispute or other matter later than thirty (30) days after the date on which County/Engineer has rendered such written decision in respect thereof. Failure to bring an action within said thirty (30) day period shall result in Engineer's decision being final and binding on the Contractor. In no event may any such action be brought after the time at which instituting such proceedings would be otherwise barred by the applicable statute of limitations.
- 11.2 Before bringing any action in court pertaining to any claim, dispute or other matter in question(s) arising out of or relating to the contract documents or the breach thereof, or Engineer's final decision, except for claims which have been waived by the making and acceptance of final payment, the Contractor shall first submit written notice(s) of contract claims to the Purchasing Official for a decision; the Contractor may request a conference with the Purchasing Official. Claims include, without limitation, disputes arising under the contract and those based upon breach of contract, mistake, misrepresentation, or other cause for modification or revision. Contract claims shall use the process detailed in Section 2-26-63, Manatee County Purchase Code, Ordinance 09-52.

ARTICLE 12 - RESIDENT PROJECT REPRESENTATIVE - DUTIES, RESPONSIBILITIES

- 12.1 Resident Project Representative is Engineer/County's Agent, who will act as directed by and under the supervision of the Engineer, and who will confer with County/Engineer regarding his actions. Resident Project Representative's dealing in matters pertaining to the on-site work shall, in general, be only with the County/Engineer and Contractor and dealings with subcontractors shall only be through or with the full knowledge of Contractor.

12.2 Resident Project Representative will:

- 12.2.1 Review the progress schedule, schedule of shop drawing submissions and schedule of values prepared by Contractor and consult with County/Engineer concerning their acceptability.
- 12.2.2 Attend preconstruction conferences. Arrange a schedule of progress meetings and other job conferences as required in consultation with County/Engineer and notify those expected to attend in advance. Attend meetings and maintain and circulate copies of minutes thereof.
- 12.2.3 Serve as County/Engineer's liaison with Contractor, working principally through Contractor's superintendent and assist him in understanding the intent of the contract documents. As requested by County/Engineer, assist in obtaining additional details or information when required at the job site for proper execution of the Work.
- 12.2.4 Receive and record date of receipt of shop drawings and samples, receive samples which are furnished at the site by Contractor and notify County/Engineer of their availability for examination.
- 12.2.5 Advise County/Engineer and Contractor or his superintendent immediately of the commencement of any work requiring a shop drawing or sample submission if the submission has not been approved by the County/Engineer.
- 12.2.6 Conduct on-site observations of the work in progress to assist County/Engineer in determining if the work is proceeding in accordance with the contract documents and that completed work will conform to the contract documents.
- 12.2.7 Report to County/Engineer whenever he believes that any work is unsatisfactory, faulty or defective or does not conform to the contract documents, or does not meet the requirements of any inspections, tests or approvals required or if work has been damaged prior to final payment; and advise County/Engineer when he believes work should be corrected or rejected or should be uncovered of observation or requires special testing, inspection or approval.
- 12.2.8 Verify that tests, equipment and system start-ups and operating and maintenance instructions are conducted as required by the contract documents and in the presence of the required personnel, and that Contractor maintains adequate records thereof; observe, record and report to Engineer appropriate details relative to the test procedures and start-ups.

- 12.2.9 Accompany visiting inspectors representing public or other agencies having jurisdiction over the project; record the outcome of these inspections and report to County/Engineer.
- 12.2.10 Transmit to Contractor, County/Engineer's clarifications and interpretations of the contract documents.
- 12.2.11 Consider and evaluate Contractor's suggestions or modifications in drawings or Contract Documents and report them with recommendations to County/Engineer.
- 12.2.12 Maintain at the job site orderly files for correspondence, reports of job conferences, shop drawings and sample submissions, reproductions of original contract documents including all addenda, change orders, field orders, additional drawings issued subsequent to the execution of the contract, County/Engineer's clarifications and interpretations of the contract documents, progress reports and other project related documents.
- 12.2.13 Keep a diary or log book, recording hours on the job site, weather conditions, data relative to questions of extras or deductions; list of visiting officials and representatives or manufacturers, fabricators, suppliers and distributors; daily activities, decisions, observations in general and specific observations in more detail as in the case of observing test procedures. Send copies to County/Engineer.
- 12.2.14 Record names, addresses and telephone numbers of all Contractors, subcontractors and major suppliers of materials and equipment.
- 12.2.15 Furnish County/Engineer periodic reports as required of progress of the work and Contractor's compliance with the approved progress schedule and schedule of shop drawing submissions.
- 12.2.16 Consult with County/Engineer in advance of scheduling major tests, inspections or start of important phases of the work.
- 12.2.17 Report immediately the occurrence of any accident.
- 12.2.18 Review applications for payment with Contractor for compliance with the established procedure for their submission and forward them with recommendations to County/Engineer, noting particularly their relation to the schedule of values, work completed and materials and equipment delivered at the site but not incorporated in the work.
- 12.2.19 During the course of the work, verify that certificates, maintenance and operations manuals and other data required to be assembled and furnished by Contractor are applicable to the items actually installed, and deliver this material to County/Engineer for his review prior to final acceptance of the work.

- 12.2.20 Before County/Engineer issues a Certificate of Substantial Completion, submit to Contractor a list of observed items requiring completion or correction.
- 12.2.21 Conduct final inspection in the company of County/Engineer and Contractor and prepare a final list of items to be completed or corrected.
- 12.2.22 Verify that all items on final list have been completed or corrected and make recommendations to County/Engineer concerning acceptance.
- 12.3 Except upon written instructions of County/Engineer, Resident Project Representative;
 - 12.3.1 Shall not authorize any deviation from the contract documents or approve any substitute materials or equipment;
 - 12.3.2 Shall not exceed limitations on County/Engineer's authority as set forth in the contract documents;
 - 12.3.3 Shall not undertake any of the responsibilities of Contractor, Subcontractors or Contractor's Superintendent, or expedite the work;
 - 12.3.4 Shall not advise on or issue directions relative to any aspect of the means, methods, techniques, sequences or procedures of construction unless such is specifically called for in the contract documents;
 - 12.3.5 Shall not advise on or issue directions as to safety precautions and programs in connection with the work;
 - 12.3.6 Shall not authorize County to occupy the project in whole or in part; and
 - 12.3.7 Shall not participate in specialized field or laboratory tests.

ARTICLE 13 - APPRENTICES

- 13.1 If Successful Contractor employs Apprentices, he shall be governed and shall fully comply with the provisions of Florida State Statute 446.011.

END OF SECTION

**MANATEE COUNTY, FLORIDA
ANNA MARIA ISLAND,
COQUINA BEACH ARTIFICIAL REEF CONSTRUCTION PROJECT**

GENERAL CONDITIONS

REVISED MARCH 23, 2011

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SECTION 01005 GENERAL REQUIREMENTS

PART 1 GENERAL

1.01 SCOPE AND INTENT

A. Description

The Work to be done consists of the furnishing of all labor, materials and equipment, and the performance of all Work included in this Contract. For the purposes of the Contract Documents, "Work" is defined as any and all obligations, duties and responsibilities necessary to the successful completion of the "Anna Maria Island, Coquina Beach, Artificial Reef Construction Project" assigned to, or undertaken by, the Contractor under the Contract Documents.

B. Work Included

The Contractor shall furnish all labor, superintendence, materials, plant, power, light, heat, fuel, water, tools, appliances, equipment, supplies, shop drawings, working drawings and other means of construction necessary or proper for performing and completing the Work. He shall obtain and pay for all required permits necessary for the Work other than those permits such as the Florida Department of Environmental Protection (FDEP) permit and the U.S. Army Corps of Engineers (USACE) permit which have already been obtained by the County. He shall perform and complete the Work in the manner best calculated to promote rapid construction consistent with safety of life and property in strict accordance with the Contract Documents and to the satisfaction of the Engineer. The Contractor shall clean up the Work and maintain it during and after construction, until accepted, and shall do all Work and pay all costs incidental thereto. He shall repair or restore all structures and property that may be damaged or disturbed during performance of the Work.

The cost of all incidental work described in these General Requirements, for which there are no specific Contract Items, shall be considered as part of the general cost of doing the Work and shall be included in the prices for the various Contract Items. No additional payment will be made therefore.

The Contractor shall provide and maintain such modern equipment and tools as may be necessary, in the opinion of the Engineer, to perform in a satisfactory and acceptable manner all the Work required by this Contract. Only equipment of established reputation and proven efficiency shall be used. The Contractor shall be solely responsible for the adequacy of his workmanship, materials and equipment, prior approval of the Engineer notwithstanding.

C. Public Utility

The Contractor shall protect all public utility installations and structures from damage during the Work. Access across any buried public utility installation or structure shall be made only in such locations and by means approved by the appropriate utility company. The Contractor shall so

arrange his operations as to avoid any damage to these facilities. All required protective devices and construction shall be provided by the Contractor at his expense. All existing public infrastructure damaged by the Contractor shall be repaired by the Contractor, at his expense, as approved by the County. No separate payment shall be made for such protection or repairs to public utility installations or structures.

It is the intent of this project that the Work be constructed while minimizing impact to existing public facilities. The Contractor shall develop his work plan for executing the Work to accommodate the protection of existing facilities.

1.02 PLANS AND SPECIFICATIONS

A. Plans

When obtaining data and information from the Plans, figures shall be used in preference to scaled dimensions, and large scale drawings in preference to small scale drawings.

B. Copies Furnished to Contractor

The Contractor shall furnish each of the subcontractors such copies of the Contract Documents as may be required for their Work. Additional copies of the Plans and Specifications, when requested, may be furnished to the Contractor by the County at the cost of reproduction.

C. Supplementary Drawings

When, in the opinion of the Engineer, it becomes necessary to explain more fully the Work to be done or to illustrate the Work further or to show any changes which may be required, drawings known as Supplementary Drawings, with Specifications pertaining thereto, may be prepared by the Engineer and three paper prints thereof will be given to the Contractor.

D. Contractor to Check Plans and Data

The Contractor shall verify all dimensions, quantities and details shown on the Plans, Supplementary Drawings, Schedules, Specifications or other data received from the Engineer, and shall notify the Engineer of all errors, omissions, conflicts, and discrepancies found therein. Failure to discover or correct errors, conflicts or discrepancies shall not relieve the Contractor of full responsibility for unsatisfactory Work; faulty construction or improper operation resulting there from nor from rectifying such conditions at his own expense. He will not be allowed to take advantage of any errors or omissions should such errors or omissions be discovered. All schedules are given for the convenience of the Engineer and the Contractor and are not guaranteed to be complete. The Contractor shall assume all responsibility for the making of estimates of the quality of materials and equipment included in Work to be done under the Contract.

E. Specifications

The Technical Specifications provide project details. The General Conditions contain general requirements which govern the Work. Environmental Protection addresses contractor responsibilities for the prevention of pollution and other environmental damage as a result of the operations of the Contractor.

F. Intent

All Work called for in the Specifications applicable to this Contract, but not shown on the Plans in their present form, or vice versa, shall be of like effect as if shown or mentioned in both. Work not specified in either the Plans or in the Specifications, but involved in carrying out their intent or in the complete and proper execution of the Work, is required and shall be performed by the Contractor as though it were specifically delineated or described.

The apparent silence of the Specifications as to any detail, or the apparent omission from them of a detailed description concerning any Work to be done and materials to be furnished, shall be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of the best quality is to be used, and interpretation of these Specifications shall be made upon that basis. The Contractor shall confirm the interpretation with the Engineer prior to conducting the Work if the Contractor should require confirmation of an interpretation made by the Contractor.

The inclusion of the related requirements (or Work specified elsewhere) in the general part of the Specifications is only for the convenience of the Contractor, and shall not be interpreted as a complete list of related Specification sections.

G. Provision of Contract Documents to the Contractor

Three (3) sets of the Contract Documents will be furnished to the Contractor by the County without charge, except for publications incorporated into the Contract Documents by reference. The Work shall conform to the Plans entitled "Anna Maria Island, Coquina Beach, Artificial Reef Construction Project," all of which are a part of the Contract Documents.

1.03 MATERIALS AND EQUIPMENT

A. Manufacturer

If applicable, the names of proposed manufacturers, material men, suppliers and dealers who are to furnish materials, fixtures, equipment, appliances or other fittings shall be submitted to the Engineer for approval.

All transactions with the manufacturers or subcontractors shall be through the Contractor.

B. Service of Manufacturer's Engineer

If applicable, the Contract prices for equipment shall include the cost of furnishing (as required by equipment specifications sections) a competent and experienced engineer or superintendent who shall represent the manufacturer and shall assist the Contractor, when required, to install, adjust, test and place in operation the equipment in conformity with the Contract Documents.

1.04 **TEMPORARY FENCES**

If, during the course of the Work, it is necessary to remove or disturb any fence or part thereof, the Contractor shall, at his own expense, provide a suitable temporary fence which shall be maintained until the permanent fence is restored by the Contractor.

1.05 **FIRST AID KIT**

The Contractor shall keep on site, at each location where Work is in progress, a completely equipped first aid kit and shall provide ready access thereto at all times when people are employed on the Work.

1.06 **LINES AND GRADES**

A. Lines and Grades

All Work under this Contract shall be constructed in accordance with the lines and grades shown on the Plans, or as given by the Engineer. The full responsibility for keeping alignment and grade shall rest upon the Contractor.

B. Safeguarding Marks and Monuments

The Contractor shall safeguard all points, location buoys, stakes, grade marks, monuments and bench marks made or established on the Work, bear the cost of reestablishing them if disturbed, and bear the entire expense of rectifying Work improperly installed due to not maintaining or protecting or to removing without authorization such established points, stakes and marks.

The Contractor shall safeguard all existing and known property corners, monuments and marks adjacent to but not related to the Work and, if required, shall bear the cost of reestablishing them if disturbed or destroyed.

C. Datum Plane

All elevations indicated or specified in the Plans and Specifications refer to the North American Vertical Datum (NAVD) of 1988.

1.07 RESPONSIBILITY FOR STRUCTURES AND LANDSCAPING

The Contractor shall be entirely responsible and liable for all damage or injury as a result of his operations to all public and private property, structures of any kind and appurtenances thereto met with during the progress of the Work. The cost of protection, replacement in their original locations and conditions or payment of damages for injuries to such adjacent public and private property and structures affected by the Work, whether or not shown on the Plans, and the removal, relocation and reconstruction of such items called for on the Plans or specified shall be included in the various Contract Items and no separate payments will be made therefore.

Contractor is expressly advised that the protection of structures, pass jetties, boat ramps, docks, seawalls, lifeguard stands, erosion control structures, etc. and related Work adjacent and in the vicinity of his operations, wherever they may be, is solely his responsibility. Conditional inspection of such structures in the immediate vicinity of the project which may reasonably be expected to be effected by the Work shall be performed by and be the responsibility of the Contractor.

Contractor shall, before starting operations, make an examination of the adjacent structures, facilities, etc., and record by notes, measurements, photographs, etc., conditions which might be aggravated by the Work, or conditions which may be attributed to the Work. Repairs or replacement of all conditions disturbed by the construction shall be made to the satisfaction of the owner. This does not preclude conforming to the requirements of the insurance underwriters. Copies of surveys, photographs, reports, etc. shall be given to the County.

1.08 PROTECTION OF WORK AND PUBLIC

A. Barriers and Lights

During the prosecution of the Work, the Contractor shall put up and maintain at all times such barriers and lights as will effectually prevent accidents. The Contractor shall provide suitable barricades, appropriately colored warning lights, "danger" or "caution" signs and watchmen at all places where the Work causes obstructions to the normal traffic or constitutes in any way a hazard to the public, in accordance with state and local requirements.

B. Smoke Prevention

A strict compliance with ordinances regulating the production and emission of smoke will be required. No open fires will be permitted.

C. Noise

The Contractor shall eliminate noise to as great an extent as practicable at all times. Engines shall be equipped with silencers and the exhaust of all engines or other power equipment shall be provided with mufflers. In the vicinity of residences, motels, hotels, hospitals and schools, special care shall be used to avoid noise or other nuisances. The Contractor shall strictly observe all local regulations and ordinances covering noise control.

D. Access to Public Services

Neither the equipment nor the materials used in the construction of the Work shall be so placed as to prevent free access to all fire hydrants, valves or manholes or other similar public infrastructure.

E. Dust Prevention

The Contractor shall prevent dust nuisance from his operations or from traffic by keeping the temporary staging areas sprinkled with water when needed.

1.09 CLEANING

A. During Construction

During construction of the Work, the Contractor shall, at all times, keep the site of the Work and adjacent premises as free from material, debris and rubbish as is practicable and shall remove the same from any portion of the site if such material, debris, or rubbish constitutes a health issue or a nuisance or is objectionable to the County.

The Contractor shall remove from the site all of his surplus materials and temporary structures when no further need therefore develops.

A. Final Cleaning

At the conclusion of the Work, all equipment, tools, temporary structures and materials belonging to the Contractor shall be promptly taken away, and he shall remove and promptly dispose of all water, dirt, rubbish, rust, stakes, fabric material or any other foreign substances whether underwater at the dredge borrow area, on the beach, or at staging areas.

1.10 MISCELLANEOUS

A. Existing Facilities

The Work shall be so conducted to maintain existing facilities in operation insofar as is possible.

B. Use of Chemicals

All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, polymer, reactant, or of other classification, must show approval of either EPA or USDA. Use of all such chemicals and disposal of residues shall be in strict conformance with instructions.

SECTION 01010 SUMMARY OF WORK

PART 1 – GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS/REQUIREMENTS INCLUDED

A. The completed Work will provide for the construction of a limestone boulder artificial reef off of the southern end of Anna Maria Island, Manatee County, Florida, as identified on the Plans. In general, the Work shall include the purchase, transport and placement of acceptable limestone boulders, in accordance with the contract documents, to create an artificial underwater reef, final cleanup, and restoration of any disturbed area within or adjacent to the project.

B. The Contractor shall furnish all surveying, working drawings, labor, materials, equipment, tools, services and incidentals necessary to complete all Work required by these Specifications and as shown on the Contract Drawings.

C. The Contractor shall perform the Work complete, in place and ready for continuous service and shall include any repairs, replacements, and/or restoration required as a result of damages caused by the Contractor or the Contractor's activities including those of the Contractor's subcontractor.

D. The Contractor shall furnish and install all materials, equipment and labor which is reasonably and properly inferable and necessary for the proper completion of the Work, whether specifically indicated in the Contract Documents or not.

1.02 CONTRACTS

Construct all the Work under a single contract.

1.03 WORK SEQUENCE

A. The methods, means, sequences and techniques used for construction of the Work are the sole responsibility of the Contractor. The intent of the County is to have construction of this project completed in an orderly manner which meets the following objectives:

1. The Contractor shall develop a work plan that allows for systematic construction of the Work while limiting impacts to adjacent residents and public at large. The Contractor's detailed work plan shall be presented to the County and the Engineer ten (10) days prior to the pre-construction conference for review and comment and must be approved by Manatee County.

2. The sequence of work plan shall incorporate full restoration of access to public beach, waterways and public boat ramps used by the Contractor for the Work prior to demobilization from the project area.

3. The Contractor shall develop a specific sequence of work plan for construction and provide that plan to the County and Engineer for review and acceptance as a part of the pre-construction conference.

4. The Contractor shall meet all permit requirements including requirements related to the date of completion of the Work.

B. The Contractor is responsible for securing the staging and construction areas in accordance with the specifications.

C. The Contractor shall construct the Work in stages, and coordinate the construction schedule and operations with the Engineer.

D. The Contractor shall construct the Work in a manner to provide for public convenience. The Contractor shall not utilize or work on the beach area. All staging and land based operations shall be off of the beach.

1.04 CONSTRUCTION AREAS

A. The Work of this project is to take place within the Gulf of Mexico offshore of Anna Maria Island as described in the project plans:

B. The Contractor shall assume full responsibility for the protection and safekeeping of his equipment stored at the staging area and offshore on vessels.

C. The Contractor shall be fully responsible for the security and safekeeping of all materials, equipment and appurtenances required for construction of the Work. The Contractor shall not store materials, equipment or appurtenances on the job site except for those items which are under the direct supervision of the Contractor's staff and which are necessary to the Work being performed on the specific day in question. The Contractor shall move any stored products under the Contractor's control that interfere with operations of the County or adjacent residents.

The Contractor shall maintain at the project site and on the job, the materials, equipment and personnel required to continuously construct the project. Under no circumstances will the Contractor remove the equipment, materials, subcontractors, or key personnel from the project site without the written consent of the Engineer, unless one or more of the following occurs: the project is complete; weather or sea state conditions require movement from the project site; a condition exists which threatens equipment or the safety of personnel; or the time frame provided for project construction in the State of Florida or Federal permits has expired.

D. Obtain and pay for the use of all staging areas as needed for Contractor operations.

1.05 PARTIAL COUNTY ACCEPTANCE

A. Portions of the Work will be completed prior to completion of the entire Work. Upon completion of Work for individual acceptance sections, the Contractor will request approval of the section from the Engineer upon completion of the section. The County will assume ownership and begin beneficial use of the completed and accepted sections of nourished beach. The County will not accept the entire Work as a whole until it is completed and approved by the Engineer.

B. The Contractor shall schedule his operations for completion of portions of the Work, as designated, for the Engineer's acceptance prior to substantial completion of the entire Work.

SECTION 01011 SUBCONTRACTORS

PART 1 - GENERAL

1.01 SUBCONTRACTORS

A. The Contractor shall furnish the names of subcontractors proposed for the Work and provide such information as requested by County to verify the qualifications of the subcontractor to complete the assigned portion of the Work.

B. The Contractor shall not employ any subcontractor or other person or organization (including those who are to furnish the principal items of materials or equipment), whether initially or as a substitute, against whom the County or Engineer may have a concern or objection. A subcontractor or other person or organization identified by the Contractor and approved in writing by the County or Engineer prior to signing the Contract will be deemed acceptable to the County and the Engineer. Acceptance of any subcontractor, other person or organization by the County and Engineer shall not constitute a waiver of any right of the County or the Engineer to reject defective Work. If the County or the Engineer, after due investigation, has a concern or objection to any subcontractor, other person or organization proposed by the Contractor after signing the Contract, the Contractor shall submit an acceptable substitute. The Contractor shall not be required to employ any subcontractor, other person or organization against whom the Contractor has reasonable objection.

1.02 CONTRACTOR RESPONSIBILITY FOR SUBCONTRACTORS

The Contractor will be fully responsible for all acts, errors and omissions of his subcontractors and of persons directly or indirectly employed by them and of persons for whose acts any of them may be liable to the same extent that he is responsible for the acts, errors and omissions of persons directly employed by the Contractor. All subcontractors to the Contractor will have equivalent or greater insurance coverage as the Contractor, unless waived in writing by the County. The Contractor will be responsible for monitoring the insurance requirements of the General Conditions for all subcontractors and to assure that all subcontractors have the insurance required by the General Conditions, or provide the required insurance for the subcontractors.

1.03 RELATIONSHIPS

Nothing in the Contract Documents shall create any contractual relationship between any subcontractor and the County or Engineer or any obligation on the part of the County or Engineer to pay or to see to the payment of any monies due any subcontractor except as may otherwise be required by law. The County may furnish to any subcontractor, to the extent practicable, evidence of amounts paid to the Contractor on account of specific Work done. The Contractor agrees to bind every subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of the County.

1.04 DIVISION OF WORK

The divisions and sections of the Contract Documents and the identifications of any Plans shall not control the Contractor in dividing the Work among subcontractors or delineating the Work to be performed by any specific trade.

1.05 OBLIGATION TO TERMS AND CONDITIONS

All Work performed for the Contractor by a subcontractor will be pursuant to an appropriate agreement between the Contractor and the subcontractor which specifically binds the subcontractor to the applicable terms and conditions of the Contract Documents and the project permits for the benefit of the County and Engineer. A copy of the agreement between the Contractor and any subcontractor will be provided by the Contractor to the County.

SECTION 01012 MANATEE SAFETY MEASURES

PART 1 - GENERAL

1.01 DESCRIPTION

The Work specified in this section consists of Manatee Safety Measures. The Work shall include provisions to educate personnel on water related activities for the presence of manatee(s), proper construction practices and temporary signage during work activities.

1.02 EXECUTION

A. The Contractor shall instruct all personnel associated with the project of the potential presence of manatee(s) and the need to avoid collisions with manatees. All construction personnel are required for observing water-related activities for the presence of manatee(s).

B. The Contractor shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees, which are protected under the Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, and the Florida Manatee Sanctuary Act of 1978. The Contractor may be held responsible for manatee(s) harmed, harassed, or killed as a result of construction activities.

C. All Contractor vessels associated with the construction of the project shall operate a "no wake/idle" speed at all times while in water where the draft of the vessel provides less than four feet clearance from the bottom and that vessels shall follow routes of deep water whenever possible.

D. If a manatee(s) is sighted within 100 yards of the project area, all appropriate precautions shall be implemented by the Contractor to ensure protection of the manatee(s). These precautions shall include the operation of all moving/equipment no closer than 50 feet of a manatee(s). Operation of any equipment closer than 50 feet to a manatee(s) shall necessitate immediate shutdown of that equipment. Activities will not resume until the manatee(s) has departed the project area of its own volition.

E. Any collision with and/or injury to a manatee shall be reported immediately to the Manatee County Project Manager in writing and to the Manatee Hotline" at 1-888-404-FWCC (1-888-404-3922). Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or Vero Beach (1-772-562-3909) in south Florida.

F. Temporary signs concerning manatee(s) shall be posted prior to and during construction/dredging activities. All signs are to be removed by the Contractor upon completion of the project. A sign measuring at least 3 feet by 4 feet which reads Caution: Manatee Area will be posted in a location prominently visible to water related construction crews. A second sign should be posted if vessels are associated with the construction, and should be placed visible to the vessel operator. The second sign should be at least 8 inches by 11 inches, which reads:

“Caution: Manatee Habitat. Idle speed is required if operating a vessel in the construction area. All equipment must be shutdown if a manatee(s) comes within 50 feet of the operation. A collision with and/or injury to a manatee(s) shall be reported immediately to the Florida Marine Patrol at 1-888-404-FWCC (1-888-404-3922) and the U.S. Fish and Wildlife Service at (1-904-731-3336) for north Florida or (1-772-562-3909) for south Florida.”

SECTION 01015 CONTROL OF WORK

PART 1 -GENERAL

1.01 WORK PROGRESS

The Contractor shall furnish personnel and equipment which will be efficient, appropriate and adequately sized to secure a satisfactory quality of work and a rate of progress which will insure the completion of the Work within the time stipulated in the Contract and project permits. If at any time such Work appears to the Engineer to be inefficient, inappropriate, or insufficient for securing the quality of work required for producing the rate of progress aforesaid, he may order the Contractor to increase the efficiency, change the character, or increase the personnel and equipment and the Contractor shall conform to such order. Failure of the Engineer to give such order shall in no way relieve the Contractor of his obligations to secure the quality of the work and rate of progress required.

1.02 PRIVATE LAND

The Contractor shall not enter or occupy private land, except by permission of the affected property owner.

1.03 WORK LOCATIONS

Work shall be located substantially as indicated on the drawings, but the Engineer reserves the right to make such modifications in locations as may be found desirable for any reason.

1.04 CARE AND PROTECTION OF PROPERTY

A. The Contractor shall be responsible for the preservation of all public and private property and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the Work on the part of the Contractor, such property shall be restored by the Contractor, at his expense, to a condition equal or better to that existing before the damage was done, or he shall make good the damage in another manner acceptable to the property owner.

B. Along the location of this Work, all fences, walks, bushes, trees, shrubbery, coastal structures, lifeguard stands, dunes, dune vegetation, docks, piling, moorings, ramps and other physical features shall be protected and restored in a thoroughly workmanlike manner. Fences and other features removed by the Contractor shall be replaced in the same location and condition as soon as conditions permit. All grass or vegetated areas beyond the limits of construction which have been damaged by the Contractor shall be re-graded and restored to equal or exceed original conditions.

C. Trees close to the Work shall be protected against injury. All injuries to bark, trunk, limbs and roots of trees shall be repaired by dressing, cutting and painting according to sound horticultural methods, using only approved tools and materials.

D. The protection, removal and replacement of existing physical features along the line of Work shall be a part of the Work under the Contract and all costs in connection therewith shall be included in the unit and/or lump sum prices established under the bid items.

1.05 MAINTENANCE OF TRAFFIC

Obstructions due to construction that will prevent the normal flow of road or boat traffic during an extended construction stoppage, for any reason, shall be minimized. In the event an extended construction stoppage is found to be necessary, the Contractor shall, at his own expense, take the actions necessary to provide for normal road or boat traffic flow during extended construction stoppage.

1.06 CLEAN UP

During the course of the Work, the Contractor shall keep the site of his operations in as clean and neat a condition as is possible. He shall dispose of all residues resulting from the construction work and at the conclusion of the Work, and shall remove and haul away any debris, equipment, temporary structures and any other refuse remaining from the construction operations and shall leave the entire site of the Work in a neat and orderly condition.

1.07 COOPERATION WITHIN THIS CONTRACT

All firms or persons authorized to perform any Work under this Contract shall cooperate with the County and the Engineer.

1.08 PROTECTION OF THE WORK

The Work shall be protected. Should all or portions of the work become damaged, all such damaged portions of the Work shall be completely repaired and made good by the Contractor, at his own expense and to the satisfaction of the County or the property owner. If, in the final observation of the Work, any defects, faults, or omissions are found, the Contractor shall cause the same to be repaired or removed and replaced by proper materials and workmanship without extra compensation for the materials and labor required. Further, the Contractor shall be fully responsible for the satisfactory maintenance and repair of the construction and other Work undertaken herein, for at least the warranty period described in the Contract.

SECTION 01030 SPECIAL PROJECT PROCEDURES

PART 1 -GENERAL

1.01 PERMITS AND APPROVALS

A. Upon notice of award, the Contractor shall immediately apply for all applicable permits and approvals not previously obtained by the County to do the Work. No Work shall commence until all applicable permits and approvals have been obtained and copies delivered to the County. The costs for obtaining all permits and approvals shall be borne by the Contractor.

B. The Contractor hereby agrees and shall be solely responsible for ensuring that the Contractor and any subcontractors fully comply with project permits, and with the requirements of any applicable ordinances, statutes, laws or regulations which may affect this project or the Contractor's/subcontractor's Work under this project. The Contractor further agrees that neither the County nor its Engineer shall be responsible for ensuring compliance or notification on any changes or modifications to any such applicable ordinances, laws, statutes, rules or regulations.

1.02 SUSPENSION OF WORK DUE TO WEATHER

Refer to the Technical Specifications.

1.03 STORM PREPAREDNESS PLAN

A. Within 10 days of the date of Notice to Proceed, the Contractor shall submit to the Engineer and County a Storm Preparedness Plan. The plan should outline the necessary measures which the Contractor proposes to perform at no additional cost to the County in case of a storm warning. Acceptance of the Contractor's Storm Preparedness Plan by the Engineer and County does not infer an endorsement on the part of the County or Engineer of the plan.

B. In the event of inclement weather Contractor shall insure that he and his Subcontractors shall carefully protect work and materials against damage or injury from the weather. If, in the opinion of the Engineer, any portion of Work or materials is damaged due to the failure on the part of the Contractor or Subcontractors to protect the Work, such work and materials shall be replaced at the expense of the Contractor.

1.04 POWER SUPPLY

Electricity as may be required for construction and permanent power supply shall be secured and purchased by the Contractor.

1.05 ADDITIONAL PROVISIONS

A. The Contractor shall notify the Engineer at the pre-construction conference of the date he proposes to commence such Work, which shall be in compliance with the Notice to Proceed.

B. The Contractor shall provide, at his own expense, all necessary temporary facilities for access to and for protection of, all existing facilities and vessels. The Engineer and County's personnel must have ready access at all times to the existing facilities and vessels. The Contractor is responsible for all damage to existing structures, equipment and facilities caused by his construction operations and must repair all such damage.

1.06 CONSTRUCTION CONDITIONS

The Contractor shall strictly adhere to the specific requirements of the governmental unit (s) and/or agency (ies) having jurisdiction over the Work. Wherever there is a difference in the requirements of a jurisdictional body and these Specifications, the more stringent shall apply.

1.07 PUBLIC NUISANCE

A. The contractor shall not create a public nuisance including but not limited to encroachment on adjacent lands, flooding of adjacent lands, *excessive* noise or dust.

B. Sound levels must meet Manatee County Ordinance #87-34, (which amends Ordinance 81-3, The Manatee County Noise Control Ordinance). Sound levels in excess of such ordinance are sufficient cause to have the Work halted until equipment can be quieted to these levels. Work stoppage by the Engineer or County for excessive noise shall not relieve the Contractor of the other portions of this specification including, but not limited to completing the Work as required by time limitations in project permits, contract time and contract price.

C. No extra charge may be made for time lost due to Work stoppage resulting from the creation of a public nuisance.

1.08 FUEL STORAGE & FILLING

If the contractor is storing fuel on site, or doing his own fuel filling of portable equipment (other than hand-held equipment) he is responsible for any required response, clean-up or reporting required, at no additional cost to the County.

SECTION 01050 FIELD ENGINEERING AND SURVEYING

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Contractor shall provide all survey work required in execution of work and pay for surveying services required for the project.
- B. The Contractor shall furnish and set all necessary buoys and markers to establish the lines and grades as shown on the Contract Drawings and layout each portion of the Work of the Contract. Such costs shall be included in the unit or lump sum prices.
- C. All costs of construction layout shall be included in the unit and lump sum prices contained in the respective divisions of the Contract Bid Form.
- D. Civil, structural or other professional engineering and/or surveying services required to execute Contractor's construction methods shall be included in the unit or lump sum prices.

1.02 QUALIFICATIONS OF SURVEYOR

- A. The Contractor shall employ a Surveyor registered in the State of Florida to verify survey data and properly prepare record drawings. Record drawings shall be certified by the professional Surveyor licensed in Florida.
- B. All construction area delineation shall be conducted by or under the supervision of the Florida Registered Professional Surveyor and Mapper. The Contractor shall be responsible for the layout of all such lines and grades.

1.03 SURVEY REFERENCE POINTS

- A. The Contractor shall be responsible for all survey work associated with the Work.
- B. Existing basic control points for the Project are designated on the Contract Drawings for the convenience of the Contractor, however, it shall be the Contractor's responsibility for all survey work, including verification of the accuracy of all control points used for the Work, including those contained in the Contract Documents.
- C. The Contractor shall protect all survey monumentation, property corners, and project control points prior to starting Work, and preserve all permanent reference points during construction. All costs associated with the replacement of all survey monumentation, property corners and project control points shall be borne by the Contractor.
- D. The Contractor shall make no changes or relocations without prior written notice to Engineer. The Contractor shall report to Engineer when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations. The Contractor shall require surveyor to replace project control points which may be lost or destroyed and establish replacements based on original survey control.

1.04 PROJECT SURVEY REQUIREMENTS

Section 7.0 Part 1 – General of the Technical Specifications details the project survey requirements. The Contractor shall maintain a complete, accurate log of all control and survey work as it progresses to demonstrate the progress of the construction of the artificial reef. The data will be in a format as detailed in the Technical Specifications for the Work.

1.05 SUBMITTALS

The Contractor shall submit a certificate signed by the Contractor certifying that the construction of the artificial reef is in conformance, or nonconformance, with Contract Documents. Certificates shall be required with each pay request submittal to the Engineer.

SECTION 01150 MEASUREMENTS AND PAYMENT

PART 1-GENERAL

1.01 DESCRIPTION OF WORK

A. Payment for the Work to be completed under this project will be based upon the unit prices bid by the Contractor and shown in the Contractors Schedule of Quantities and Unit Price Bid Form provided with the Contractors bid. Payment will be limited to the boulders in place, underwater at the reef site, within the area of reef construction and accepted by the County as in substantial compliance with the Plans.

B. It is the intent of the County to make payment for construction associated with the Project using the Pay Items in the Proposal, and specify method of measurement and payment for all listed Pay Items. As may be noted below, incidental work which may be associated with a specific Pay Item is to be included in the cost proposed by the bidding contractor for that Pay Item. It is not the intent of the County to allow for additional compensation beyond those Pay Items included in the Schedule of Quantities and Unit Prices Bid Form submitted by the Contractor. It is therefore important that all Bidders fully acquaint themselves with all Plans, Specifications, County Standard Details, and other details pertaining to the Work.

C. Work not shown or called out in either the Plans or the Specifications, but necessary in carrying out the intent of the Project or in the complete and proper execution of the Work, is required and shall be performed by the Contractor as though it were specifically delineated or described. No additional compensation will be considered for this associated and necessary Work. The Work shall be included in the unit price or lump sum prices provided by the Contractor.

D. Damage caused by the construction activities to existing facilities including docks, boat ramps, piling, seawalls, coastal structures, lifeguard stands, and all other infrastructure shall be the sole responsibility of the Contractor. No additional payment will be made for replacement or restoration of these components.

1.02 MEASUREMENT – GENERAL

Quantities to be paid will be based on the tonnage of artificial reef boulders placed at the reef site in compliance with the contract documents and accepted by the Engineer and County. The method required to verify the tonnage of placed bounders shall be at the cost of the Contractor. The Technical Specifications provides detail concerning payment for construction of the artificial reef.

1.03 REASONABLE ESTIMATED QUANTITIES

The quantities shown in the bid documents are approximate reasonable estimated quantities and are subject to change. It is likely that the accepted boulder tonnage will not be the same as the quantity listed in the bid documents. The County or Engineer does not assume any responsibility for the final quantities, nor shall the Contractor claim misunderstanding because of such estimate of quantities. Final payment will be made only for satisfactorily completed quantity of each item.

1.04 WORK OUTSIDE AUTHORIZED LIMITS

No payment will be made for Work constructed outside of authorized limits of the Work. No payment will be made for boulders which are not placed in compliance with the Plans and Specifications, or as amended by the Engineer. No payment will be made for boulders which have not been used to construct the artificial reef. Boulders not used in the construction of the reef will be removed from the staging area and project site by the Contractor at the Contractor's expense.

1.05 MEASUREMENTS AND PAYMENT

A. GENERAL

1. The Contractor shall receive and accept the compensation provided in his Proposal and defined in the Agreement as full payment for furnishing all materials and all labor, tools and equipment, for performing all operations necessary to complete the Work under the project. It is the intent of these contract documents that any cost for which compensation is not directly provided by a bid item shall be included in the bid item for which they are required.

2. The prices stated in the Contractors Schedule of Quantities and Unit Prices Bid Form includes all costs and expenses for taxes, labor, materials, equipment, commissions, transportation charges and expenses, patent fees and royalties, labor for handling material during inspection together with any and all other costs and expenses for performing and completing the Work as shown on the Plans and specified herein. The basis of payment for any item at the unit price shown in the bid form shall be in accordance with the description of that item in this Section. All Work performed shall be in strict accordance with these Specifications.

3. No separate payment will be made for the following items; the cost of such Work shall be included in the applicable contract pay items of the Work including compliance with requirements of FDEP, the U.S. Army Corps of Engineers or any other agency:

- a. Shop drawings, working drawings or other contractor documentation.
- b. Clearing and grubbing, including removal of sidewalks, driveways, curbs, curb and gutter, pavement and pavement base and replacement.
- c. Excavation, including shoring, sheeting and bracing as required by OSHA trench excavation safety standards.
- d. Dewatering and proper disposal of all water.

- e. Backfill and proper compaction, including suitable fill and all grading.
- f. Traffic and pedestrian control as required to complete the Work and described in Section 01570.
- g. Protection, repair, replacement or relocation of existing utilities, including services laterals, not designated in the Contract Documents for relocation.
- h. Replacement or restoration of paved or unpaved roadways, grass and shrubbery plots outside of established pay limits.
- i. Any item specifically provided for in a pay item.
- j. Removing and disposing of waste material due to construction.
- k. Cleanup and restoring the job site to its original condition.
- l. Any material and equipment required to be installed and used for the tests.
- m. Coordination with all Federal, State and Local agencies and utilities.
- n. Tree protection required in the performance of the Work.
- o. Furnishing and installing suitable temporary fences, to adequately secure areas protected by a permanent fence when that permanent fence must be removed. The temporary fence shall remain in place until the permanent fence is replaced.
- p. Maintenance of water quality standards.
- q. Environmental protection.
- r. Reporting.
- s. Any other item except lump sum payment for mobilization/demobilization, limestone boulder placement and surveys.

B. The Contractor's attention is again called to the fact that the quotations for the various items of work are intended to establish a total price for completing the Work in its entirety. Should the Contractor feel that the cost for any item of Work has not been established by the Bid Pay Items, he shall include the cost for that Work in the applicable bid item, so that his bid for the project shall reflect his total price for completing the Work in its entirety as presented in the Plans and Specifications.

C. The quantities for payment under this Agreement shall be determined by the tonnage of boulders in place, ready for service and accepted by the County, in accordance with the applicable method of tonnage determination provided in the Technical Specifications, thereof. Measurements shall be accomplished to the following accuracy unless otherwise specified:

Item	Measurement Accuracy	Method of Measurement
Tons	Net Ton (2000 pounds)	As specified in the Technical Specifications Part 1 (Section 16.0)
LS	One	Lump Sum-Unit is one; no measurement will be made

D. All Work shall be in accordance with the general conditions and Technical Specifications herein. All materials shall be in accordance with the Specifications herein. All materials shall be furnished by the Contractor.

1.06 BID ITEM DESCRIPTIONS

The following bid items establish a breakdown of the Work to be performed under this project. The bid item description; method of measurement and basis for payment are listed below for each of the bid items that are a part of this project:

A. Bid Item 1: MOBILIZATION-DEMobilIZATION (Base Bid Only)

1. Description: The Contractor shall furnish all labor, materials, equipment, staging areas, and services to perform those operations necessary for the movement of personnel, equipment, supplies and incidentals to and from the project site. Also include the costs of bonds, insurance, maintenance of boat traffic and other pre-construction and post-construction expenses necessary for the start and conclusion of the Work under this Contract Item. The cost of all other Work as shown, specified, directed or required for the expressed intent of the project that is not specifically included under other Contract Items shall also be included under this Contract Item. The Contractor's mobilization/demobilization activities at the staging area shall include cleaning all portions of the property used by the Contractor, as necessary. Cleaning shall include removal from the site of residual trash, rock, equipment and miscellaneous debris to the satisfaction of the staging area owner.

2. Payment: Payment shall be made at the lump sum price, as detailed in the Technical Specifications. Payment for mobilization shall be made at the beginning of the project. Payment for demobilization shall be made upon completion of all demobilization activities and receipt of records, drawings, reports, satisfactory completion of any required damage repairs, and completion of final clean-up.

B. Bid Item 2: PROVIDE AND PLACE LIMESTONE BOULDERS

1. Description: Under this contract Pay Item, the Contractor shall furnish all labor, equipment, services, and materials to place limestone boulders within a pre-determined underwater area in the Gulf of Mexico as indicated on the Plans, and for the placement scheme as described in the Specifications.

2. Measurement and Payment for Boulder Placement: Shall be made at the unit price bid per ton, in place and accepted.

D. Bid Item 3: SURVEYING

1. Description: The Contractor shall furnish all labor, materials, equipment and services to perform the operations necessary to survey the work. Surveys shall be certified and accepted by the County and the Engineer as stated in the Technical Specifications.

2. Payment: Payment shall be made at the lump sum price.

3. All surveys shall be performed by a surveyor licensed in the State of Florida and shall be submitted to the Engineer under his/her signature.

1.07 **RETAINAGE**

A retainage of 2.5% of the payment application amount shall be withheld from each payment. Upon final acceptance, the withheld retainage shall be included in the final payment, after the Contractor has met all requirements of the Contract Documents.

SECTION 01152 REQUESTS FOR PAYMENT

PART 1-GENERAL

1.01 REQUIREMENTS INCLUDED

The Contractor shall submit separate Applications for Payment for the Coquina Beach Artificial Reef Construction Project to the Engineer or as directed by the County at the pre-construction meeting, in accordance with the schedule established by Conditions of the Contract and Agreement between County and Contractor.

1.02 FORMAT AND DATA REQUIRED

The Contractor shall submit payment requests in the form provided by the County with itemized data typed in accordance with the Bid Form.

1.03 SUBMITTALS

A. Informational:

1. Schedule of Payment Forms: Submit on Manatee County Standard Forms PMD-1 (Application for Payment), PMD-2 (Pay Application Schedule), PMD-3 (Pay Application Schedule of Stored Materials) with Schedule of Quantities and Unit Prices bid documentation, for approval by the County or on forms approved by the County which provide the same basic information.

2. Progress Payments:

a. Submit request for progress payment in accordance with the measurement and payment requirements of this section of the Specifications, the general conditions, the Technical Specifications Part 1 – General (Paragraph 18.2) and the agreement for approval by the County.

b. Applications for progress payments shall be provided to the County showing work completed and accepted.

3. Final Application for Payment.

a. Submit request for final payment upon completion of all Work required by the contract, and as addressed in Technical Specifications Part 1 - General, Section 19.0. A final application for payment will not be reviewed by the Engineer and County until all Work under the contract is complete. Utilize Manatee County Standard Forms PMD-8 (Certificate of Substantial Completion) and PMD-9 (Final Reconciliation, Warranty Period declaration and Contractor's Affidavit) as a part of the final payment application process, or a similar form approved by the County.

1.04 APPLICATION FOR PAYMENT

- A. Transmittal Summary Form: Attach one Summary Form with each detailed Application for Payment. Execute certification by authorized officer of Contractor.
- B. Use detailed Application for Payment Form as approved by the County.
- C. Preparation:
 - 1. Calculate payment using the method outlined in the Technical Specifications applying the unit price bid values to reach pay item based upon that Work actually constructed and accepted to the nearest cent.
 - 2. List each Change Order and Written Amendment executed prior to date of submission as separate line item. Totals to equal those shown on the Transmittal Summary Form for each schedule as applicable.
 - 3. Submit Application for Payment, including a Transmittal Summary Form and detailed Application for Payment Form(s).

1.05 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS

- A. When the County or the Engineer requires substantiating data, Contractor shall submit suitable information with a cover letter.
- B. Submit one copy of data and cover letter for each copy of application.

1.06 PREPARATION OF APPLICATION FOR FINAL PAYMENT

- A. Final acceptance and payment is addressed in detail in Section 19.0 Part 1 – General of the Technical Specifications.
- B. Fill in application form as specified for progress payments.

1.07 SUBMITTAL PROCEDURE

- A. Submit applications for payment at the times stipulated in the Agreement.
- B. Number: Three (3) copies of each application; all signed and certified by the Contractor.
- C. Invoices shall be submitted to Charlie Hunsicker, Director, Natural Resources Department, Manatee County Government, 415 10 Street West, Bradenton, FL 34205 with a copy submitted to Richard H. Spadoni, Coastal Planning & Engineering, Inc., 2481 NW Boca Raton Blvd., Boca Raton, FL 33431.

SECTION 01153 CHANGE ORDER PROCEDURES

PART 1-GENERAL

1.01 DEFINITION

- A. Change Order: Major changes in contract scope or time must be approved by the Manatee County Board of County Commissioners.
- B. Administrative Change Adjustment: Minor change orders under 10% of project cost and that do not exceed a cumulative total of \$100,000 can be administratively approved.
- C. Field Directive Change: Change to contract quantity that does not require a change of scope or time extension.

1.02 REQUIREMENTS INCLUDED

- A. The Contractor shall promptly implement change order procedures:
 - 1. Provide full written data required to evaluate changes.
 - 2. Maintain detailed records of Work done on a time-and-material/force account basis.
 - 3. Provide full documentation to County on request.
- B. The Contractor shall designate a member of the Contractor's organization who:
 - 1. Is authorized to accept changes to the Work.
 - 2. Is responsible for informing others in the Contractor's employ of the authorized changes into the Work.
- C. The Engineer will review all change orders and provide written recommendation to the County as to the acceptance, or the partial acceptance or denial of the required change. No change order is approved unless executed by all parties.

1.03 PRELIMINARY PROCEDURES

- A. The Engineer may initiate changes by submitting a Request to Contractor. Request may include:
 - 1. Detailed description of the change, products, costs and location of the change in the project.
 - 2. Supplementary or revised Plans and Specifications.
 - 3. The projected time extension for making the change.
 - 4. A specified period of time during which the requested price will be considered valid.
 - 5. Such request is for information only and is not an instruction to execute the changes, or to stop Work in progress.

B. Contractor may request changes by submitting a written notice to the Engineer, containing:

1. Description of the proposed changes.
2. Statement of the reason for making the changes.
3. Statement of the effect on the Contract Sum and the Contract Time.
4. Statement of the effect on the Work of separate contractors.
5. Documentation supporting any change in Contract Sum or Contract Time, as appropriate.

1.04 PREPARATION OF CHANGE ORDERS

A. Under the direction of the County, the Engineer will prepare each Change Order.

B. Change Order will describe changes in the Work, both additions and deletions, with attachments as necessary to define details of the change.

C. Change Order will provide an accounting of the adjustment in the Contract Sum and in the Contract Time.

1.05 LUMP SUM/FIXED PRICE CHANGE ORDER

A. Under the direction of the County, the Engineer will prepare the change order, including a description of the changes involved and attachments based upon documents and proposals submitted by the Contractor, or requests from the County, or both.

B. Once the change order has been completed, all copies should be sent to Contractor for approval. After approval by Contractor, all change order copies should be sent to the County for approval. The County will distribute executed copies after approval by the Board of County Commissioners, if required.

1.06 UNIT PRICE CHANGE ORDER

A. Contents of Change Orders shall be based on the County's definition of the scope of the required changes.

B. The amounts of the unit prices shall be:

1. Those stated in the Agreement.
2. Those mutually agreed upon between County and Contractor.
3. No adjustment shall be made in any Unit Price of the Contract for changes ordered by the County that cause an increase or decrease in the amount of the Work (by weight of material placed within the construction area in compliance with the Plans and Specifications) of 35% or less, based on the weight for each bid of 33,750 tons for the Base Bid, or 23,700 tons for the Bid Alternate.

4. No adjustments shall be made in the Contract price or time of performance for either lump sum or unit price Work if the change is expressly or reasonably implied by the Contract Drawings and Specifications or is incidental thereto, or if the Work becomes more difficult than the Contract Documents would reflect, or if Contractor failed to protest, negotiate, comment or otherwise call to the County's attention, in writing, to any omissions, ambiguities or conflicts in the Contract Documents that Contractor could have discovered prior to the submission of its Cost Proposal or execution of the Contract.

**1.07 TIME AND MATERIAL/FORCE ACCOUNT CHANGE
ORDER/CONSTRUCTION CHANGE AUTHORIZATION**

A. At completion of the change, Contractor shall submit itemized accounting and supporting data to document the time and material required to implement the change order.

B. Engineer will determine the allowable cost of such Work, as provided in the Contract Documents.

C. Engineer will sign and date the Change Order to establish the change in Contract Sum and in Contract Time.

D. County and Contractor will sign and date the Change Order to indicate their agreement therewith.

1.08 CORRELATION WITH CONTRACTOR'S SUBMITTALS

A. As required, with the submission of each invoice, the Contractor shall revise and submit to the Engineer the Schedule of Values and Application for Payment forms to record each change as a separate item of Work and to record the adjusted Contract Sum.

B. The Contractor shall update and revise the Construction Schedule on a monthly basis to reflect each change in Contract Time and also revise and update sub schedules to show changes for other items of Work affected by the changes.

C. Upon completion of Work under a Change Order, the Contractor shall enter pertinent changes in the Record Documents.

SECTION 01200 PROJECT MEETINGS

PART 1 -GENERAL

1.01 SUPERINTENDENT

The Contractor shall designate, in writing to the Engineer and County, a superintendent which is acceptable to the County and Engineer. The superintendent will attend all project meetings. The superintendent of the Contractor shall be at the construction site at all times during project construction and shall be available to the Engineer at all times during project construction. Under no circumstances will project construction occur without the presence of a superintendent at the project site.

1.02 REQUIREMENTS INCLUDED

A. The Engineer shall schedule the pre-construction meeting and progress meetings or special meetings, if required, throughout progress of Work. Progress meetings shall be conducted after the placement of 10,000 tons of boulders, with a total of three progress meetings for the base bid construction and two additional meetings if the County elects to have the Contractor construct the alternate bid artificial reef of 23,700 tons. Progress meetings may be addressed through conference calls.

B. Representatives of the Contractor and subcontractors attending meetings shall be qualified and authorized to act on behalf of the entity each represents.

C. The Contractor shall facilitate that the Work is expedited and consistent with the Contract Documents and construction schedules.

1.03 PRE-CONSTRUCTION MEETING

A. Attendance:

1. County's Project Manager.
2. County's Consulting Engineer.
3. Contractor Superintendent.
4. Major Subcontractors, as required.
5. Regulatory Agencies, if required.
6. Others as appropriate.

B. Basic Agenda:

1. Projected Construction Schedule.

2. Critical Work Sequencing.
3. Project Coordination.
 - a. Designation of Responsible Personnel.
 - b. Emergency Contact Persons with Phone Numbers.
4. Questions Concerning Procedures and Processing of:
 - a. Applications for Payment.
 - b. Submittals.
 - c. Change Orders.
 - d. Requests for Information.
5. Questions Concerning Procedures for Maintaining Record Documents.
6. Use of Premises:
 - a. Office, Work and Storage Areas.
 - b. County's Requirements.
7. Staging Areas.
8. Permit Requirements.
9. Safety.
10. Environmental Protection.
11. Listed Species Protection.
12. Housekeeping Procedures.
13. Project/Job Meetings: Progress Meetings, Other Special Topics as Needed.

SECTION 01310 CONSTRUCTION SCHEDULE & PROJECT RESTRAINTS

PART 1 -GENERAL

1.01 Construction under this contract must be coordinated with the County and Engineer and accomplished in a logical order to maintain utilization and flow through existing facilities and public properties and rights-of-way and to allow construction to be completed within the time allowed by Contract Documents and in the manner set forth in the Contract.

1.02 The Contractor shall perform on the site, and with his/her own organization, excluding subcontractors, Work equivalent to at least seventy percent (70%) of the total amount of Work to be performed under the Contract. If during the progress of Work hereunder, the Contractor requests in writing a reduction in such percentage, and the Engineer determines that it may be to the County's advantage, the percentage of the Work required to be performed by the Contractor may be reduced, provided written approval of such reduction is obtained by the Contractor from the Engineer.

1.03 The Contractor is responsible for providing, and maintaining, equipment which is in good working order, for construction of the artificial reef project.

1.03 CONSTRUCTION SCHEDULING AND GENERAL PROVISIONS

A. Work must be completed within time limitations contained in the project permits and/or Specifications.

B. Existing docks and boat ramp facilities shall remain in operation during the life of the project. Due to potential health hazards and requirements of the State of Florida and the U.S. Environmental Protection Agency, existing facilities must be maintained in operation.

C. The Contractor shall be fully responsible for providing all temporary, electrical hook-ups, lighting, temporary structure, temporary sanitary facility, or other materials, equipment and systems required to maintain the existing facilities operational.

D. The Contractor shall designate a representative of his firm who shall be responsible for development and maintenance of the schedule and of progress and payment reports. This representative of the Contractor shall have direct project control and complete authority to act on behalf of the Contractor in fulfilling the commitments of the Contractor's schedule.

1.04 PROGRESS OF THE WORK

The Work shall be executed with such progress as may be required to prevent any delay to the general completion of the Work. The Work shall be executed at such times and in or on such parts of the project and with such forces, materials and equipment to assure completion of the Work in the time established by the Contract and in the manner set forth in the Contract.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. The Contractor shall submit a schedule as described herein.
- B. The planning, scheduling, management and execution of the Work are the sole responsibility of the Contractor. The progress schedule requirement is established to allow the Engineer and the County to review Contractor's planning, scheduling, management and execution of the Work; to assist the Engineer and the County in evaluating Work progress and allow for the recommendation of progress payments and to allow other contractors to cooperate and coordinate their activities with those of the Contractor.

2.02 CONTENT OF SCHEDULES

- A. Each schedule shall be based on data following the incremental placement of 10,000 tons of reef material.
- B. Description for each activity shall be brief, but convey the scope of Work described.
- C. Activities shall identify all items of Work that must be accomplished to achieve substantial completion, such as items pertaining to mobilization, artificial reef construction surveying and demobilization.
- D. Schedules shall show the complete sequence of construction by activities. Dates for beginning and completion of each activity shall be indicated as well as projected percentage of completion for each activity as of the first day of each month.
- E. The Contractor shall consider "weather or adverse sea state days" in the schedule and identify the estimated loss of construction time due to adverse sea conditions.
- F. For Contract change orders granting time extensions, the impact on the Contract date(s) shall equal the calendar-day total time extension specified for the applicable Work in the Contract change orders.
- G. Status Report submittals shall include three copies of a time-scaled (days after notice to proceed) document showing all major construction activities. The initial detailed schedule shall use the notice to proceed as the start date. The schedule shall be the work plan to be used by the contractor for planning, scheduling, managing and executing the Work.
- H. The schedule shall include (1) all detailed construction activities, (2) calendar days prior to substantial completion, (3) summary activities for the remaining days.
- I. The Contractor shall submit progress schedules with each application for payment.

SECTION 01570 BOAT AND VEHICLE TRAFFIC AND PEDESTRIAN CONTROL

PART 1 -GENERAL

1.01 BOAT TRAFFIC

A. The Contractor shall be responsible for providing safe and expeditious movement of boat traffic through the offshore Work zone. A Work zone is defined as the immediate areas of construction activity and all adjacent or staging areas which are used by the Contractor and which may interfere with the boating activities.

B. The Contractor shall remove temporary equipment and facilities when no longer required, restore grounds to original or to specified conditions.

1.02 VEHICLE TRAFFIC AND PEDESTRIAN CONTROL

A. The Contractor shall develop and implement a vehicle traffic and pedestrian control plan for the specific requirements of this project. The plan shall provide for the continuous safe passage of vehicles, boats, pedestrians, access to public property, access by emergency vehicles and other traffic and pedestrian movements with the vicinity of the work site and temporary staging area.

B. The necessary traffic control shall include, but not be limited to, such items as fencing, proper construction warning signs, signals, lighting devices, markings, barricades, channelization and hand signaling devices. The Contractor shall be responsible for installation and maintenance of all devices for the duration of the construction period. Where applicable, the Contractor shall utilize the appropriate traffic plan from the FDOT Maintenance of Traffic Standards, Series 600 of the FDOT Roadway & Traffic Design Standards, Latest Edition.

C. The Contractor will consult with the County immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.

D. The Contractor shall provide ready access to docks in the project area during operations.

E. The Contractor shall be responsible for coordinating this Work with affected homeowners.

SECTION 01700 CONTRACT CLOSEOUT

PART 1 -GENERAL

1.01 REQUIREMENTS INCLUDED

Comply with all requirements of the Contract Documents.

1.02 SUBSTANTIAL COMPLETION

A. The Contractor shall submit the following items to the Engineer when the Contractor considers the Work to be substantially complete:

1. A written notice that the Work, or designated portion thereof, is substantially complete.
2. A list of items to be completed or corrected.

B. Within seven (7) days after receipt of such notice, if sea and water clarity conditions allow, the Engineer shall observe the Work product to determine the status of completion. The Contractor shall provide the transportation or vessels and support necessary to assist the Engineer in observing the Work product, or operation of the Work.

C. All daily reports must be submitted before the project shall be considered substantially complete.

D. If the Engineer determines that the Work is not substantially complete:

1. The Engineer shall notify the Contractor in writing, stating the reasons.
2. The Contractor shall remedy the deficiencies in the Work and send another written notice of substantial completion to the Engineer.
3. The Engineer shall observe the modified Work.
4. This process will continue until the Engineer finds the Work is substantially complete, and in compliance with the Plans and Specifications.

E. When the Engineer finds that the Work is substantially complete:

1. The Engineer will notify the County of substantial completion with a general list of the items to be completed or corrected before final payment.

2. The Engineer shall consider any objections made by the County concerning substantial completion. When the Engineer considers the Work substantially complete, he will execute and deliver to the County and the Contractor notification of Substantial Completion with a revised list of items to be completed or corrected, if required.

1.03 FINAL OBSERVATION OF THE COMPLETED WORK

A. When the Contractor considers the Work to be completed, he shall submit notification to the Engineer stating that:

1. All conditions of the Contract Documents have been met.
2. The Work has been inspected by the Contractor for compliance with permits and with Contract Documents.
3. The Work has been completed in accordance with permits and with Contract Documents.

B. The Engineer shall observe the Work to verify the status of completion and the compliance with conditions of the specifications after receipt of such notification.

C. If based on observation, the Engineer determines that the Work is incomplete or defective:

1. The Engineer shall promptly notify the Contractor in writing, listing the incomplete or defective Work.
2. The Contractor shall take immediate steps to remedy the stated deficiencies and send a new written notification to Engineer that the Work is complete.
3. The Engineer shall again observe the Work.

D. Upon finding the Work to be acceptable under the Contract Documents, the Engineer shall request the Contractor to make closeout submittals.

E. For each additional observation beyond a total of two (2) observations for substantial and final completion due to the incompleteness of the Work, the Contractor shall reimburse the County for the Engineer's observation and additional administration fees.

1.04 CONTRACTOR'S CLOSEOUT SUBMITTALS TO COUNTY

A. All required daily and monthly reports (prior to substantial completion).

B. Warranties and Bonds.

C. Evidence of Payment and Release of Liens: In accordance with requirements of General and Supplementary Conditions.

D. Evidence of the satisfactory repair of any damaged or destroyed item or facility which had been identified for repair or replacement. This includes any marks or monuments used for project central as well as private or public property.

E. Final Reconciliation, Warranty Period Declaration, and Contractor's Affidavit.

1.05 FINAL ADJUSTMENT TO ACCOUNTS AND FINAL APPLICATION FOR PAYMENT

A. The Contractor shall submit a final statement of accounting to the Engineer.

B. The statement shall reflect all adjustments to the Contract Sum:

1. The original Contract Sum.
2. Additions and deductions resulting from:
 - a. Changes in the project scope.
 - b. Previous change orders
 - c. Deductions for liquidated damages
 - d. Other adjustments
3. Retainage due.
4. Total Contract Sum, as adjusted.
5. Previous payments.
6. Sum remaining due including retainage.

C. The Engineer will review and approve, if appropriate, the final statement from the Contractor.

SECTION 01720 FIELD OFFICE PROJECT RECORD DOCUMENTS

PART 1 -GENERAL

1.01 REQUIREMENTS INCLUDED

A. Contractor shall maintain at the field office one copy each of the following:

1. Plans.
2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Engineer's field orders or written instructions.
6. Daily reports.
7. All permit required documents.

1.02 MAINTENANCE OF DOCUMENTS

A. The Contractor shall store one set of plans and specifications, one set of the addenda, change orders and other modifications, field orders and/or written instructions and in Contractor's field office apart from documents used for construction.

B. The Contractor shall maintain documents in a clean, dry, legible, condition and in good order. Field office record documents will not be used for construction purposes.

C. Make documents available at all times for review by the Engineer.

SECTION 01740 WARRANTIES AND BONDS

PART 1 -GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Compile specified warranties and bonds.
- B. Compile specified service and maintenance contracts.
- C. Co-execute submittals when so specified.
- D. Review submittals to verify compliance with Contract Documents.
- E. Submit to the County.

1.02 SUBMITTAL REQUIREMENTS

- A. Assemble warranties, bonds and service and maintenance contracts, executed by each of the respective manufacturers, suppliers and subcontractors.
- B. Number of original signed copies required: Two each.
- C. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item.
 - 1. Product or work item.
 - 2. Firm, with name of principal, address and telephone number.
 - 3. Scope.
 - 4. Date of beginning of warranty, bond or service and maintenance contract.
 - 5. Duration of warranty, bond or service maintenance contract.
 - 6. Provide information for Owner's personnel:
 - a. Proper procedure in case of failure.
 - b. Instances which might affect the validity of warranty or bond.
 - 7. Contractor, name of responsible principal, address and telephone number.

1.03 FORM OF SUBMITTALS

- A. Prepare in duplicate packets.
- B. Format:
 - 1. Size 8-1/2 inch x 11 inch punched sheets for standard 3-ring binder. Fold larger sheets to fit into binders.

2. Cover: Identify each packet with typed or printed title "WARRANTIES AND BONDS". List:

1. Title of Project.
2. Name of Contractor.

C. Binders: Commercial quality, three-ring, with durable and cleanable plastic covers.

1.04 **TIME OF SUBMITTALS**

A. Make submittals within ten days after date of substantial completion and prior to final request for payment listing date of acceptance as start of warranty period.

SECTION 02202 ARTIFICIAL REEF CONSTRUCTION

PART 1 -GENERAL

1.01 DESCRIPTION

The Work specified in this Section consists of construction of an artificial reef using limestone boulders as indicated on the Plans.

1.02 SUBMITTALS

- A. Pre-construction fathometer Survey. Refer to Technical Specification Part 1 - General, Section 7.0.
- B. Post-construction fathometer Survey. Refer to Technical Specification Part 1 – General, Section 7.0.
- C. Required Daily Reports submitted to the Engineer on a daily basis. Refer to Technical Specification Part 3 – Work Execution, Section 10.0.

PART 2 – PRODUCTS

2.01 ARTIFICIAL REEF CONSTRUCTION

- A. All artificial reef construction activities shall conform to the requirements listed in the Contract Documents. In addition, all Work shall be performed in accordance with all provisions and conditions of the permits issued by Florida Department of Environmental Protection (FDEP) and U.S. Army Corps of Engineers (USACE).
- B. The Work specified under this section consists of the construction of an offshore artificial reef in the Gulf of Mexico by the placement of limestone boulders of acceptable weight and condition as indicated in the Plans and Specifications.
- C. The Contractor shall be responsible for building the artificial reef within the artificial reef construction area shown on the Plans. The Contractor shall take extreme care not to damage existing seawalls, docks, overwalks, moorings, lifeguard stands and coastal structures during operations to build the reef.
- D. The Contractor shall be responsible for damages as a result of direct contact with physical features. All repairs shall be made within one (1) month of the date that damage occurred.
- E. The Contractor shall be responsible for the removal of all material and equipment and restore the temporary staging area to its original condition or better.
- F. The Contractor shall fully inform himself of and not violate the State of Florida Water Quality Standards.

SECTION 02270 POLLUTION CONTROL

PART 1 -GENERAL

1.01 DESCRIPTION

The Work specified in this Section consists of measures required so as to prevent pollution of water.

1.02 CONTROL OF CONTRACTOR'S OPERATIONS WHICH MAY RESULT IN WATER POLLUTION

A. Take sufficient precautions to prevent pollution of the Gulf of Mexico, canals, boat basin, intercoastal waterways and other water impoundments, with fuels, oils, bitumen, calcium chloride, or other harmful materials. Conduct and schedule operations so as to avoid or otherwise minimize pollution or siltation of such streams, etc. and to avoid interference with movement of migratory fish. Do not dump any residue into any water body.

B. Construction operations in the Gulf of Mexico, tidal waters shall be restricted to those areas where it is necessary to perform artificial reef construction to accomplish the Work shown in the Contract Documents and to those areas which must be entered to construct temporary or permanent structures. As soon as conditions permit, promptly clear all obstructions placed therein or caused by construction operations.

C. Do not disturb lands or water outside the limits of construction, except as may be found necessary to complete Work.

**MANATEE COUNTY
COQUINA BEACH ARTIFICIAL REEF CONSTRUCTION PROJECT**

SUPPLEMENTAL GENERAL CONDITIONS

REVISED MARCH 23, 2011

**MANATEE COUNTY
COQUINA BEACH ARTIFICIAL REEF CONSTRUCTION PROJECT
SUPPLEMENTAL GENERAL CONDITIONS**

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**MANATEE COUNTY
COQUINA BEACH ARTIFICIAL REEF CONSTRUCTION PROJECT**

SUPPLEMENTAL GENERAL CONDITIONS

1.0 CONTRACTUAL AGREEMENT.

The Invitation to Bid shall be included and incorporated in the final award. The order of contractual precedence will be this Contract, bid document and response. Any and all legal actions to enforce the award or any rights or obligations related to or arising out of or related to this Contract shall be filed in a court of competent jurisdiction in Manatee County, Florida, and the contractual obligations will be interpreted according to the laws of Florida. Any contractual provision proposed by a bidder and which bidder will require to be included in this Contract if awarded the Project, must be enclosed at time of bid response submittal. The County reserves the right to reject a bid or to refuse an award based on any contractual provision proposed by a bidder but unacceptable to the County.

2.0 CONFLICT OF INTEREST.

Any Award hereunder is subject to provisions of the Florida State Statutes and County Ordinance. All bidders must disclose with their bid the name of any officer, director, or agent who is also an employee of the County. Further, all bidders must disclose the name of any County employee who owns, directly or indirectly, an interest in the bidder's firm or any of its branches.

3.0 BID ERRORS.

In the event of mathematical or extension error(s) in a bid, the unit price will prevail and the bidder's total offer will be corrected accordingly. In the event of addition errors in a bid, the extended totals will prevail and the bidder's total will be corrected accordingly. Bidders must check their bid proposal and are responsible for all inaccuracies and errors. Bidders assume the risks of all errors and inaccuracies in their bids and shall solely bear any resulting loss. Bids having erasures or corrections must be initialed in ink by the Bidder.

4.0 FAMILIARITY WITH LAWS AND REGULATIONS.

The bidder acknowledges and represents to the County that the bidder is familiar, can comply with, and will exercise reasonable care to see that all Federal, State, County, and Municipal laws and ordinances are observed, by the bidder direct or indirect employees, agents, Subcontractors, suppliers and materialmen, including permit conditions for the Work.

5.0 PERMITS AND LICENSES.

The County has obtained the State of Florida Department of Environmental Protection and U.S. Army Corps of Engineers permits and approvals for construction of the artificial reef in Gulf of Mexico waters. All other such permits, licenses and other prerequisites, as may be necessary or become necessary in order to comply with State and Local laws for the operation of hauling equipment or the operation of hauling work, shall be provided by the Contractor at his own expense. The Contractor and all Subcontractors shall obtain County Building and Right-Of-Way permits (where applicable).

Each vehicle operator employed in the prosecution of this Contract shall possess a valid, legal State of Florida operators or chauffeurs license, whichever is applicable for the vehicle being operated or its use. Each vehicle employed in the prosecution of the contract shall be provided with such licenses and documentation as may be required to comply with State and Local laws.

All OSHA Standards, Rules and/or Regulations will apply to any item(s) of equipment or materials/supplies supplied or used in connection with this Contract.

6.0 AVAILABILITY OF FUNDS.

The obligations of the County under any award of the Contract to a successful bidder are subject to the availability of funds lawfully appropriated for its purpose by the County.

7.0 BANKRUPTCY/INSOLVENCY.

As of the time of the submittal of the bid through execution of this Contract if Bidder is awarded this Contract, the bidder represents and warrants to the County that it is not the debtor in any voluntary or involuntary bankruptcy or insolvency, receivership or assignment for the benefit of creditors proceeding. If the bidder is awarded this Contract and subsequently files or becomes the subject of any voluntary or involuntary bankruptcy, insolvency, receivership or assignment for the benefit of creditors proceeding, the County, to the fullest extent allowed by law, in its sole and unfettered discretion, may terminate this Contract.

8.0 SUPERINTENDENCE BY THE CONTRACTOR.

At all times during performance of this Contract and until the Work is completed and accepted, the Contractor shall directly supervise the work or assign and have on the Work site a competent superintendent who has authority to act for the Contractor and is satisfactory to the Engineer.

9.0 SITE OF WORK AREA.

The physical locations of the Work are illustrated on the Plans.

10.0 SITE INVESTIGATION/CONDITIONS AFFECTING THE WORK.

10.1. The Contractor acknowledges that they have taken steps reasonably necessary to ascertain the nature and location of the Work, and staging areas and that it has investigated and satisfied itself as to the general and local conditions which can affect the Work or its cost, including but not limited (1) conditions bearing upon transportation, disposal, handling and storage of limestone boulders or equipment, (2) the availability of labor, water, electric power, and roads, (3) uncertainties of weather, inlet conditions, tides, or similar physical conditions at the site, (4) the conformation and conditions of the work site, and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that they have satisfied itself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonable ascertainable from an inspection of the site, including all exploratory work done by Manatee County, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the Work, or for proceeding to successfully perform the Work without additional expense to Manatee County.

10.2. Manatee County shall not be responsible for any conclusions or interpretations made by the Contractor based on the information made available by the County. Nor is the County responsible for any understanding reached or representation made concerning conditions which can affect the Work by any of the Contractor's officers, employees, agents, Subcontractors, materialmen, or suppliers before execution of this contract, unless that understanding or representation is expressly stated in this Contract.

11.0 DIFFERING ARTIFICIAL REEF SITE CONDITIONS.

11.1. The Contractor shall within three (3) days of discovery, and before the conditions are disturbed, give a written notice to the Engineer of (1) physical conditions at the site which differ materially from those indicated in the Contract Documents, or (2) unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the Contract Documents.

- 11.2. At the direction of the County, the Engineer will investigate the site conditions after receiving the claim of differing conditions. If in the Engineer's judgment the conditions do materially differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, an equitable adjustment of the contract price shall be made by written Change Order.
- 11.3. No request by the Contractor for a Change Order under this clause shall be allowed, unless the Contractor has given the written notice required, provided that the time prescribed above for giving written notice may be extended by the County.
- 11.4. No request by the Contractor for a Change Order for differing site conditions shall be allowed if made after substantial completion of the Work under this contract.

12.0 CONTRACT TIME.

Within 7 days of being advised of the Award, the Contractor shall provide to the County all bonds, insurance documentation and other items that may be required for execution of this contract so that the County can issue the Notice to Proceed.

The Contractor shall commence the Work under this Contract within seven (7) calendar days after the date of issuance of the Notice to Proceed, and prosecute the work diligently thereafter to enable Substantial Completion to be achieved no later than 180 calendar days following issuance of the Notice to Proceed, subject to any extensions of time by issuance of Change Order(s) pursuant to the provisions of the contract. Final Completion must be achieved within 30 calendar days of the date of Substantial Completion, subject to any approved Change Order(s) extending the time of completion pursuant to the contract.

13.0 PASS THROUGH OF OBLIGATIONS TO SUBCONTRACTORS.

- 13.1 The Contractor warrants to the County that it will provide a copy of this Contract and all of the Contract Documents for review by its Subcontractors and will require in each of Contractor's contracts with its Subcontractors that the Subcontractor assume toward the Contractor all of the obligations and responsibilities with regard to those portions of the Work being performed by the Subcontractor, which the Contractor has assumed toward the County in this Contract and in the Contract Documents.
- 13.2 The Contractor shall perform on the site, and with his/her own organization, excluding subcontractors, Work equivalent to at least seventy percent (70%) of the total amount of Work to be performed under the Contract. If during the progress of Work hereunder, the Contractor requests in writing a reduction in such percentage, and the Engineer determines that it would be to the County's advantage, the percentage of Work required to be performed by the Contractor may be reduced, provided written approval of such reduction is obtained by the Contractor from the Engineer. The Contractor is responsible for providing, and maintaining, equipment which is in good working order, for construction of the beach renourishment project.

14.0 MATERIAL AND WORKMANSHIP.

- 14.1 All limestone boulders, equipment, other materials, and articles incorporated into the Work shall be of the most suitable grade for the purpose intended, unless otherwise specifically provided in this Contract. References in the specifications to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of the Engineer, is equal or better to that named in the specifications, unless otherwise specifically provided in this contract.
- 14.2 All work under this contract shall be performed in a skillful and workmanlike manner. The County may require, in writing, that the Contractor remove from the work any employee the County deems incompetent, careless, unsafe, or otherwise objectionable.

15.0 WARRANTY OF CONSTRUCTION.

- 15.1. In addition to any other warranties required by the Contract Documents, the Contractor warrants, except as provided in Subparagraph 19.2 below, that work performed under this Contract conforms to the requirements of the Contract

Documents and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any Subcontractor or supplier at any tier.

15.2. The Contractor shall remedy, at the Contractor's expense, any failure to conform to the requirements of the Contract Documents, or any defect in the Work. In addition, the Contractor shall remedy at the Contractor's expense, any damage to County-owned or controlled real or personal property, when that damage is the result of –

15.2.1. The Contractor's failure to conform to contract requirements of the Contract Documents; or

15.2.2. Any defect of equipment, material, workmanship, or design furnished by the Contractor or Contractor's Subcontractor or suppliers of any tier.

15.3. The Contractor shall restore any portion of the Work damaged in fulfilling Contractor's warranty obligations hereunder. The Contractor's warranty with respect to private property repaired or replaced will run for one year from the date of repair or replacement.

15.4. The County shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure of the Contractor to meet the requirements of the Contract Documents or defect, or damage.

15.5. With respect to all warranties, express or implied, from Subcontractors, manufacturers, or suppliers for work performed and materials and equipment furnished under this contract, the Contractor shall -

15.5.1. Obtain and provide to the county all warranties required by the plans and specifications that would be given in normal commercial practice of the Contractor to meet the requirements of the Contract Documents; or

15.5.2. Require all warranties to be executed, in writing for the benefit of the County, and

15.5.3. Enforce all warranties for the benefit of the County.

15.6. In the event the Contractor's warranty under paragraph (b) of this clause has expired, the County may bring suit at its expense to enforce a Subcontractor's, manufacturer's, or suppliers warranty.

- 15.7. This warranty shall not limit the County's rights under the Inspection and Acceptance clause of the contract with respect to latent defects, gross mistakes, or fraud.

16.0 CONTRACTOR INSPECTION OF CONSTRUCTION.

- 16.1. Definition. "Work" includes, but is not limited to, materials, workmanship, and manufacture and fabrication of components.
- 16.2. The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the Work conforms to the requirements of the Contract Documents. The Contractor shall maintain complete inspection records and make them available to the County. All work is subject to observation at all places and at all reasonable times by the Engineer before acceptance to ensure strict compliance with the terms of the contract.
- 16.3. Observations and tests by the Engineer are for the sole benefit of the County and do not—
 - 16.3.1. Relieve the Contractor of responsibility for providing adequate quality control measures;
 - 16.3.2. Relieve the Contractor of responsibility for damage to or loss of the material before acceptance;
 - 16.3.3. Constitute or imply acceptance;
 - 16.3.4. Affect the continuing rights of the County after acceptance of the completed work; or
 - 16.3.5. Relieve Contractor or any other party from Warranty obligations.
- 16.4. The presence or absence of the Engineer does not relieve the Contractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specification without the Engineer's written authorization.
- 16.5. The Contractor shall promptly furnish, at no increase in contract price, all facilities, labor and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Engineer. The County may charge to the Contractor any additional cost of inspection or test when work is not ready at the time specified by the Contractor for inspection or test, or when prior rejection makes reinspection or retest necessary. The County shall perform all inspections or tests in a manner that will not unnecessarily delay the work.

16.6. The Contractor shall, without charge, replace or correct work found by the Engineer not to conform to contract requirements, unless in the public interest, the County consents to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

17.0 RIGHT OF COUNTY TO PERFORM WORK AND BACKCHARGE CONTRACTOR.

In addition to, and not in lieu of, any other remedy available to the County under this Agreement, (including without limitation any right to terminate the Contract), if the Contractor fails, neglects or refuses to carry out the Work in accordance with the requirements of this Agreement within a ten (10) day period after the County's written notice to immediately commence and properly continue to cure such default, the County may proceed without further notice to the Contractor through the County's own forces, or others to correct the deficiency in the performance of the Work and deduct the costs thereof, including without limitation any compensation for engineering or architectural services reasonably required, from the Unpaid Bid Amount and any payments due or which thereafter become due the Contractor.

18.0 DESIGNATION OF EMERGENCY CONTACT PERSON.

Before commencing the Work, the Contractor and each Subcontractor shall provide the Engineer with the name of an Emergency Contact Person along with a cellular phone or other telephone number through which that Emergency Contact Person can be reached during non-working hours, including without limitation, weekends and holidays.

19.0 CONTRACTOR'S INSURANCE.

19.1. The Contractor shall provide at its own cost and expense, the following insurance policies to the County, seven (7) business days prior to the commencement of any work. All insurance policies shall be issued by companies authorized to do business under the laws of the State of Florida. The insurance shall be evidenced by certificates and/or policies as determined by the County. A thirty (30) day written notice of cancellation or modification of any stipulated insurance for each certificate or policy shall be mailed to the hiring person at the County via registered, return receipt requested mail.

19.1.1. Workers Compensation - Statutory Compliance with the Compensation Law of the State of Florida.

19.1.2. Compliance with the Federal Longshoreman's and Harborworkers' Compensation Act and other Federal Statutes.

19.2. Comprehensive General Liability Insurance with limit of liability not less than \$1,000,000 per occurrence including bodily injury and property damage, \$2,000,000 in the aggregate. This insurance shall indicate on the certificate of insurance the following coverage's:

19.2.1. Premises-Operations

19.2.2. Independent Contractor and Subcontractors

19.2.3. Products and Completed Operations

19.2.4. Broad Form Contractual

Additional coverage's and limits may be required based upon the particular services contracted if such additional coverage's and limits are required for a specific contract, those requirements will be described in the "Special Conditions" of the contract specifications.

19.3. Vehicle Liability Insurance. Limits of liability not less than \$1,000,000 per occurrence bodily injury and property damage, \$1,000,000 in the aggregate, unless otherwise indicated in the "Special Conditions" of the contract specifications. This insurance shall include for bodily injury and property damage the following coverage's:

19.3.1. Owned Vehicles

19.3.2. Hired Vehicles

19.3.3. Non-owned Vehicles

19.4. Additional Insurance may be required on an individual basis for extra hazardous contracts if such additional insurance is required for a specific contract, that requirements shall be described in the "Special Conditions" of the contract specifications.

19.5. If any of the property or casualty insurance requirements are not complied with at their renewal dates, payments to the Contractor will be withheld until those requirements have been met or at the option of the County, the County may pay the renewal premium and withhold such payments for any monies due the Contractor.

19.6 All property losses shall be payable to and adjusted with the County.

19.7 All policies and certificates of insurance shall be approved by the County Manager or his designated representative, prior to the inception of any work.

- 19.8 If at any time, any of the foregoing policies shall become unsatisfactory to the County due to changes in form or substance from the original accepted policies and certificates of insurance, or if a company issuing any such policy shall be or become unsatisfactory to the County, the Contractor shall upon notice to that effect from the County, promptly obtain a new policy, submit the same for approval to the Risk Administrator or designee, and submit the certificate thereof as herein above provided. The Contractor's failure to furnish, deliver, and maintain such insurance as above provided, shall be an event of default in which event the County may exercise all of its rights and remedies, including, without limitation, the termination of this Contract. Failure of the Contractor to take out and/or maintain, or the taking out and/or maintenance of any required insurance shall not relieve the Contractor from any liability under the Contract nor shall the insurance requirements be construed to conflict with or otherwise limit the indemnity obligations of the Contractor hereunder.
- 19.9 In the event that claims in excess of the insured amounts provided herein are filed by reason of any operations under the contract, the amount excess of such claims or any portion thereof may be withheld from any payment due or to become due the Contractor until such time the Contractor shall furnish such additional security covering such claims as may be determined by the Manatee County.
- 19.10 All policies and certificates of insurance of the Contractor shall contain the following clauses:
- 19.10.1. Insurers shall have no right of recovery or subrogation against the County (including its Engineer, agents, officers, past and present employees, elected officials, and representatives), it, being the intention of the parties, the insurance policy in effect shall protect both parties and be the primary coverage for any and all losses covered by the above described insurance.
- 19.10.2. The clause "other insurance provisions" in a policy in which the County is endorsed as an additional insured shall not apply to the County, its Engineer, agents, officials, past and present employees, elected officials and representatives if these provisions conflict with or otherwise limit the obligations of the Contractor under the terms of this agreement.
- 19.10.3. Insurance companies issuing the policy or policies shall have no recourse against the County, (including its Engineer, agents, officers, past and present employees, elected officials, and representatives) for payment of any premiums or assessments under any form of policy.

19.10.4. Any and all deductibles in the above described insurance policy shall be assumed by and be for the account of and at the sole risk of the Contractor. The amount of the deductible must be accepted by the County.

19.10.5. The County will be endorsed as an "additional insured" on all policies of insurance pertaining to this contract and described in the standard insurance requirements. A minimum of thirty (30) days must be provided to the County prior to cancellation or modification of any stipulated insurance shall be mailed to the hiring department via registered, return receipt requested mail.

20.0 INDEMNITY.

To the fullest extent allowed by law the Contractor shall protect, defend, indemnify, and hold harmless, Manatee County and the County's officers, agents, employees and Engineer free and harmless from against all claims, losses, penalties, damages, settlements, costs, charges, attorneys or other professional fees, or other expenses or liabilities of every kind and character arising out of or relating to any and all claims, liens, demands, obligations, actions, proceedings, cause or causes of action of every kind and character in connection with, or arising directly or indirectly out of or related to this Contract and the Work performed hereunder. Without limiting the generality of the foregoing, Contractor's Indemnity shall include all claims, damages, losses, or expense arising out of or related to personal injury, death, damages to property, defects in materials or workmanship, actual or alleged infringement of any patent, trademark, copyright, proprietary information, or applications of any thereof, or of any other tangible or intangible personal or property right, or any actual or alleged violation of any applicable statute, ordinance, administrative order, rule or regulation, or order of any court. Contractor agrees to investigate, respond, adjust and provide a defense for, all and any such claims, demands and actions at Contractor's sole expense and agrees to bear and remain liable for all such other costs and expenses relating thereto, even if such claim is groundless, false or fraudulent. Notwithstanding the foregoing, Contractor's Indemnity shall not extend to liability for damages to persons or property to the extent such damage was caused by any act, omission, or default of the County, or by the County's officers, agents and employees.

21.0 WAIVER OF CLAIMS FOR CONSEQUENTIAL DAMAGES.

The County and the Contractor each waive claims against the other for consequential damages arising out of or related to, any breach or termination of this Contract. The consequential damage exclusion of this paragraph is in addition to and not in limitation of, any other limitations of damage or termination claims contained in this Contract. Notwithstanding the foregoing, this paragraph shall not operate to preclude the County from claiming and recovering from the Contractor liquidated damages, if appropriate, under the provisions of this Contract.

22.0 BINDING ON SUCCESSORS AND ASSIGNS.

This Contract is binding upon, and will inure the heirs, representatives, successors and assigns of the County and the Contractor, although Contractor may not assign this Contract or any right hereunder (except to the extent of any payments earned for purposes of collateral assignment to lenders) absent the prior written consent of the County. Contractor acknowledges that the County has entered into this Agreement with the Contractor after an extensive competitive bidding process and evaluation of Contractor's particular qualifications and skills to perform the Work. Therefore, Contractor agrees that the County may withhold the consent to assignment referred to in this subsection for any reason the County deems appropriate in its sole and unfettered discretion.

**MANATEE COUNTY
COQUINA BEACH ARTIFICIAL REEF CONSTRUCTION PROJECT**

TECHNICAL SPECIFICATIONS

REVISED MARCH 23, 2011

**MANATEE COUNTY
COQUINA BEACH ARTIFICIAL REEF CONSTRUCTION PROJECT**

TECHNICAL SPECIFICATIONS

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**MANATEE COUNTY
COQUINA BEACH ARTIFICIAL REEF CONSTRUCTION PROJECT**

TECHNICAL SPECIFICATIONS

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**MANATEE COUNTY
COQUINA BEACH ARTIFICIAL REEF CONSTRUCTION PROJECT**

**TECHNICAL SPECIFICATIONS
PART 1 - GENERAL**

1.0 SCOPE.

The Work consists of furnishing all plant, labor, equipment, supplies and limestone boulders, and of performing all operations and surveys in connection with the construction of an artificial reef with 13,500 limestone boulders of an average weight of 2.5 tons in accordance with the Plans and these Specifications. The pay quantity for the Base Bid shall not exceed 33,750 tons of limestone boulders for construction of 4.87 acres of artificial reef area. The CONTRACTOR may place additional tonnage if required to construct the 4.87 acre reef, but will be paid for a maximum of 33,750 tons in place.

The CONTRACTOR may also provide a separate and additional bid for "Bid Alternate #1." The maximum additional pay quantity for Bid Alternate #1 shall not exceed 23,700 tons of limestone boulders for an approximate 3.50 acre area of artificial reef. Bid Alternate #1, if constructed, will be built in conjunction with the Base Bid Artificial reef construction. The CONTRACTOR shall place 9,480 boulders of an average weight of 2.5 tons. The CONTRACTOR may place additional tonnage if required to construct the additional 3.50 acre reef, but will be paid for a maximum of 23,700 tons in place.

The maximum pay quantity for the Base Bid and for Bid Alternate #1 is 57,450 tons.

1.1 Permits. The COUNTY has obtained the Florida Department of Environmental Protection (FDEP) and the U.S. Army Corps of Engineers (USACE) permits for this project. Permits which have been received are included in Appendices TS-1 and TS-2 of these Technical Provisions. The CONTRACTOR shall comply with all Terms and Conditions included in the Florida Department of Environmental Protection (FDEP) and the U.S. Army Corps of Engineers (USACE) permits. The CONTRACTOR will be provided with the permits and shall maintain copies of these permits at the job site at all times.

1.2 Other Permits, Certifications and Licenses. The CONTRACTOR is solely responsible for obtaining, at the CONTRACTOR'S cost, all other approvals for the mining and transporting of limestone boulders to the project site. This includes, but is not limited to, any and all roadway permits, staging area approvals, customs clearances, and business licenses required to bring material to the site and construct the project. Copies of all required licenses, permits, and certifications shall be provided to the COUNTY at the Pre-Construction conference.

2.0 DEFINITIONS.

The following definitions are provided to amend and clarify those listed in the Contract Documents.

2.1 Project Area. The term "Project Area" shall include all areas that the COUNTY provides to the CONTRACTOR to perform the Work. These areas include State owned submerged lands for which the COUNTY holds a State of Florida "consent to use" or easement.

2.2 Placement Site. The artificial reef placement site is located on State owned submerged lands which the COUNTY holds a "consent to use," or easement.

2.3 Work. A general description of the Work for which the COUNTY is inviting bids is as follows: Furnishing all materials including limestone boulders, labor, tools, plant and equipment required by the Plans and Specifications or necessarily implied therefrom to provide, transport, and place a total of 13,500 boulders of an average weight of 2.5 tons or 33,750 tons of limestone boulders, based on the Base Bid, within a footprint of 4.87 acres within the designated artificial reef site located in the waters of the Gulf of Mexico offshore of the Coquina Beach, Anna Maria Island, Florida. The Work includes all environmental compliance, reporting and surveys as required by the permits, plans, and specifications, including providing the appropriate personnel to perform the required tasks. This description of the Work also applies to Bid Alternate #1, which consists of placement of an additional 23,700 tons of limestone boulders within a footprint of 3.50 acres within the designated area defined on the plans.

3.0 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK.

The CONTRACTOR shall be required to commence the Work within seven (7) calendar days after the date the CONTRACTOR receives the Notice to Proceed from the COUNTY. The Work shall be subject to observation, no matter where it occurs. The CONTRACTOR shall not commence Work prior to receiving a written Notice to Proceed from the COUNTY or ENGINEER. The CONTRACTOR is required to complete the Work within the time prescribed in other portions of the contract documents. Once construction begins on site, it shall proceed in a continuous fashion until completion, without an idle period with the exception of weather/sea state related delays to the Work, or delays out of the control of the CONTRACTOR. A work schedule shall be submitted with the CONTRACTOR'S bid showing the time allotted for each of the various activities of the Work and the total project. The schedule shall show the various activities of Work in sufficient detail to demonstrate that the CONTRACTOR has a reasonable and workable plan to complete the project within the contract time.

4.0 CONFLICTS BETWEEN CONTRACT SECTIONS.

If there is a conflict between the various sections of the contract documents, the following order of documents shall indicate precedence:

1. In order of the most recent document date: Contract Modifications, Change Orders, and/or modifications to the Technical Specifications or Plans authorized by the COUNTY
2. Technical Specifications
3. Construction Plans
4. General Conditions
5. Instruction for Bidders

5.0 MEETINGS.

5.1 Pre-Bid Meeting. See Invitation for Bid.

5.2 Pre-Construction Meeting. The CONTRACTOR and all SUBCONTRACTORS that may conduct or be involved with the Work shall attend a mandatory Pre-Construction Meeting in Manatee County, Florida with personnel representing the COUNTY, regulatory agencies, and the ENGINEER to discuss the Plans and Technical Specifications, and the plan to implement construction of the artificial reef, the submissions identified in Part 1, Section 6.0 below, and other aspects of the Work. The pre-construction meeting will be held after the contract is awarded and prior to the commencement of work according to the State and Federal permits.

6.0 REQUIRED SUBMISSIONS.

No less than seven (7) days prior to the Pre-construction Meeting, the CONTRACTOR shall submit the following plans or items in completed form for review by the ENGINEER and the COUNTY. Submission of any plan or item to the ENGINEER or COUNTY does not constitute an endorsement on the part of the COUNTY or ENGINEER of the submitted plan or item. Failure to comply with these requirements within the time prescribed may be considered by the COUNTY to be an event of default under the Contract. All costs associated with this section shall be included in the Mobilization/ Demobilization bid item.

6.1 Letter of Understanding. The CONTRACTOR shall confirm that they have read, understood, and will abide by all terms and conditions of this contract and all of the permits, easements and any applicable ordinances, statutes, laws, rules or regulations which may affect this project and that they shall take responsibility for ensuring that their subcontractors have the same understanding and agree to abide by the same terms and conditions.

6.2 List of Subcontractors and Source of Supply. The CONTRACTOR shall provide a list of all proposed subcontractors and suppliers and include the name and physical address of each subcontractor and supplier and a description of the Work or products to be provided by each entity.

6.3 Limestone Boulder Certification. Information will be submitted to the ENGINEER regarding the boulder source and stone certification with the name, location and telephone number of the vendor(s) and quarry(s) from which limestone boulders will be obtained. The required information is further described in Part 2, Section 3, of these Technical Specifications and shall be provided at least seven (7) days prior to the pre-construction meeting. The stone certification shall be based upon an independent laboratory analysis of the boulders unit weight, and shall indicate the standards by which the results were developed.

6.4 Construction Sequence, Methodology and Schedule. The CONTRACTOR shall prepare and submit to the ENGINEER, the construction schedule and methodology statement for the artificial reef construction. This section shall include but not be limited to a list of all equipment to be used, the location of any storage or staging areas to be used, the method and routes of transporting equipment and personnel to the artificial reef site, and the method to be used for placing the individual reef boulders. The project schedule shall also be submitted. The project schedule shall indicate, at a minimum: (1) the start of Work, (2) drop testing of boulders at the quarry site, (3) the establishment of site buoys, (4) the initiation of boulder placement, (5) construction period for the artificial reef, (6) and completion of all Work. No Work on site shall begin until the methodology statement is accepted by the ENGINEER and COUNTY. Acceptance by the ENGINEER and COUNTY indicates an acknowledgement of the receipt of the plan and not an endorsement of the CONTRACTOR's means, methods or schedule.

6.5 Quality Control Plan. The CONTRACTOR will designate a Quality Control Officer who will be responsible for ensuring adherence to all aspects of the Plan. This individual may be, but is not required to be, the superintendent. The Quality Control Plan shall describe the quality control measures that will be specified to assure compliance with the terms and conditions of this contract and all permit conditions.

6.6 Daily Reports. The CONTRACTOR shall submit a copy of the proposed daily report form to be used that summarizes the Work completed at the end of each Work day. Daily reports shall be submitted every working day during the construction period (even when no Work is done) between the time the Notice to Proceed is issued and the time of Final Acceptance. The daily reports shall be submitted by 1:00 p.m. on the subsequent day to the COUNTY and ENGINEER on a daily basis via hardcopy, fax, or email. An example of an acceptable daily

report format is included in Appendix TS-3. The CONTRACTOR's proposed daily report form shall meet or exceed the content required on the example report provided in Appendix TS-3.

6.7 Appointment of Safety Officer and Accident Prevention Plan. The CONTRACTOR shall provide the name and contact information for the Safety Officer(s) responsible for this project, including functional descriptions of duties. The CONTRACTOR is also required to submit an Accident Prevention Plan to the ENGINEER. It is the CONTRACTOR's responsibility to ensure that said plan is in accordance with all Federal safety standards as specified in EM 385-1-1, entitled "Safety & Health Requirements Manual". Submission of the plan does not constitute an endorsement on the part of the COUNTY or ENGINEER of the CONTRACTOR's accident prevention plan. The plans are intended to provide a method by which the CONTRACTOR demonstrates an awareness of safety standards.

6.8 Hurricane and Severe Weather Plan. The CONTRACTOR shall move any floating equipment out of the Gulf of Mexico project site and to a safe site in the event of an approaching or a threatening storm. The CONTRACTOR shall monitor NOAA or other weather broadcasts during all construction operations and notify the ENGINEER and the COUNTY at the time of any decision to move equipment in preparation for potential storms. The CONTRACTOR shall provide a prioritized list of actions to be taken in the event of a severe storm and assign personnel to each action. The contractor shall specify emergency operating procedures to be implemented in the event of mooring equipment failures, loss of a spud, swing wires, anchor wires, or other mooring equipment. The contractor shall specify the operating limits of equipment (i.e. maximum operating wave heights). Submission of the plan does not constitute an endorsement on the part of the COUNTY or the ENGINEER of the CONTRACTOR's Hurricane or Severe Weather Plan.

7.0 SURVEY REQUIREMENTS.

7.1 Pre-Construction Visual Survey. Prior to the start of construction, and following the establishment of the perimeter points to distinguish the artificial reef construction area, the CONTRACTOR shall perform an underwater survey to observe the reef construction area to determine if there is any natural hardbottom exposed within 50 feet of the artificial reef construction perimeter. The natural hardbottom (reef) edge within 50 feet of the construction area shall be precisely located and mapped. The CONTRACTOR shall document the survey using GPS positioning and a Hypack, or similar navigation system. The CONTRACTOR shall note location of any exposed hardbottom to avoid during construction operations and shall notify the ENGINEER of any exposed natural hardbottom or reef within 50 feet of the construction area, or within the construction area. The CONTRACTOR shall map any exposed natural reef within the construction or within 50 feet of the artificial reef perimeter on the artificial reef plan sheet and

provide a copy of this sheet to the ENGINEER as soon as possible and before any construction occurs in near proximity to the natural hardbottom.

Based on the survey of the natural hardbottom, the artificial reef construction area may be modified to maintain a minimum 50 feet distance between exposed natural hardbottom and the artificial reef construction area. Nevertheless, sufficient area will be provided to construct the 4.87 acre artificial reef at the construction site. If natural hardbottom is found exposed within the construction area, the construction area will be modified to provide a 50 feet buffer zone around the natural hardbottom. Sufficient area will be provided to construct the 4.87 area artificial reef at the construction site. No additional compensation shall be forthcoming to the CONTRACTOR if the artificial reef placement site is modified.

7.2 Pre-Construction Fathometer Survey. A pre-construction fathometer survey of the construction area will be conducted by the CONTRACTOR. The survey lines will be parallel to the east-west sides of the construction area and will be spaced at 50 foot intervals, starting 50 feet north of the north construction area border. The survey shall extend 50 feet south of the south construction area border. East-west lines shall extend 50 feet past the east and west construction border area in both directions. The results of this survey shall be submitted before the start of construction as digital XYZ data in the project datum and a 1" = 50' scale planview contour map that includes the reef plan boundaries.

7.3 Post-Construction Fathometer Survey. A fathometer survey shall be performed of the reef area after construction by the contractor. The post-construction survey shall be performed along the same tracklines as the pre-construction survey. A 1" = 50' scale drawing of the contoured survey data in the project datum and the reef area boundaries from the plans shall be overlaid on the survey. The survey shall also include an as-built perimeter survey of the constructed reef area, which shall be overlaid on the post-construction survey drawing. The as-built perimeter survey, including digital XYZ data and planview drawing in the project datum, must be submitted and approved by the ENGINEER for final acceptance. The survey shall be in the project datum and this datum shall be noted on all submissions.

7.4 All surveys shall be performed by a surveyor licensed in the State of Florida and be submitted under his signature. The survey datum is that used on plan sheet PV (Sheet 2/4).

8.0 RECORD DRAWINGS.

The CONTRACTOR shall maintain a separate set of full-size contract drawings, marked up in red, to indicate the daily, as-built conditions. These drawings shall be updated daily, dated daily and shall be maintained at or near the site at all times until completion of the Work. The drawings shall also indicate the number of placed boulders each day

and their location. The drawings shall be available for review by the ENGINEER or COUNTY, or their respective representatives at all times. All variations from the contract drawings, for whatever reason including those occasioned by modifications, shall be indicated. These variations shall be shown in the same general detail utilized in the contract drawings. The marked-up drawings may be utilized for preparation of the as-built drawings, but may not be substituted for the as-built drawings.

9.0 AS-BUILT DRAWINGS.

9.1 The CONTRACTOR shall submit to the ENGINEER, for approval, the surveyed plan view of the Work, for the approval of the ENGINEER within thirty (30) calendar days of the completion of the site Work.

9.2 The survey data shall be that described in the paragraph "SURVEY REQUIREMENTS", (Section 7, TS).

9.3 The plan view shall depict the as-built location and extent (perimeter) of the constructed artificial reef and the boundaries of the reef area as shown on the plans. The plan view shall be referenced to Florida State Plane grid coordinates (as depicted in the Plans) in the project datum.

9.4 Upon completion of the Work, the CONTRACTOR shall sign the as-built drawings in the following manner: "I CERTIFY THAT THESE DRAWINGS INDICATE CONSTRUCTION AS ACTUALLY PERFORMED AND ARE AN ACCURATE REPRESENTATION OF THE SPECIFIED WORK." The COUNTY reserves the right to withhold final payment until acceptable as-built drawings have been submitted.

10.0 PHYSICAL DATA.

10.1 General. Information and data provided or referred to in the Contract Documents are furnished for the CONTRACTOR's information. However, it is expressly understood that the COUNTY or ENGINEER will not be responsible for any interpretation or conclusion drawn therefrom by the CONTRACTOR. Likewise, the COUNTY or ENGINEER will not be responsible for any information provided to the CONTRACTOR by any information agency or other party.

10.2 Physical Conditions. The physical conditions indicated on the drawings and in the specifications are the results of site investigations, including bathymetric surveys and sediment probe investigations, and are considered representative of conditions at the time of investigation. Should any questions or discrepancies arise, the conditions should be independently confirmed by the CONTRACTOR and immediately reported to the ENGINEER.

10.3 Weather Conditions. The project area may be affected by tropical storms and hurricanes primarily from June through November, cold fronts during the

winter, and by windy and/or rainy weather, including thunder storms, at any time of the year. The CONTRACTOR shall be responsible for obtaining information concerning rain, wind and other weather and wave conditions that could influence safety or any other construction activity prior to making a bid and during project construction.

10.4 Local Climatological Data-Monthly Summary, published by the National Oceanic and Atmospheric Administration (NOAA), Asheville, NC. Subscription price and ordering information available from the National Climatic Data Center, Federal Building, Asheville, NC 22801. This publication gives hourly wind speed and direction observations. The Annual Summary gives a summary of the observations for the period of record.

10.5 Summary of Synoptic Meteorological Observations: North American Coastal Marine Areas Atlantic and Gulf Coasts. Produced by Naval Weather Service, U.S. Department of Commerce. Distributed by National Technical Information Service, U.S. Department of Commerce.

10.6 Time Extension for Delays Caused by Severe Weather or Sea State.

Time extension for delays for severe weather or sea state will be granted if:

- (a) A request is made IN WRITING within seven (7) days of the delay.
- (b) The delay is substantiated, in writing by the CONTRACTOR and includes supportive sea state and/or weather data, within thirty (30) days of the onset of the delay (steps a and b may be combined).
- (c) The data indicates that weather or adverse sea state would preclude the transport and/or placement of boulders, and/or the materials barge and other equipment had to seek port for safety reasons.
- (d) The daily reports document the condition and resulting delay in hours of downtime.
- (e) If these steps ((a), (b), (c) and (d) above) are not followed by the CONTRACTOR, no extension may be granted.

11.0 PERMISSIBLE WORK HOURS.

All Work on site, including construction, vessel transit, clean-up, and mobilization or demobilization shall be performed during daylight hours only, subject to permit conditions. Lighting use shall comply with sea turtle nesting restrictions in the permits and comply with Coast Guard regulations and County and City Ordinances.

12.0 NOTIFICATION OF MILESTONES.

12.1 The CONTRACTOR shall specifically notify the ENGINEER of the following:

12.1.1 Of the intended date of commencement of the Work at least five (5) calendar days in advance of the Work's commencement;

12.1.2 Of the date and time of the scheduled drop test at the quarry site at least five (5) calendar days in advance of the test commencement;

12.1.3 At least five (5) calendar days prior to establishment of the required site buoys;

12.1.4 At least five (5) calendar days prior to locating the materials barge at the reef construction site;

12.1.5 At least five (5) calendar days prior to the initiation of boulder placement;

12.1.6 Upon completion of the first acre of constructed reef and upon completion of each additional acre of reef up to substantial completion of the entire Work.

12.1.7 At least five (5) calendar days prior to the date of expected substantial completion of the entire Work.

12.2 The presence or absence of the ENGINEER or COUNTY shall not relieve the CONTRACTOR of his responsibility to properly execute the Work in close accordance with these Specifications and the Plans, and to meet all permit conditions and environmental protection requirements.

12.3 The ENGINEER shall notify the CONTRACTOR of any observed non-compliance with the Plans and Specifications, Permits and/or applicable Federal, State or local laws & regulations, promptly upon discovery. The CONTRACTOR shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the CONTRACTOR or his authorized representative, shall be deemed sufficient for the purpose. If the CONTRACTOR fails or refuses to comply promptly, the ENGINEER may issue an order stopping all or part of the Work until satisfactory corrective action has been taken.

12.4 The CONTRACTOR shall provide the ENGINEER and/or the COUNTY with water borne transportation to the Work area on an as needed daily basis.

13.0 TECHNICAL INTERPRETATION.

The ENGINEER will be available to offer interpretation of the technical portions of the Contract Documents during all phases of the construction. The ENGINEER is the only direct or indirect representative of the COUNTY from whom interpretation regarding technical issues can be rendered to the CONTRACTOR. All technical questions related to the construction will be addressed through communication with the ENGINEER.

14.0 SUPERINTENDENT.

The CONTRACTOR shall designate, in writing to the ENGINEER, the Superintendent(s) to receive instructions from the ENGINEER (see section 16, General Terms and Conditions). The written designation of a Superintendent(s) shall include all contact information necessary for the ENGINEER to contact the Superintendent(s) during working hours, including information regarding land-line phone numbers, cell phone numbers, and VHF radio call signs and working frequencies. Said instructions, once received by the CONTRACTOR's Superintendent(s) from the ENGINEER, shall be legally binding on the CONTRACTOR pursuant to this Contract. A Superintendent(s) of the CONTRACTOR shall be onsite and available to the ENGINEER at all times during project construction.

15.0 PAYMENT FOR MOBILIZATION/DEMOBILIZATION.

15.1 General. All cost associated with the Work shall be included in the cost of mobilization/demobilization or in the unit cost for limestone boulders.

15.2 Mobilization/Demobilization Payment. All costs associated with the mobilization and demobilization of equipment and personnel to and from the project area shall be included in the contract lump sum price given under the Mobilization/Demobilization line on the bid form.

15.2.1 The costs of any required insurance, or any other pre-construction expense necessary for the start of Work, excluding the cost of construction materials, shall also be incorporated into the mobilization/demobilization cost.

15.2.2 Mobilization Partial Payment. Sixty percent (60%) of the lump sum price, subject to 2.5% retainage, will be paid to the CONTRACTOR after a total of 36 limestone boulders have been placed under the Base Bid within the lines and grades described in the Plans. The remaining forty percent (40%) of the lump sum price will be included in the final payment for Work under this contract. The lump sum price for mobilization/demobilization shall not exceed 10% of the total project cost.

16.0 PAYMENT TO PROVIDE & PLACE LIMESTONE BOULDERS.

16.1 Unit Price. The quantities of purchased limestone boulders will be paid for at the in-place contract unit price per ton of limestone boulders. The price and payment shall be full compensation for all Work specified for limestone boulder placement and shall include but not be limited to site access and staging, site preparation, site clearing, purchase of all boulders used in constructing the artificial reef, loading, transport, unloading, placing, cleanup, and all Work prerequisite and incidental to limestone boulder placement. The cost for this Work shall be included in the unit cost for placement of limestone boulders. Payment shall be based upon the per unit items constructed by the CONTRACTOR and accepted by the ENGINEER on the basis of both suitable documentation provided and observation of the Work.

16.2 Boulder Payment Criteria. Payment for boulder placement will be based on a certified weight determination of the quantity of material delivered to the site and placed within the lines and grades shown on the Plans. The weight of the limestone boulders shall be measured by the net ton (2,000 pounds), dry in its natural state, as determined by railroad scales, truck scales, or barge displacement. All costs incidental to weight determination shall be borne by the CONTRACTOR. Boulders placed in excess of spacing tolerances, not meeting the specifications or placed outside the lines and grades of the Plans will be ineligible for payment, and shall be relocated or removed, as appropriate, by the CONTRACTOR at the CONTRACTOR's expense upon request of the ENGINEER.

16.2.1 When railroad car determination of weights is used, the cars shall be weighed before and after loading, or before and after unloading by a sworn weigher at the quarry or at the destination, upon scales and in a manner satisfactory to the ENGINEER. Railroad certificates of weights will be acceptable. The number of boulders per railroad car shall be also provided.

16.2.2 When truck determination of weights is used, the trucks shall be weighed before and after loading or before and after unloading by a sworn weigher, and in a manner satisfactory to the ENGINEER. Each truck shall be plainly identified by marked numbers or letters which shall not be

changed or given to any other truck during the period of the contract. The number of boulders per truck load shall also be provided.

16.2.3 When barge displacement is used for the determination of weights, the following procedure will be used. The CONTRACTOR shall contact the ENGINEER at the time of the first and second barge loading so that the empty and loaded condition of the barge can be observed and verified by the ENGINEER. Each barge will be accurately measured and shall be fitted with displacement indicators (gages or load-lines) graduated in tenths of a foot. The indicators shall be located on each corner of the barge, near the lower end of the rake, with two additional indicators amidship. The indicators shall be acceptable to the ENGINEER. Fore and aft displacement due to load shall not differ more than 10% from their mean for the determination of tonnage. From the difference of the "loaded" and "light" indications, the tonnage of the stone shall be determined. All gage readings shall be made in still water, and in either salt water or in fresh water. The weight of seawater displaced will be assumed to be uniformly 64.0 pounds per cubic foot (lbs/cf) for saltwater and 62.4 lbs/cf for freshwater. All barges shall be pumped dry (within the limits of pump suction) before each gaging, and limber holes shall be kept open so that any water in the barge will flow freely to the pump suction. All equipment, dirt and other material which is on the barge shall remain when gaged "loaded" and "light" so as to measure only the net weight of stone. The number of boulders per barge shall also be provided.

16.2.4 The CONTRACTOR shall provide times for the ENGINEER to observe weighing and boulder counts. The CONTRACTOR shall provide 5 days notice prior to the event.

16.3 The maximum pay quantity for the Base Bid is 33,750 tons for placement of 13,500 boulders. The maximum pay quantity for Bid Alternate #1 is 23,700 tons for placement of 9,480 boulders. Payment for boulders shall be based on the "in place" tonnage for boulders placed within the lines and grades shown on Plan Sheet PV (Sheet 2/4), or as provided for the Bid Alternative #1, if Bid Alternative #1 is to be constructed. The specific placement specifications are provided in Part 3 of these Technical Specifications. The CONTRACTOR shall notify the ENGINEER in writing upon completion of each acre of boulder placement. The notifications shall include the estimated quantity needed to complete the project based on the number of boulders, the actual stone sizes, weight and spacing achieved in construction.

17.0 PAYMENT FOR SURVEYS.

All costs associated with the establishment and maintenance of site buoys, the pre- and post-construction surveys, and the as-built drawings shall be included in the contract lump sum price for Surveys.

18.0 PROGRESS PAYMENTS.

The CONTRACTOR shall prepare and submit to the COUNTY an original invoice on a COUNTY acceptable form which includes a schedule of values worksheet for Work completed through the invoice date.

18.1 Initial Payment. The CONTRACTOR shall be eligible for his first progress payment after 36 limestone boulders have been placed onsite in the proper location and spacing, as verified by the ENGINEER's observations. The ENGINEER shall have five (5) days after notification by the CONTRACTOR to observe the minimum number of boulders placed. The CONTRACTOR shall make safe transport from the landing site to the reef site available to the ENGINEER. This progress payment shall include sixty percent (60%) of the lump sum price for the Mobilization/Demobilization bid item, payment for 36 boulders at the unit price stated in the bid, and five percent (5%) of the lump sum price for the Surveys. The initial payment is subject to a ten percent (10%) retain until completion of the project.

18.2 Progress Payments. The CONTRACTOR shall be eligible for subsequent progress payments upon the completion and acceptance by the ENGINEER for each additional 10,000 tons, or more, of placed boulders. The progress payments shall be based on the tonnage of boulders placed within artificial reef construction area shown on Plan Sheet PV (Sheet 2/4) based on the CONTRACTOR's surveys, a certified weight determination of the quantity of material delivered to the site and the number of boulders placed. The CONTRACTOR shall submit a plan view of the Work completed for payment using Plan Sheet PV (2/4) as a template. The COUNTY shall not compensate the CONTRACTOR for purchase and trucking of limestone boulders to the staging site. Progress payments for lump sum items will be based on the percent of Work complete through the invoice date.

18.3 All progress payments will be subject to a 2.5% retainage.

19.0 FINAL ACCEPTANCE & PAYMENT.

19.1 Upon written notice from CONTRACTOR that the Work is complete, the ENGINEER will conduct a final observation of the Work and will review the surveyor's as-built surveys. The CONTRACTOR's written notice shall constitute an application for substantial completion. The ENGINEER shall issue a letter of substantial completion if appropriate and, if necessary, a correction list of all particulars in which this inspection reveals that the Work is incomplete or defective. The CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies. Corrections to the Work involving the placement of additional stone shall be paid for at the contract rate.

19.2 After the CONTRACTOR has completed all such corrections to the satisfaction of the ENGINEER and COUNTY and delivered guarantees, bonds,

certificates of inspection, marked-up record documents and all other documents as required by the Contract Documents, and after the ENGINEER has indicated that the Work is acceptable, the CONTRACTOR may make application for final payment. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents and such other data and schedules as ENGINEER may reasonably require, together with complete and legally effective releases or waivers (satisfactory to COUNTY) of all Liens arising out of, or filed in connection with the Work. In lieu thereof and as approved by the COUNTY, the CONTRACTOR may furnish receipts or releases in full; an affidavit of the CONTRACTOR that the releases and receipts include all labor, services, material and equipment bills, and other indebtedness connected with the Work for which the COUNTY or the COUNTY 's property might in any way be responsible, have been paid or otherwise satisfied; and consent of the Surety, if any, to final payment. If any subcontractor, manufacturer, fabricator, boulders or materials supplier or distributor fails to furnish a release or receipt in full, the CONTRACTOR may furnish a bond or other collateral satisfactory to the COUNTY to indemnify the COUNTY against any lien.

19.3 The ENGINEER's recommendation of payment will constitute a representation by the ENGINEER to the COUNTY that the conditions precedent to the CONTRACTOR's being entitled to payment as set forth in the following paragraphs have been fulfilled to the best of the ENGINEER's judgment. Final placement weights and numbers will be prepared by the CONTRACTOR and provided to the ENGINEER. The CONTRACTOR shall provide sufficient signed and sealed as-built survey data to the ENGINEER to verify the placement of materials.

19.4 The ENGINEER may refuse to recommend the whole or any part of any payment if, in his/her opinion, it may be incorrect to make such representations to the COUNTY. The ENGINEER may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended to such extent as may be necessary in the ENGINEER's opinion to protect the COUNTY from loss because:

- (a) The Work is defective, or completed Work has caused damages requiring correction or replacement;
- (b) Written claims have been made against COUNTY or ENGINEER, or liens have been filed in connection with the Work;
- (c) The contract price has been reduced because of modifications;
- (d) The COUNTY has been required to correct defective Work or complete the Work;
- (e) The CONTRACTOR has not performed the Work in accordance with the Contract Documents;

- (f) Clean-up of the project area as defined in the contract documents has not been accomplished to the satisfaction of the COUNTY or ENGINEER; or,
- (g) The CONTRACTOR has failed to make payment to subcontractors, or for labor, materials, or equipment.

19.5 If, on the basis of the ENGINEER's observation of the Work during construction and final inspection, and the ENGINEER's review of the final Application for Payment and accompanying documentation, the ENGINEER is satisfied that the Work has been completed and the CONTRACTOR has fulfilled all of the obligations under the Contract Documents, the ENGINEER will, within ten (10) days after receipt of the final Application for Payment, indicate in writing a recommendation of payment and present the application to COUNTY for payment. If the application and accompanying documentation are appropriate as to form and substance, the COUNTY shall, after receipt of the ENGINEER's recommendation for Final Payment, pay the CONTRACTOR the amount recommended by the ENGINEER within the time prescribed in other parts of the specifications. Otherwise, the ENGINEER will return the application to the CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case the CONTRACTOR shall make the necessary corrections and resubmit the application.

19.6 If, through no fault of the CONTRACTOR, final completion of the Work has not been accomplished and the ENGINEER so confirms, the COUNTY shall, upon receipt of the CONTRACTOR's final Application for Payment and recommendation of the ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by the COUNTY for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished, the written consent of the Surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the CONTRACTOR to the ENGINEER with the application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

19.7 The CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any payment by the ENGINEER, nor the issuance of a certificate of Substantial Completion, nor any payment by the COUNTY to the CONTRACTOR under the Contract Documents, nor any use or occupancy of the Work of any part thereof by the COUNTY, nor any act of acceptance by the COUNTY nor any failure to do so, nor the issuance of a notice of acceptability by the ENGINEER nor any correction of defective Work by the COUNTY shall constitute an acceptance of Work not in accordance with the Contract Documents or a release of the CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents.

19.8 The COUNTY shall have the right to exclude the CONTRACTOR from the work site after the date of substantial completion, but the COUNTY shall allow the CONTRACTOR reasonable access to the work site to complete or correct items on the tentative correction list.

19.9 The making and acceptance of final payment shall constitute:

19.9.1 A waiver of all claims by the COUNTY against the CONTRACTOR, except claims arising from unsettled liens, from defective Work appearing after final inspection or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; however, it shall not constitute a waiver by the COUNTY of any rights in respect to the CONTRACTOR's continuing obligations under the Contract Documents; and,

19.9.2 A waiver of all claims by the CONTRACTOR against the COUNTY other than those previously made in writing and still unsettled.

20.0 ONE YEAR CORRECTION PERIOD.

If within one (1) year after the date of substantial completion or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any work related to public or private property repairs is found to be defective, the CONTRACTOR shall promptly, without cost to the COUNTY either correct such defective work, or, if it has been rejected by the OWNER, remove it from the site and replace it with non-defective Work. If the CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, the COUNTY may have the defective work corrected or the rejected work removed and replaced, and all direct and indirect costs of such removal and replacement, including compensation for additional ENGINEER services, shall be paid by the CONTRACTOR.

This clause shall apply to substandard or misplaced boulders that were missed or misrepresented in the QA/QC process, and does not apply to damages or movement caused by major storms, natural settlement or outside influences.

21.0 CHANGES AND EXTRAS.

21.1 Changes in the Work. The COUNTY shall have the right, within the general scope of the Work and without notice to any surety or sureties of the CONTRACTOR, the make changes in the Work, including but not limited to changes in the Plans, General Conditions, Technical Provisions, and Environmental Provisions, or changes pertaining to boulder numbers, weight or size, reef size, environmental protection, contract time, contract price, in or to the method or manner of performance of the Work, in or to equipment, materials,

service or site, in or to the mode or manner of payment for the Work, or directing a change in the rate of performance of the Work. All changes shall, except in the case of emergencies endangering the safety of personnel or property, be made by modification of the Contract Documents or by written Change Order duly executed by the COUNTY, ENGINEER and CONTRACTOR. Work beyond such minimum shall be undertaken only pursuant to a properly issued change order received from the ENGINEER. The CONTRACTOR shall promptly comply with any and all written change orders issued by the ENGINEER, notwithstanding any disputes. No such change order shall be deemed to invalidate the CONTRACT.

21.2 No adjustment of Unit Price. No adjustment shall be made in any Unit Price of the Contract for changes ordered by the COUNTY that cause an increase or decrease equal to, or less than thirty-five percent (35%) in the amount of the Work, or by the estimated tonnage or number of boulders provided in the bid documents of placed boulders for either the Base Bid or Bid Alternate #1 which is to be placed within the reef templates. It is further provided, however, that no adjustments shall be made in the contract price or time of performance for either lump sum or unit price work if the change is expressly or reasonably implied by the Contract Drawings and Specifications or is incidental thereto, or if the Work becomes more difficult than the bid price and Contract Documents would reflect, or if the CONTRACTOR failed to protest, negotiate, comment or otherwise call to the COUNTY's attention in writing, any omissions, ambiguities or conflicts in the Contract Documents that the CONTRACTOR could have discovered prior to the submission of its bid or execution of the Contract.

PART 2 – LIMESTONE BOULDERS

1.0 GENERAL.

The boulders for use in the construction of the artificial reef shall be limestone quarry rock. All boulders proposed for use in the artificial reef are subject to approval by the ENGINEER. All boulders used shall be hard, dense, and nonfriable. Boulders shall be durable and shall not disintegrate under the elements nor break during handling. Boulders shall be hard, coarse grained, and free of vegetation, cracks, seams, drill holes, laminations, or other imperfections which might adversely affect its durability when exposed to weathering and the sea action. Debris, mud, dirt and pollution shall be removed from the boulders prior to placement into the Gulf of Mexico.

2.0 BOULDER DIMENSION AND WEIGHT.

2.1. General. The artificial reef shall be built of limestone boulders. The maximum vertical dimension of the boulders should not be more than 4.0 feet and the minimum vertical dimension shall not be less than 3.0 feet. The CONTRACTOR shall select boulders and place them so as to achieve this objective.

2.2 The faces of all boulders shall be roughly angular, not rounded, in shape. The least dimension of each boulder shall not be less than one-third (1/3) of the greatest dimension of the boulder.

2.3 The average boulder weight for the Work shall be a minimum of 2.5 tons.

2.4 The minimum individual boulder weight shall not be less than 2.0 tons.

2.5 The maximum individual boulder weight should not exceed 3.0 tons.

2.6 Boulders stacked on top of other boulders, or boulders with vertical dimensions greater than 4.5 feet will not be eligible for payment and will have to be removed or repositioned. All boulders shall meet minimum clearance requirements (Part 3, Paragraph 8.2). Boulders may touch in the single placed layer, but shall not be stacked on top of other boulders.

2.7 The CONTRACTOR is not responsible for settlement of boulders inside the construction area. The CONTRACTOR shall report to the ENGINEER any settlement occurrence where over 70% of the boulder is covered in the bottom sediments.

2.8 The project intent is an artificial reef with boulders meeting the above criteria distributed to achieve a footprint of 4.87 acres within the original or modified construction area. The ENGINEER may waive minor deviations from the tolerances described above, within the limits of permit requirements.

2.9 The CONTRACTOR shall randomly select six (6) boulders from the quarry and have each boulder weighed and dimensioned. The boulders shall represent the range of boulder sizes. Each boulder shall be clearly marked with its weight and dimensions. The ENGINEER will view the boulder(s) and approve their acceptability as example sizes. The weighed boulders that meet the specifications shall be placed in a convenient location in the quarry where the CONTRACTOR can compare future selected boulders for possible shipment to the project site.

3.0 BOULDER UNIT WEIGHT.

3.1 Unit Weight. The CONTRACTOR shall provide to the ENGINEER certified results of laboratory testing conducted by an independent lab to determine the unit weight of the quarry stone. The tests shall be conducted on a minimum of five (5) samples randomly selected from the quarry proposed for use. The test shall be ASTM C127. The minimum acceptable unit weight of all boulders is 135 pcf (saturated, surface dried). All 5 samples shall have a unit weight of no less than 135 pcf. The CONTRACTOR may use boulders with a unit weight greater than 135 pcf, but the CONTRACTOR shall be required to construct 4.87 acres of artificial reef and will be paid for a maximum of 33,750 tons, based on the Base Bid; or an additional 3.50 acres of artificial reef and will be paid for a maximum of 23,700 tons, based on Bid Alternate #1.

3.2 Unit Weight Failure. All samples must be at least 135 pcf. Failure of any sample test on the first set of 5 samples and a following set of 5 samples will be cause for rejection of the quarry and/or quarrying process. Boulders that fail the test shall not be incorporated into the Work. The initial test and any additional test required because of failure of the initial test sample will be made at no cost to the COUNTY. The CONTRACTOR may not use more than one quarry without prior approval of the ENGINEER. The ENGINEER will require additional tests, at no expense to the COUNTY, if additional quarries are requested.

4.0 DROP TEST AT THE QUARRY.

A drop test will be performed on ten (10) boulders at the rock quarry. The boulders will be selected randomly, and boulder selection will be approved by the ENGINEER. The drop tests will be performed by the CONTRACTOR in the presence of the ENGINEER. The CONTRACTOR shall give the ENGINEER at least seven (7) calendar days notice of the drop test. The drop test will consist of dropping the boulder from a height of five (5) feet onto a minimum 5' by 5' steel plate. The steel plate shall be a minimum of 1" thick and be placed on firm ground. Boulders that break, crack or fracture after being dropped will not be accepted for use in the work. The boulders should be examined carefully before testing as well as afterward. Failure criteria are breakage, development of new cracks, and expansion of old cracks. Nine (9) of ten (10) boulders must pass the drop test to approve the quarry, quarrying process and boulder selection. Boulders that fail the drop test shall not be incorporated into the Work.

5.0 DROP TEST AT THE STAGING AREA.

The CONTRACTOR shall be prepared to conduct drop tests at the staging area in addition to the quarry. Drop tests may be requested of individual boulders at the staging area at any time by the ENGINEER to check potentially questionable boulder quality. Boulders that are not tested after requested by the ENGINEER, or that fail the drop test, will be rejected and shall be removed from the site by the CONTRACTOR at no expense to the COUNTY.

6.0 NON-SPECIFICATION MATERIAL.

The ENGINEER shall refuse payment for boulders delivered to the site that do not meet these specifications. The CONTRACTOR shall remove unacceptable boulders from the Work site at no additional expense to the COUNTY. Unacceptable boulders removed from the site shall be returned to the quarry, the CONTRACTOR'S yard, or otherwise disposed of in a legal manner, and the weight deducted from previous weight reports.

7.0 CERTIFIED BOULDER QUANTITY.

The CONTRACTOR shall provide records of the net weight and number of boulders transported to the Work site. The CONTRACTOR shall provide the ENGINEER with a weekly cumulative total of all boulders (by numbers and by total weight) delivered to the project site and incorporated into the Work, and a total of all boulders placed by numbers and by weight. Signed weight tickets, boulder counts corresponding to each weight ticket and any other records shall be provided to the ENGINEER weekly. The CONTRACTOR shall also complete the "Cargo Manifest Form" and "Materials Placement Report" forms given in Appendix TS-4. The CONTRACTOR shall report, in a similar fashion, all boulders not incorporated into Work and/or removed from the project area.

8.0 BOULDER QUANTITIES.

Quantities shown in bid documents were estimated based on an average boulder weight of 2.5 tons placed within the reef template assuming an allowable range of spacing between touching to a maximum 1.0 feet with a 0.50 foot approximate average spacing between individual boulders to meet the acreage requirement. These quantities are based on a minimum unit weight of 135 pcf. The CONTRACTOR may use boulders with a unit weight greater than 135 pcf, but will still be required to construct 4.87 acres of artificial reef using 13,500 boulders and will be paid for a maximum of 33,750 tons, based on the Base Bid. The CONTRACTOR shall prepare their own estimate prior to making their bid. Payment for placed quantities up to the maximum tonnage shall be at the Contract unit price bid.

PART 3 – WORK EXECUTION

1.0 ORDER OF WORK.

Prior to commencement of Work, the CONTRACTOR shall propose the order and methodology in which the CONTRACTOR plans to do the Work. No Work at the project site shall begin until a Notice to Proceed and a concurrence with the order and methodology are issued by the COUNTY and ENGINEER.

2.0 TRANSPORT OF MATERIALS.

The method of transporting construction materials to and from the Gulf of Mexico Work area shall be by barge or other means acceptable to the ENGINEER.

2.1 Site Access and Work Vessel Limitations. The artificial reef site is located approximately 0.8 miles northwest of Longboat Pass and 6.8 miles southeast of Passage Key Inlet offshore of Anna Maria Island between FDEP beach survey monuments R-36 to R-39. The site is approximately 1,000 feet from shore. The site can be accessed via Passage Key Inlet to the north or Longboat Pass to the south. The CONTRACTOR shall be aware that vertical clearance and depth limits exist in Longboat Pass and that local knowledge may be required for safe passage. The CONTRACTOR shall use these accesses at his own risk.

2.2 Existing Reefs. The artificial reef site is adjacent to natural hardbottom reef areas, with the closest known hardbottom to the east. Two existing artificial reefs are located west and south of the reef construction site as depicted on the Plan Sheet PV (2/4). All ingress/egress shall occur over sandy bottom to avoid existing natural or artificial reefs as shown on the Plans. At no time shall the barge and tug enter water with less than four (4) feet of water below the draft of the vessel. The CONTRACTOR shall ensure that existing water depths are adequate for barge access to the site. Prop-dredging within the barge access area shall not be permissible.

2.3 Limitations. Limitations on the draft of work vessels are established herein to ensure that the CONTRACTOR will not disturb existing hardbottom under any circumstances. These limitations apply to any vessels used by the CONTRACTOR, including barges and tug boats. These limitations may not be violated under any circumstances of various wave conditions and vessel loading. The draft clearances apply to the deepest point of each vessel measured as it is at its deepest (i.e. in the trough of a wave). The limitations apply to vessels in transit and vessels that are stationary or powered.

2.4 Marine Activities. The CONTRACTOR shall conduct marine operations in accordance with safe practices, and all applicable local, State, and Federal regulations pertaining to marine transport and construction activities, so as not to impede navigation and/or maintenance of the waterway and create a navigation

hazard within the waterway. The CONTRACTOR shall be responsible for all notifications required for CONTRACTOR marine activities undertaken in regard to construction of the Work, including but not limited to coordination with the U.S. Army Corps of Engineers, the U.S. Coast Guard (including publication of a Notice-to-Mariners), and the State of Florida as may be required.

2.5 Boat Traffic. Boat traffic in the vicinity of the project site will consist primarily of pleasure and commercial fishing boats. Longboat Pass and Passage Key Inlet, as well as other inlets, provide access to the Atlantic Ocean from interior waterways, and their depths are limited.

3.0 INLET ACCESS AVAILABILITY AND LANDING SITES.

3.1 General. The artificial reef construction area is located in the Gulf of Mexico. The artificial reef site may be accessed through inlets along the coastline. Longboat Pass is the closest inlet to the artificial reef site. The water depth through Longboat Pass (a federally maintained Inlet) is variable due to constantly changing shoal conditions. CONTRACTOR is responsible for determining which inlet to use and for determining the adequacy of water depth for access by floating equipment.

3.2 Longboat Pass Commercial Dock/Loading Facility. The dock area on the east side of Anna Maria Island, immediately north of Longboat Pass in the City of Bradenton Beach, will NOT be available during the timeframe of this project.

3.3 New Pass Landing Site. A landing site for shore to vessel to shore transfers of potential personnel, supplies, etc., may be available at New Pass located south of the project area, on the northwest side of the Gulf of Mexico Drive causeway over New Pass. The New Pass landing site has vessel entrance through New Pass, with approximately a 350 feet wide channel. Depths are charted at seven feet back to the New Pass Bascule Bridge (23-foot closed vertical clearance), and six feet across Sarasota Bay to the Gulf Intracoastal Waterway. The distance from the landing site to the reef mitigation site is approximately 13 miles.

3.4 Port Manatee. Port Manatee is located in the eastern Gulf of Mexico at the entrance to Tampa Bay. The port is accessible through Manatee Harbor Channel, with a draft of 40 feet at MLW, and a width of 400 feet at toe of slope. The travel distance from the port to the reef mitigation site is approximately 20 miles. The Sunshine Skyway Bridge crosses the Tampa Bay entrance, and has a clearance below of approximately 175 feet. Information on the port can be found at www.portmanatee.com.

3.5 The CONTRACTOR is responsible for making all arrangements for vessel-shore transfer facilities. The CONTRACTOR shall bear the responsibility

for any damage caused by the use of any site for landing and transfers, and shall maintain navigation through all navigable waterways and boat ramps. The CONTRACTOR shall use any landing site, inlet, transfer area, or staging area at their own risk.

3.6 Vehicle access onto the Gulf of Mexico beach is prohibited, as is storage of equipment or materials on the beach.

3.7 Any upland storage areas required by the CONTRACTOR shall be the responsibility of the CONTRACTOR, and the CONTRACTOR shall obtain all necessary approvals for any such areas. The COUNTY may assist the CONTRACTOR where possible, but cannot guarantee a site is available which is suitable to the CONTRACTOR's equipment.

4.0 STAGING AREA.

4.1 General. A staging area for the loading and unloading of equipment, boulders, personnel, and for the storage of materials is the responsibility of the CONTRACTOR. The CONTRACTOR must provide this area for their own use. Work at the staging area and along the waterways between the staging area and the project site must comply with all local, state and federal codes and regulations.

4.2 Use of Site. The CONTRACTOR shall be responsible for leaving the staging area including but not limited to the roadway, seawall, docks, ramps, and all other appurtenances to the property, including gates, fences, and significant vegetation, in at least as good a condition as at the beginning of the project. All damage will be repaired by the CONTRACTOR after the conclusion of reef construction and use of the staging area, at no cost to the COUNTY. If damage occurs on the site during the course of the project, repairs by the CONTRACTOR may be required immediately at no additional cost to the COUNTY.

4.3 Site Clean-up. The CONTRACTOR's mobilization/demobilization activities at the staging area shall include cleaning all portions of the property used by the CONTRACTOR, as necessary. Cleaning shall include removal from the site of residual trash, rock, equipment and miscellaneous debris to the satisfaction of the staging area owner.

4.4 Staging Area Security. The CONTRACTOR shall be responsible for security of the staging area and any equipment or materials on-site, including tugs, barges or other support vessels or vehicles, at all times, for the term of this Contract. The CONTRACTOR shall use the staging area at its own risk. The COUNTY or ENGINEER shall not be responsible for any damages to any equipment at the site. The CONTRACTOR shall not allow any unauthorized access to the site and shall ensure that unauthorized individuals leave the site.

4.5 Boulder Storage. Boulders shall not be stored underwater. The CONTRACTOR will be responsible for the security and protection of all stored matter, and for the protection of the environment at the storage site.

5.0 BARGE ANCHORING.

The contractor will be required to maintain a fixed position of the materials barge while deploying boulders. Anchoring or spudding will not occur within 50 feet of natural hardbottom or existing artificial reefs. The CONTRACTOR will be required to avoid impact to existing hardbottom and adjacent artificial reefs. The CONTRACTOR is responsible for ensuring that any anchors, spuds, or mooring lines used do not touch any hardbottom areas. Floating mooring lines shall be used to prevent scraping of the hardbottom areas. The CONTRACTOR shall be responsible for any environmental damage including any impacts to adjacent natural hardbottom areas or adjacent established artificial reefs. If at any time the ENGINEER, COUNTY, or State of Florida DEP determines that the mooring of any vessels is unacceptable at a particular location, then the CONTRACTOR will immediately move the vessels or establish acceptable mooring points.

6.0 NATURAL HARDBOTTOM BUFFER ZONE.

The CONTRACTOR shall be required to establish a fifty (50) foot buffer zone between the edge of the existing exposed natural hardbottom and any construction activities. The CONTRACTOR shall not perform any Work within the buffer zone including but not limited to placement of artificial reef materials, anchoring, or placement of spuds.

7.0 SURVEY LAYOUT AND CONTROL.

7.1 The CONTRACTOR shall layout the limits of the Work only from the State 2nd order A-monument system. The FDEP Bureau of Beaches and Coastal Systems maintains "A" Monuments in Manatee County. These 2nd order control monuments are provided on Plan Sheet PV (Sheet 2/4) and can be downloaded from: <ftp://ftp.dep.state.fl.us/pub/water/beaches/reg-mon/s-west/atab>. The CONTRACTOR shall provide the ENGINEER the control information used in the layout of the Work prior to the placement of artificial reef boulders. The CONTRACTOR shall not scale dimensions from the Plans for the purposes of Work layout. The CONTRACTOR shall be responsible for all measurements that may be required for the execution of the Work to the location and limit marks prescribed in the drawings and in these specifications. The ENGINEER reserves the right to modify the locations of the limit marks as may be required to meet changed conditions or as a result of necessary modifications to the Contract Work. For additional reference, the survey control information in the table below is from the 2009 Physical Monitoring Survey and is provided for convenience in locating the general area only, not for the purposes of laying out the work.

R-Monument	NAD 83/90		Elevation
	Northing	Easting	NAVD (feet)
R-36	1135966.700	430565.500	6.76
R-37	1135004.800	430927.000	7.82
R-38	1134196.750	431262.991	7.31
R-39	1133389.621	431800.654	4.21

7.2 Marker Buoys. Prior to bringing the material barge or any equipment to the project site, the CONTRACTOR is required to establish marker buoys on the perimeter of the artificial reef site as a guide to the reef. The buoy locations indicated by corner coordinates on the plans are the minimum number of buoys required. Buoys shall be deployed for the area of active work. The CONTRACTOR may need to establish additional buoys at the CONTRACTOR's discretion to ensure compliance with the contract documents. The buoys shall be continually maintained by the CONTRACTOR in the proper location, floating, and upright throughout the duration of the project. GPS positioning shall be employed to set the buoys, and to check the positional integrity of the buoys on a daily basis. The results of these checks shall be reported in the daily Quality Control Report.

7.3 Buoy Maintenance. If any of the buoys are not maintained and/or not in the proper location, the CONTRACTOR shall cease artificial reef construction Work until the buoys are maintained, replaced, or repositioned as shown in the Plans. Failure to maintain buoys will, at minimum, result in a delay in payments to the CONTRACTOR, or if boulders are improperly located due to buoy positioning problems, result in the relocation of misplaced boulders.

7.4 Initial Buoy Inspection. Prior to the placement of artificial reef boulders, the CONTRACTOR shall notify the ENGINEER that the site markers have been placed. The CONTRACTOR shall supply a boat and a GPS navigation system, and take a representative of the ENGINEER out to the site to demonstrate that all site markers have been accurately placed. The CONTRACTOR shall provide to the ENGINEER three (3) days notice to have the site marker location verified to allow the ENGINEER sufficient time to plan the site visit. The CONTRACTOR shall receive approval of the buoy layout prior to placing boulders for the reef.

8.0 BOULDER PLACEMENT.

8.1 General. One (1) layer of limestone boulders will be placed throughout the permitted reef construction area as shown on Plan Sheet PV (Sheet 2/4). The material will be placed within the artificial reef construction area and on sandy substrate, and at no time will the limestone boulders come within 50 feet of the existing exposed hardbottom. The footprint of the completed artificial reef shall

be at minimum 4.87 acres, including the spaces between the boulders as shown on the Plans. The reef shall be constructed as a continuous feature within the limits of the artificial reef placement area shown in the Plans. The CONTRACTOR shall be prepared to propose and discuss the means and methods for boulder placement at the pre-construction conference.

8.2 Minimum Clearance. The bathymetric elevation in the reef construction area varies between -16 and -18 feet, NAVD, but may vary due to nearshore sediment movement. The artificial reef shall be constructed so that the crest of each boulder will be no higher than -12.0 feet NAVD, which is approximately -10.7 feet MLW based on tidal datums from Land Boundary Information System (LABINS) based on epoch 1983-2001 tide interpolation at point identification number 200904. In the event the CONTRACTOR discovers conditions that do not allow portions of the proposed Work to meet the above clearance requirements, the CONTRACTOR shall immediately notify the ENGINEER and the CONTRACTOR shall proceed with portions of the Work where clearance requirements can be met.

8.3 Boulder Orientation. The greatest dimension of each boulder shall be placed parallel to and on the ocean bottom. The flattest surface of the two available surfaces of each boulder shall be placed down. The ENGINEER may require that an improperly placed boulder be reoriented at no additional expense to the COUNTY.

8.4 Placing of the Artificial Reef Boulders. All boulders will be placed within the lines and grades shown on the Plans by a method selected by the CONTRACTOR. Nevertheless, the boulders must remain under complete control during the placement process. Boulders shall be placed into a resting position, not dropped into place.

The method and means of placement is the CONTRACTOR's choice, but the method cannot result in:

- Violation of turbidity standards.
- Dropping of boulders.
- Damaged boulders.
- Boulders stacked or boulders leaning against other boulders which result in an orientation which is not parallel to the sand bottom.
- Boulders placed under the sediment layer.
- Boulders placed outside the artificial reef boundaries.
- Boulders which exceed spacing of 1.0 foot between placed boulders.
- Boulders on natural hardbottom.

The CONTRACTOR shall place only one (1) boulder at a time. Boulder placement shall not occur if the boulders cannot be controlled during placement. The CONTRACTOR is responsible for any physical damage caused to the

boulders during transport and/or placement and will be required to replace damaged boulders at no additional cost to the COUNTY. The CONTRACTOR will correct the location of any boulder that is misplaced.

8.5 Tolerances. All boulders shall be placed in a single layer with a range of spacing from boulders touching to a maximum of one (1) foot between individual boulders. Average spacing should be approximately 0.50 feet. Adjacent boulders may touch, but no stacking or overlap shall be permitted. In order to maintain the tolerances, the CONTRACTOR may require the utilization of divers to inspect boulder placement at no additional cost to the COUNTY.

8.6 Test Section. A test section of 36 limestone boulders shall be placed within the primary reef mitigation area for the approval of spacing and layout by the ENGINEER. Any changes to the test section requested by the ENGINEER must be made by the CONTRACTOR and approved by the ENGINEER. After approval of the ENGINEER, the CONTRACTOR shall continue to place boulders in the remaining mitigation area with the same layout as the approved test section.

9.0 PROTECTION OF WORK.

9.1 Damaged Property Restoration. The CONTRACTOR shall support and protect all public and private property that may be encountered or endangered in the prosecution of the Work herein contemplated, at the CONTRACTOR's cost and expense, at no additional cost to the COUNTY. The CONTRACTOR shall repair to its pre-Work condition and make good any damage caused to any such property by reason of the CONTRACTOR's operation. The CONTRACTOR shall restore all areas disturbed as a result of construction, including, but not limited to, sidewalks, driveways, docks, piers, boat ramps, parking lots, fencing, stone revetment, bulkheads, vegetation and utilities.

9.2 CONTRACTOR's Sole Risk. The Work, and everything pertaining thereto, shall be performed at the Sole Risk and cost of the CONTRACTOR from commencement until final payment by the COUNTY. Any specific references contained in these Contract Documents that the CONTRACTOR shall be responsible at the CONTRACTOR's Sole Risk and lost for the Work, or any part thereof, are not intended to be, nor shall they construed to be, an exclusive listing of the circumstances in which the CONTRACTOR bears the risk of loss, but rather they are intended only to be exemplary.

9.3 Loss or Damage. All loss or damage arising out of the nature of the Work, or from the action of the elements, or from hurricanes, tropical storms, or from any unusual obstruction or difficulty, or any other natural or existing circumstances either known or unforeseen that may be encountered in the prosecution of the Work, shall be sustained and borne by the CONTRACTOR at the CONTRACTOR's own cost and expense at no additional cost to the COUNTY, until the COUNTY has accepted the Work. The COUNTY can accept portions of the installed Work based on certified stone weight, CONTRACTOR's

survey of installed rock and a visual survey by the ENGINEER or COUNTY. Procedures for partial acceptance will be discussed at the pre-construction meeting.

9.4 No Claim. The CONTRACTOR shall have no claim against the COUNTY or ENGINEER because of any damage or loss of the Work or of the CONTRACTOR's materials, equipment or supplies.

10.0 DAILY REPORTS.

10.1 Daily Report. The CONTRACTOR shall prepare and submit Daily Reports to the ENGINEER for each day during the construction period (even when no Work is performed) between the time the Notice-to-Proceed is issued until the time of Final Acceptance. The reports shall include all Work activity, the location (coordinates) and quantities (tonnage) of boulders placed, number of boulders placed weather conditions, personnel, materials, and on-site equipment. Reports shall be submitted by 1:00 p.m. to the ENGINEER on a daily basis via hardcopy, fax, or email for the Work performed the previous day. An example of the daily report is given in Appendix TS-3.

10.2 Materials Placement Report. The CONTRACTOR is required to complete the Materials Placement Report and Cargo Manifest Form as required by the Florida Fish and Wildlife Conservation Commission. A copy of the forms is in Appendix TS-4. A separate Cargo Manifest Form is to be completed for each load to be transported offshore (i.e. one manifest per voyage) and submitted to the ENGINEER. The Materials Placement Form shall be submitted to the ENGINEER on a daily basis as part of the daily report for days that boulders are deployed.

11.0 MISPLACED MATERIALS.

If any material is deposited other than in places designated or approved, the CONTRACTOR may be required to immediately remove such misplaced material and redeposit it as directed by the ENGINEER, at the CONTRACTOR's expense. Any physical or environmental damages resulting from the misplaced material shall be the responsibility of the CONTRACTOR. Material lost due to the negligence of the CONTRACTOR shall be replaced by the CONTRACTOR at no additional expense to the COUNTY.

PART 4 – ENVIRONMENTAL PROTECTION

1.0 SCOPE.

This section addresses the prevention of pollution and other environmental damage as the result of construction operations under this contract and for those measures set forth in the Technical Specifications. For the purpose of this specification, pollution and other environmental damage are defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utility of the environment for aesthetic, cultural, and/or historical purposes. The control of pollution and damage requires consideration of air, water, land and the marine environment and includes management of construction activities, visual aesthetics, noise, solid waste, radiant energy, and radioactive materials, as well as other pollutants.

The environmental resources within the project boundaries and those affected outside the limits of permanent Work under this contract shall be protected during the entire period of this contract. The CONTRACTOR shall confine activities to areas defined by the Plans and Technical Specifications, specifically avoiding damage to natural hardbottom communities of the Atlantic Ocean. Environmental protection shall be as stated in the following subparagraphs.

2.0 TRAINING OF CONTRACTOR PERSONNEL IN POLLUTION CONTROL AND ENVIRONMENTAL PROTECTION.

The CONTRACTOR shall instruct all subcontractors and personnel in all aspects of environmental protection, with particular emphasis on avoidance of damage to natural hardbottom communities. All personnel and subcontractors are to be familiar with permit requirements, and with the necessity of protection of all environmental resources, including offshore hardbottom communities and endangered or protected species. The training shall include methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, and installation and care of facilities to insure adequate and continuous environmental pollution control. Quality Control and supervisory personnel shall be thoroughly trained in the proper use of appropriate monitoring devices and abatement equipment, and shall be thoroughly knowledgeable of Federal, State, and local laws, regulations, and permits applicable to artificial reef construction in the Gulf of Mexico waters of Manatee County, Florida. Quality Control personnel will be identified in the Quality Control Plan submitted in accordance with this document.

3.0 NOTIFICATION.

The ENGINEER will notify the CONTRACTOR and the COUNTY of any observed noncompliance with the aforementioned Federal, State, or local laws or regulations, permits and other elements of the CONTRACTOR's environmental protection. The COUNTY will determine what action will be taken and such response will be transmitted

to the CONTRACTOR by the ENGINEER that may include stopping construction of the project until the CONTRACTOR complies with the environmental laws or permit conditions. Nevertheless, it remains the sole responsibility of the CONTRACTOR to comply with all applicable Federal, State or Local laws or regulations and permits. It will also be the CONTRACTOR's responsibility to advise all subcontractors to comply with all applicable laws, regulations, permit requirements, and all elements of the environmental protection listed herein.

4.0 TURBIDITY CONTROL.

The CONTRACTOR shall provide adequate turbidity containment and control to prevent any turbidity violations from occurring due to stormwater runoff at the staging area, or turbidity created as a result of the placement of boulders and other materials at the reef construction sites, and all other project operations. Washing at the quarry may be required for the boulders to be sufficiently clean to avoid creating turbidity which exceeds State standards. The CONTRACTOR shall clean the boulders at the material source sites (quarry) in order to avoid turbidity impacts at the staging area and artificial reef construction site. If it becomes necessary to wash any of the material at the staging area, the CONTRACTOR shall be responsible for retaining all washwater on the barge or vessel, with no releases of the washwater into the Gulf of Mexico or any other waterway.

5.0 PROTECTION OF FISH AND WILDLIFE RESOURCES.

5.1 The CONTRACTOR shall keep construction activities under continued surveillance, management, and control to minimize interference with, disturbance to, and damage of fish and wildlife. The CONTRACTOR will comply with all FDEP and USACE permit conditions and requirements addressing environmental protection and the protection of species requiring specific consideration.

6.0 FUEL OIL TRANSFER OPERATIONS.

6.1 In accordance with the U.S. Coast Guard regulations (33 CFR 156.120), or as amended, couplings used in fuel oil transfer operations on any vessel with a capacity of 250 or more barrels of oil (or fuel) shall be either a bolted or full-threaded connection; or a quick-connect coupling approved by the Commandant; or an automatic back-pressure shutoff nozzle used to fuel the vessel. An executed fuel oil transfer (Declaration) form signed by the tanker man shall be completed for each refueling operation. The U.S. Coast Guard shall also be notified prior to any refueling.

6.2 For fuel tanks stored on land, the CONTRACTOR for each fuel storage tank must provide secondary containment, which is capable of holding 110% of the tank contents. Fuel dispensers shall have a 4-foot square, 16-gauge metal pan with borders banded up and welded at corners right below the bib. Edges of the pans shall be 8-inch minimum in depth to ascertain that no contamination of the ground or water takes place. Pans shall be cleaned by an approved method immediately after every dispensing of fuel and wastes disposed of offsite in an

approved area. Should any spilling of fuel occur, the CONTRACTOR shall immediately contain the spill and contact the appropriate local authorities. The CONTRACTOR will be solely responsible for any fines, penalties, or other legal activities related to fuel spills.

6.3 All lubricants and other potential liquid pollutants shall be stored in sealed, non-corrosive containers. Individual containers shall be stored in metal pans with borders banded up and welded at the corners right below the bib. Pans shall be deep enough to prevent contamination of the ground or water. Pans shall be kept clean of all spillage or leakage at all times.

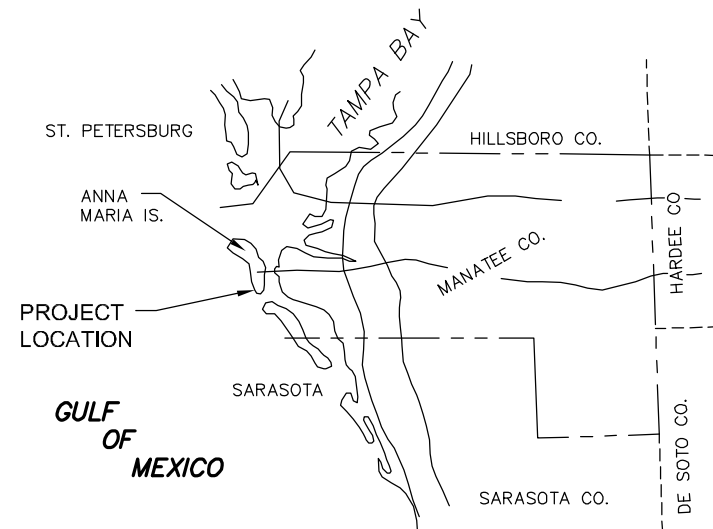
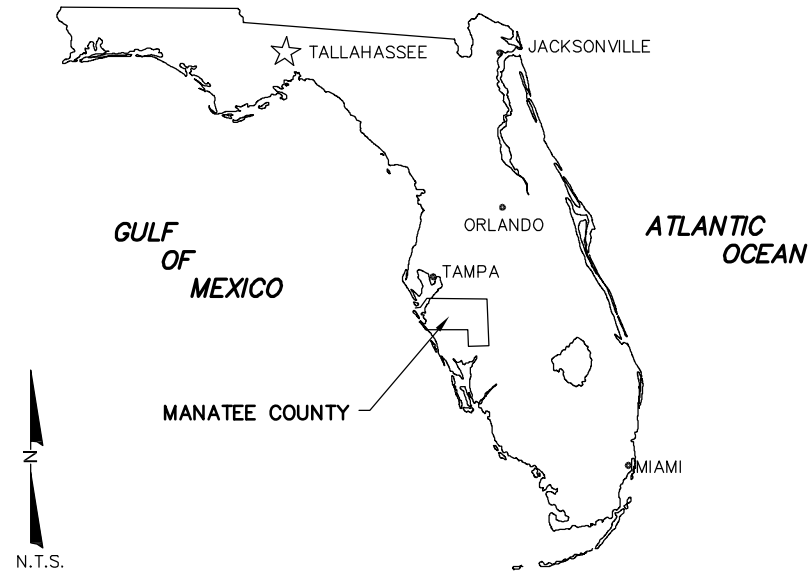
7.0 OIL AND HAZARDOUS MATERIAL SPILLS AND CONTAINMENT.

The CONTRACTOR shall ensure that all hazardous material spills are immediately reported to the ENGINEER. All hazardous material spills shall be immediately cleaned up in accordance with the U.S. Army Corps of Engineers' Safety and Health Requirements Manual, EM 385-1-1, or as amended. In accordance with EM 381-1-1, the CONTRACTOR shall use suitable methods such as dikes or curbs to prevent the spread of hazardous materials from above ground storage tanks and piping in case of leakage.

8.0 PUMPING OF BILGES.

CONTRACTOR's are cautioned that pumping oil or bilge water containing oil into navigable water or into areas, which would permit the oil to flow into such waters, is prohibited by Section 13 of the Rivers and Harbors Act of 1899 approved March 3, 1899 (30 Stat. 1152; 33 U.S.C. 407). Violation of this prohibition is subject to penalties provided for under the referenced acts.

COQUINA BEACH ARTIFICIAL REEF CONSTRUCTION PROJECT MANATEE COUNTY, FLORIDA



**MANATEE COUNTY
BOARD OF COUNTY COMMISSIONERS**

CHAIRMAN
DONNA G. HAYES

COMMISSIONERS
LARRY BUSTLE
JOHN R. CHAPPIE
ROBIN DISABATINO
MICHEAL GALLEN
CAROL WHITMORE
JOE McCLASH

COUNTY ADMINISTRATOR
ED HUNZEKER
DIRECTOR OF NATURAL RESOURCES DEPARTMENT
CHARLIE HUNSICKER

SHEET INDEX

NO.	TITLE
1.	COVER SHEET
2.	PROJECT PLAN VIEW
3.	SEDIMENT THICKNESS MAP
4.	DETAILS



CERTIFICATION:
I CERTIFY THAT THESE PLANS ARE IN COMPLIANCE WITH THE APPLICABLE SECTIONS OF 62B-41, F.A.C.

THOMAS P. PIERRO P.E. NO. 64683

DATE

COASTAL PLANNING & ENGINEERING, INC.
2481 N.W. BOCA RATON BOULEVARD
BOCA RATON, FLORIDA 33431
www.CoastalPlanning.net

PH. (561) 391-8102
FAX (561) 391-9116
C.O.A. FL. #4028
C.O.A. LA. #2531



REVISIONS

No.	Date	Description
1	3/2/11	UPDATE COMMISSIONERS

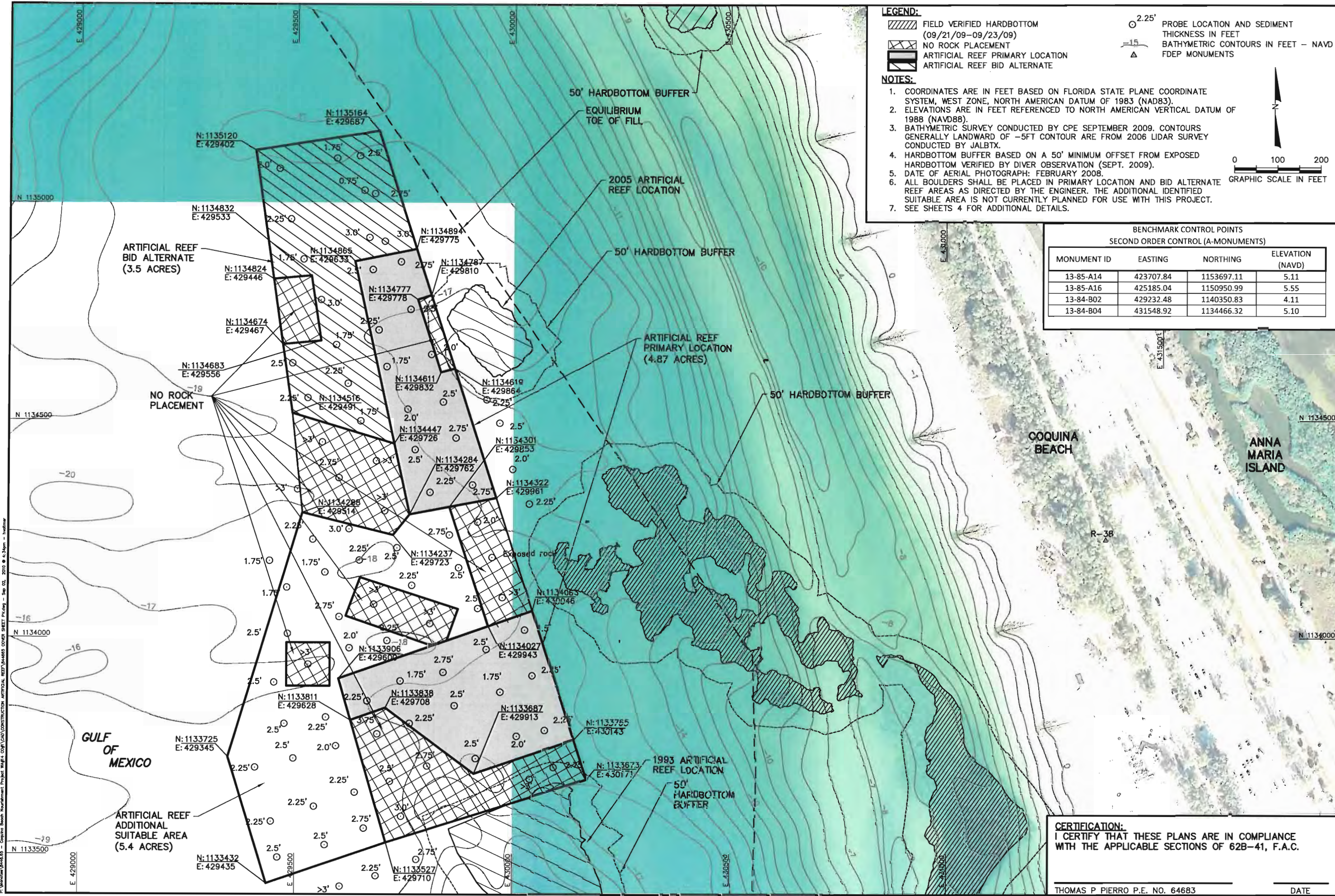
Designed by: TP	Checked by: AMB	Reviewed by: TP	Submitted by: TP
Drawn by: JRC	Date: 09/02/10	Comm. No.: 8446.65	
Reference Files: 64683.dwg			

COQUINA BEACH
ARTIFICIAL REEF CONSTRUCTION PROJECT
MANATEE COUNTY, FLORIDA
COVER SHEET

DRAWING NO.
CS

SHEET 1 OF 4

P:\Manatee\64683 - Coquina Beach - Reclamation Project - M414 (2011) (2011) CONSTRUCTION - ARTIFICIAL REEF\64683 COVER SHEET Paving - Mar 02, 2011 @ 9:46am - hvahner



LEGEND:

- FIELD VERIFIED HARDBOTTOM (09/21/09-09/23/09)
- NO ROCK PLACEMENT
- ARTIFICIAL REEF PRIMARY LOCATION
- ARTIFICIAL REEF BID ALTERNATE
- 2.25' PROBE LOCATION AND SEDIMENT THICKNESS IN FEET
- 15 BATHYMETRIC CONTOURS IN FEET - NAVD
- FDEP MONUMENTS

NOTES:

- COORDINATES ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).
- ELEVATIONS ARE IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- BATHYMETRIC SURVEY CONDUCTED BY CPE SEPTEMBER 2009. CONTOURS GENERALLY LANDWARD OF -5FT CONTOUR ARE FROM 2006 LIDAR SURVEY CONDUCTED BY JALBTX.
- HARDBOTTOM BUFFER BASED ON A 50' MINIMUM OFFSET FROM EXPOSED HARDBOTTOM VERIFIED BY DIVER OBSERVATION (SEPT. 2009).
- DATE OF AERIAL PHOTOGRAPH: FEBRUARY 2008.
- ALL BOULDERS SHALL BE PLACED IN PRIMARY LOCATION AND BID ALTERNATE REEF AREAS AS DIRECTED BY THE ENGINEER. THE ADDITIONAL IDENTIFIED SUITABLE AREA IS NOT CURRENTLY PLANNED FOR USE WITH THIS PROJECT.
- SEE SHEETS 4 FOR ADDITIONAL DETAILS.

BENCHMARK CONTROL POINTS
SECOND ORDER CONTROL (A-MONUMENTS)

MONUMENT ID	EASTING	NORTHING	ELEVATION (NAVD)
13-85-A14	423707.84	1153697.11	5.11
13-85-A16	425185.04	1150950.99	5.55
13-84-B02	429232.48	1140350.83	4.11
13-84-B04	431548.92	1134466.32	5.10

COASTAL PLANNING & ENGINEERING, INC.
 2481 N.W. BOCA RATON BOULEVARD
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 PH. (561) 391-9102
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 C.O.A. FL #4028
 C.O.A. LA #2531
 www.CoastalPlanning.net

REVISIONS

No.	Date	Description

COQUINA BEACH
 ARTIFICIAL REEF CONSTRUCTION PROJECT
 MANATEE COUNTY, FLORIDA

PROJECT PLAN VIEW

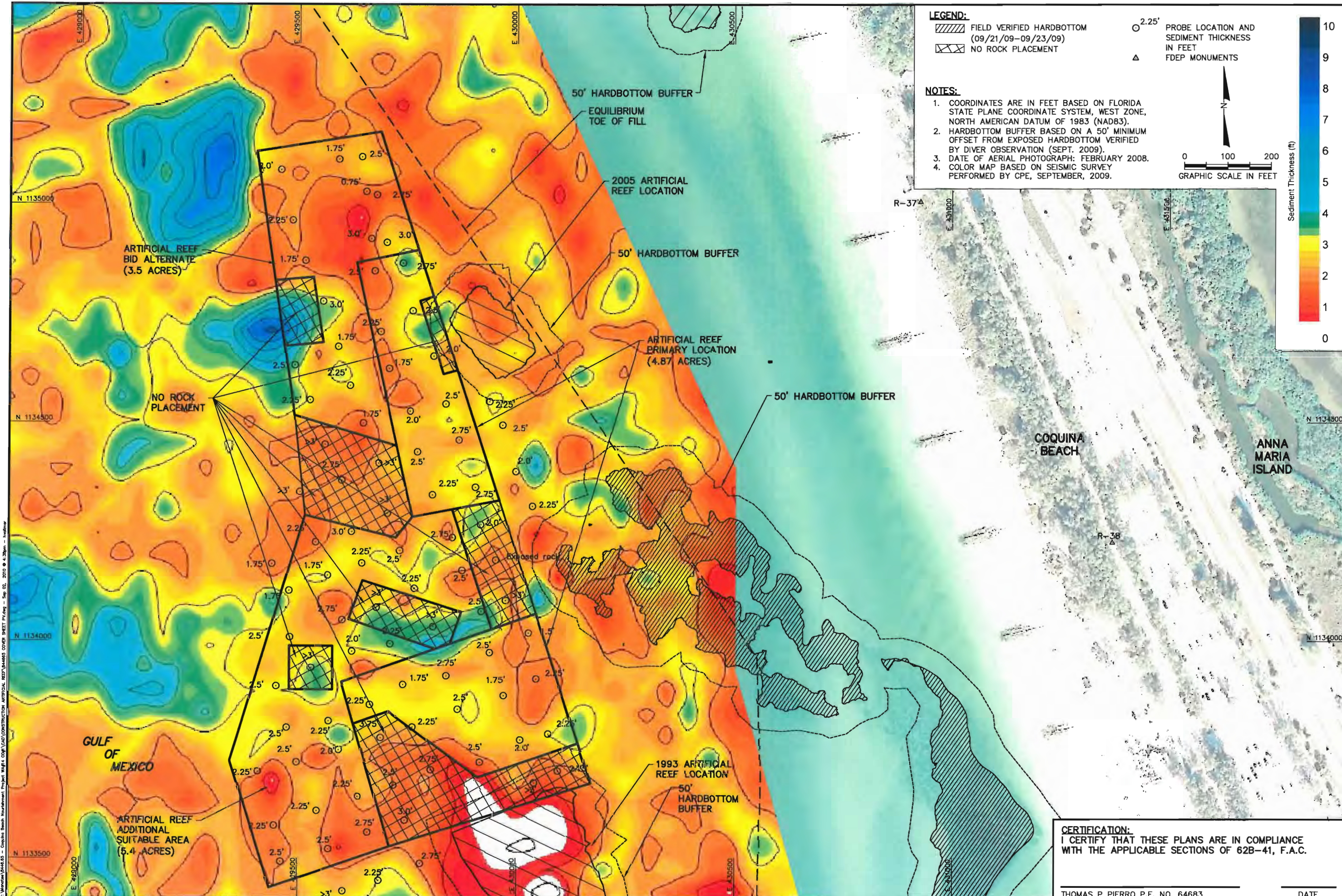
DRAWING NO. **PV**

SHEET 2 OF 4

CERTIFICATION:
 I CERTIFY THAT THESE PLANS ARE IN COMPLIANCE WITH THE APPLICABLE SECTIONS OF 62B-41, F.A.C.

THOMAS P. PIERRO P.E. NO. 64683 DATE _____

P:\Manatee\8446.00 - Coquina Beach - Hardbottom - Project - M&E - CPE\GIS\CONSTRUCTION - ARTIFICIAL REEF\8446.00 - SHEET PV.dwg - Sep 02, 2010 @ 4:34pm - hvw@cepe.com



LEGEND:

- FIELD VERIFIED HARDBOTTOM (09/21/09-09/23/09)
- NO ROCK PLACEMENT
- 2.25' PROBE LOCATION AND SEDIMENT THICKNESS IN FEET
- FDEP MONUMENTS

NOTES:

1. COORDINATES ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).
2. HARDBOTTOM BUFFER BASED ON A 50' MINIMUM OFFSET FROM EXPOSED HARDBOTTOM VERIFIED BY DIVER OBSERVATION (SEPT. 2009).
3. DATE OF AERIAL PHOTOGRAPH: FEBRUARY 2008.
4. COLOR MAP BASED ON SEISMIC SURVEY PERFORMED BY CPE, SEPTEMBER, 2009.

0 100 200
GRAPHIC SCALE IN FEET

Sediment Thickness (ft)

10
9
8
7
6
5
4
3
2
1
0

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 C.O.A. #4028
 C.O.A. #2531
 www.CoastalPlanning.net

CPE

REVISIONS	No.	Date	Description

Checked by: AMB
 Reviewed by: TP
 Submitted by: TP
 Date: 09/02/10
 Proj. No.: PAS NOTED
 Comm. No.: 8446.65

Reference Files:
 based on: none

DESIGNED BY: TP
 DRAWN BY: JRC
 DATE: 09/02/10
 PROJ. NO.: PAS NOTED
 COMM. NO.: 8446.65

COQUINA BEACH CONSTRUCTION PROJECT
 MANATEE COUNTY, FLORIDA

SEDIMENT THICKNESS MAP

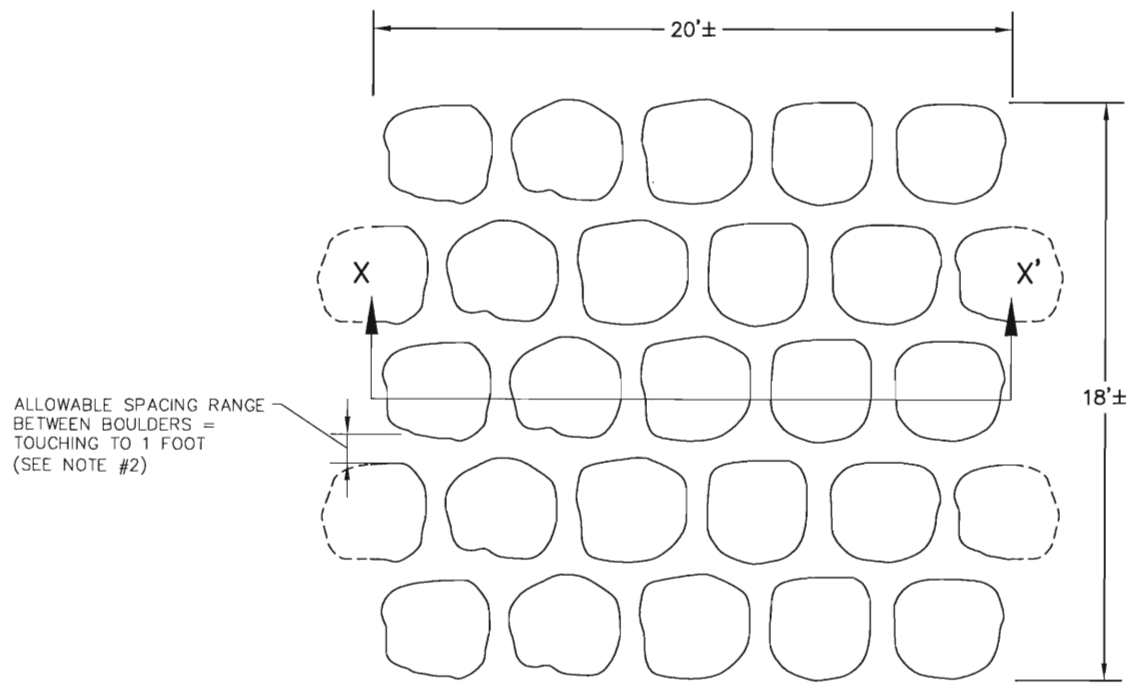
DRAWING NO. **ST**

SHEET 3 OF 4

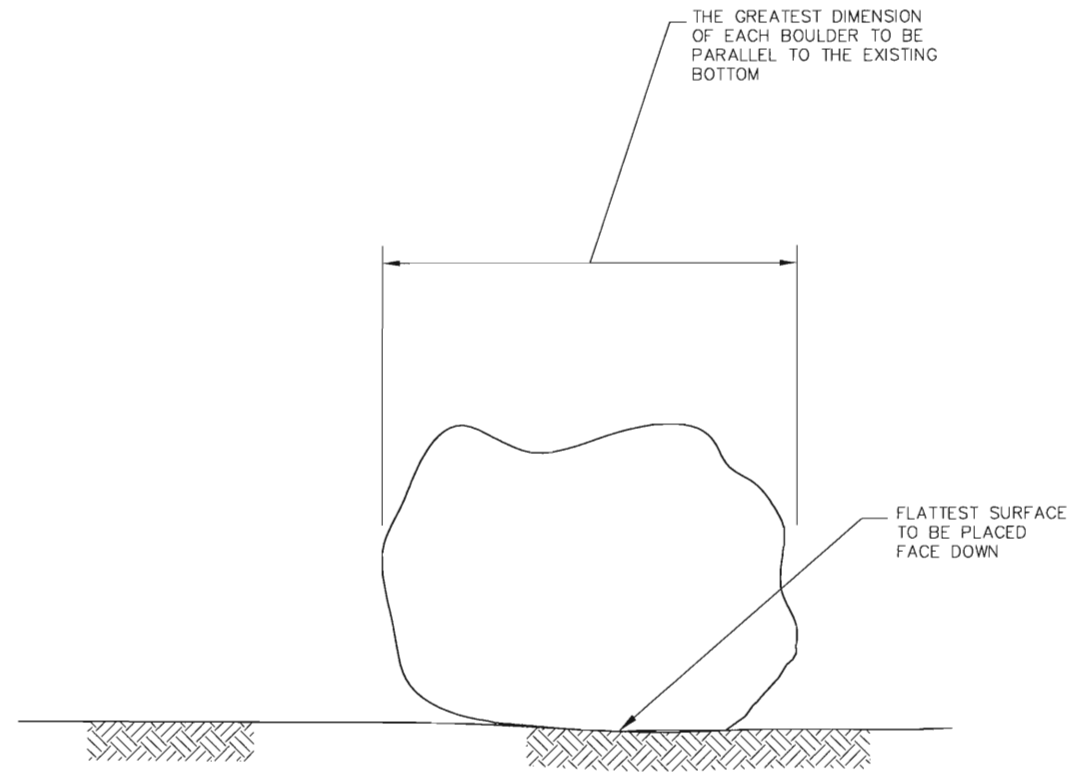
CERTIFICATION:
 I CERTIFY THAT THESE PLANS ARE IN COMPLIANCE WITH THE APPLICABLE SECTIONS OF 62B-41, F.A.C.

THOMAS P. PIERRO P.E. NO. 64683 _____ DATE _____

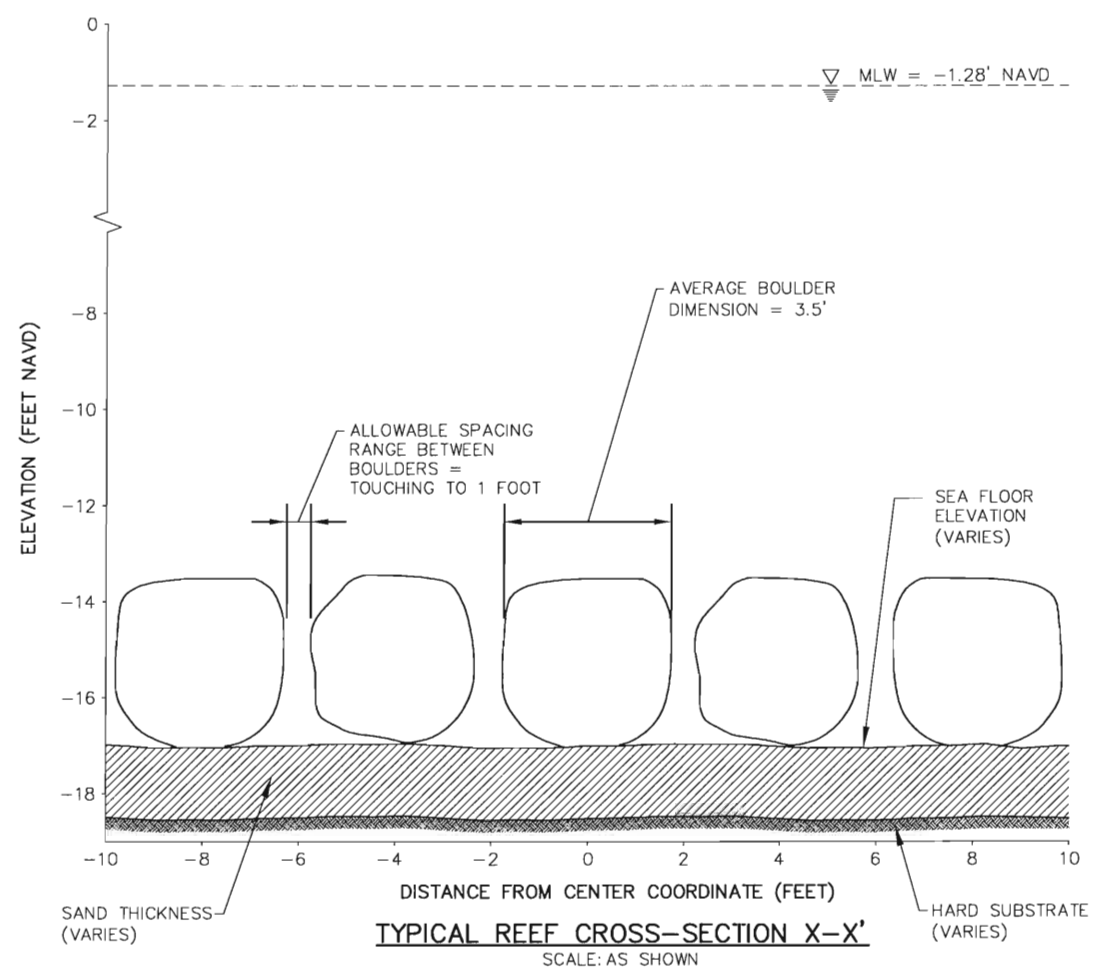
P:\Workshop\8446.65 - Coquina Beach - Amendment - Project - MRF - CPE\GIS\CONSTRUCTION - ARTIFICIAL REEF\8446.65 - COIN - SHEET 3.Plot - Sep 02, 2010 @ 4:30pm - hvdwiler



ARTIFICIAL REEF PLAN VIEW DETAIL (TYP.)
SCALE: AS SHOWN



BOULDER PLACEMENT ORIENTATION
SCALE: N.T.S.



TYPICAL REEF CROSS-SECTION X-X'
SCALE: AS SHOWN

- NOTES:**
1. THE CONTRACTOR SHALL NOT WORK OR ANCHOR WITHIN 50 FEET OF ANY EXISTING HARDBOTTOM OR EXISTING ARTIFICIAL REEFS.
 2. ALL BOULDERS SHALL BE PLACED IN A SINGLE LAYER AS CLOSE TOGETHER AS PRACTICAL WITH AN APPROXIMATE AVERAGE SPACING OF 0.5 FOOT, BUT NOT TO EXCEED 1 FOOT.
 3. DO NOT STACK BOULDERS. ADJACENT BOULDERS MAY TOUCH, BUT SHALL NOT LEAN ON EACH OTHER.
 4. BOULDERS SHOULD BE PLACED WITH THE LONGEST DIMENSION OF EACH BOULDER PARALLEL TO THE BOTTOM. PLACE THE FLATTEST OF THE TWO AVAILABLE SURFACES OF EACH BOULDER (SEE NOTE NO. 3) FACE DOWN.
 5. PLAN VIEW AND CROSS-SECTION DETAIL PROVIDED FOR ILLUSTRATION OF INTENT OF SPECIFICATION, SOME VARIATION WITHIN ALLOWABLE TOLERANCES IS EXPECTED.
 6. SEE SPECIFICATIONS FOR BOULDER REQUIREMENTS.

CERTIFICATION:
I CERTIFY THAT THESE PLANS ARE IN COMPLIANCE WITH THE APPLICABLE SECTIONS OF 62B-41, F.A.C.

THOMAS P. PIERRO P.E. NO. 64683 DATE

COASTAL PLANNING & ENGINEERING, INC.
PH. (561) 391-8102
FAX (561) 391-9116
C.O.A. FL #4028
C.O.A. LA #2531

2481 N.W. BOCA RATON BOULEVARD
BOCA RATON, FLORIDA 33431
www.CoastalPlanning.net



REVISIONS	No.	Date	Description

Checked by:	AMB
Reviewed by:	TP
Submitted by:	TP
Drawn by:	JRC
Date:	09/02/10
Proj. No.:	PHS 08-01
Draw. No.:	8446.65
AS NOTED	

COQUINA BEACH
ARTIFICIAL REEF CONSTRUCTION PROJECT
MANATEE COUNTY, FLORIDA
DETAILS

DRAWING NO.
DE
SHEET 4 OF 4

APPENDIX TS-1

**U.S. ARMY CORPS OF ENGINEERS
PERMIT NO. SAJ-2000-3874 (SP-CJW)**



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
10117 PRINCESS PALM AVENUE, SUITE 120
TAMPA, FLORIDA 33610

REPLY TO
ATTENTION OF

August 17, 2010

Tampa Regulatory office
SAJ-2000-3874 (SP-CJW)

Manatee County
415 10th St. West
Bradenton, Florida 34205

Dear Gentlemen:

The U.S. Army Corps of Engineers (Corps) has completed the review and evaluation of your permit application number SAJ-2000-3874 (SP-CJW) to place approximately 169,000 cubic yards (cy) of compatible beach material along 1.0 mile of Coquina Beach and to also place approximately 25,000 cy of beach quality material along 0.6 miles of the City of Anna Maria segment of beach. The project is located on Anna Maria Island along the Gulf of Mexico, in Manatee County, Florida. The project includes nourishment of two segments of beach: Coquina Beach at the southern end of the island between Florida Department of Environmental Protection (FDEP) monuments R-35 + 790 ft and R-41 + 365 ft. (Sections 4, 9 and 10, Township 35 South, Range 16 East), and a portion of beach in the City of Anna Maria at the northern end of the island between FDEP monuments R-7 and R-10 (Section 18, Township 34 South, Range 16 East), in Manatee County, Florida.

Our regulations require that you have an opportunity to review the terms and conditions prior to final signature by the Department of the Army. Enclosed is an unsigned Department of the Army permit instrument (permit). Please read carefully the Special Conditions beginning on page 2 of the permit. These were developed to apply specifically to your project. Water Quality Certification is also required prior to issuance of a permit. The Corps has received a copy of the State of Florida certification for your project. In accordance with General Condition 5 of the permit, any special conditions of the Water Quality Certification have been attached to the Department of the Army permit.

Instructions for Objecting to Permit Terms and Conditions: This letter contains an initial proffered permit for your proposed project. If you object to certain terms and conditions contained within the permit, you may request that the permit be modified. Enclosed you will find a Notification of Administrative Appeal Options and Process fact sheet and Request for Appeal (RFA) form. If you choose to object to certain terms and conditions of the permit, you must follow the directions provided in Section 1, Part A and submit the completed RFA form to the letterhead address.

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria under 33 CFR Part 331.5, and that it has been received by the District office within 60 days of the date of the RFA. Should you decide to submit an RFA form, it must be received at the letterhead address by October 17, 2010.

Instructions for Accepting Terms and Conditions and Finalizing Your Permit: It is not necessary to submit an RFA form to the District office, if you do not object to the decision in this letter. In this case, the permit must be signed by the applicant in the space provided on the signature page of the permit. In the case of corporations, acceptance must be by an officer of that corporation authorized to sign on behalf of the corporation. The party responsible for assuring the work is done in accordance with the permit terms and conditions must sign the permit. Please type or print the name and title of the person signing below the signature and the date signed.

SIGN AND RETURN THE PERMIT, IN ITS ENTIRETY, TO THE
LETTERHEAD ADDRESS

The permit will be signed by the District Engineer and returned to you. It is important to note that the permit is not valid until the District Engineer signs it.

The Corps Jacksonville District Regulatory Division is committed to improving service to our customers. We strive to perform our duty in a friendly and timely manner while working to preserve our environment. We invite you to take a few minutes to visit the following link and complete our automated Customer Service Survey:

<http://per2.nwp.usace.army.mil/survey.html>.

Your input is appreciated- favorable or otherwise. Please be aware this web address is case sensitive and should be entered as it appears above.

Should you have any questions, please contact Cynthia Wood at the letterhead address, phone 813-769-7070, fax 813-769-7061, or e-mail Cynthia.J.Wood@usace.army.mil.

Sincerely,


Donald W. Kinard
Chief, Regulatory Division

Enclosures

Copy furnished (w/enclosures):

Coastal Planning and Engineering, Inc.
Attn: Ms. Lauren Floyd
2481 NW Boca Raton Boulevard
Boca Raton, Florida 33431

**NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND
REQUEST FOR APPEAL**

Applicant: Manatee County	File Number: SAJ-2000-3874 (SP-CJW)	Date: 08/17/2010
Attached is:		See Section below
<input checked="" type="checkbox"/>	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I: The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://usace.army.mil/inet/functions/cw/cecwo/reg-or> or Corps regulations at 33 CFR Part 33.

- A: INITIAL PROFFERED PERMIT:** You may accept or object to the permit.
- ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
 - OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.
- B: PROFFERED PERMIT:** You may accept or appeal the permit
- ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
 - APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- C: PERMIT DENIAL:** You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- D: APPROVED JURISDICTIONAL DETERMINATION:** You may accept or appeal the approved JD or provide new information.
- ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
 - APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- E: PRELIMINARY JURISDICTIONAL DETERMINATION:** You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL OR OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR OBJECTIONS OR INFORMATION

If you have questions regarding this decision and/or the appeal process you may contact:
Cynthia J. Wood
813-769-7070

If you only have questions regarding the appeal process you may also contact:
Stuart Santos
904-232-2018

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.	Date:	Telephone number:
----------------------------------	-------	-------------------

DEPARTMENT OF THE ARMY PERMIT

Permittee: Manatee County
415 10th St. West
Bradenton, Florida 34205

Permit No: SAJ-2000-3874 (SP-CJW)

U.S. Army Engineer District, Jacksonville

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

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

Project Description: The permittee proposes to place approximately 169,000 cubic yards (cy) of compatible beach material along 1.0 mile of Coquina Beach and to also place approximately 25,000 cy of beach quality material along 0.6 miles of the City of Anna Maria segment of beach. As proposed, the constructed beaches will include a berm elevation of +4 feet NAVD on a slope of 1 foot vertical to 15 feet horizontal. The County proposes to use sand from a borrow area located approximately 3,000 feet west of the north end of Anna Maria Island. This proposed sediment source was previously permitted by both the FDEP and U.S. Army Corps of Engineers. This borrow area contains sediment very similar to the existing beach sediment. The County also proposes to construct 4.87 acres of artificial reef habitat to mitigate the loss of 1.05 acres of nearshore hardbottom.

The work described above is to be completed in accordance with the 23 pages dated November 20, 2009 affixed at the end of this permit instrument (Attachment A).

Project Location: The project is located on Anna Maria Island along the Gulf of Mexico, in Manatee County, Florida. The project includes nourishment of two segments of beach: Coquina Beach at the southern end of the island between Florida Department of Environmental Protection (FDEP) monuments R-35 + 790 ft and R-41 + 365 ft. (Sections 4, 9 and 10, Township 35 South, Range 16 East), and a portion of beach in the City of Anna Maria at the northern end of the island between FDEP monuments R-7 and R-10 (Section 18, Township 34 South, Range 16 East), in Manatee County, Florida.

Latitude/Longitude:

Coquina Beach (R-36) 27.45710 North / 82.69566 West
City of Anna Maria (R-7) 27.52708 North / 82.738276 West

Permit Conditions:

Special Conditions:

1. **Reporting Address:** All reports, documentation and correspondence required by the conditions of this permit shall be submitted to the following address: U.S. Army Corps of Engineers, Regulatory Division, Enforcement Section, 10117 Princess Palm Avenue, Suite 120, Tampa, Florida 33610. The Permittee shall reference this permit number, SAJ-2000-03874 (SP-CJW), on all submittals.
2. **Commencement Notification:** Within 10 days from the date of initiating the authorized work, the Permittee shall provide to the Corps a written notification of the date of commencement of work authorized by this permit.
3. **Biological Opinion** The enclosed US Fish and Wildlife Service (USFWS) Biological Opinion (BO) (Attachment B) contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BO. Authorization under this Corps permit is conditional upon compliance with all of the mandatory terms and conditions associated with incidental take of the attached BO (see pages 36-43 of the BO). These terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with this Corps permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its BO, and with the ESA.
4. **Sea Turtle and Smalltooth Sawfish Guidelines:** The Permittee shall comply with the National Marine Fisheries Service's "Sea Turtle and Smalltooth Sawfish Construction Conditions". (Attachment C). No in-water work will occur during sea turtle nesting season (May 1 through October 31).
5. **Manatee Conditions:** The Permittee shall comply with the "Standard Manatee Conditions for In-Water Work - July 2005" (Attachment D).
6. **Artificial Reef:** The permittee will adhere to the Department of Environmental Protection (DEP)'s artificial reef construction and monitoring plans contained in the DEP permit (Attachment E). In addition, the permittee will adhere to the following:
 - a. **Initial Agency Notification:** The Permittee shall provide to the Corps and the National Oceanic and Atmospheric Administration and U.S. Coast Guard (addresses below) written notification of the

Permit No SAJ-2000-03874 (SP-CJW)

planned deployment start date at least two weeks prior to the initial deployment on the authorized artificial reef site.

National Oceanic and Atmospheric Administration
Office of Coast Survey, N/CS26, Sta. 7317
1315 East-West Highway
Silver Springs, MD, 20910-3282

Commander, U.S. Coast Guard Seventh District
Brickell Plaza Federal Building
909 SE 1st Avenue
Miami, FL 33131-3050

b. Pre-Deployment Notification: No less than 14 days prior to deployment of material on an artificial reef, the Permittee shall transmit by electronic mail ("email") a complete and signed "*Florida Artificial Reef Materials Cargo Manifest and Pre-Deployment Notification*" form, (Attachment F), to the Corps and Florida Fish and Wildlife Conservation Commission (FWC) Artificial Reef Program, at 620 S. Meridian Street, Box 4B2 Tallahassee, Florida 32399 to allow inspection of the proposed reef materials as deemed necessary by the agencies. Inspection is allowable at the staging area. By signing the Pre-Deployment Notification the Permittee certifies that all materials are free from asphalt, petroleum, other hydrocarbons and toxic residues. The Permittee shall not deploy material if notified by the Corps or FWC that the material is questionable. The material needs to be evaluated before it is released for deployment. Any material that is deemed unacceptable for reef material will be disposed in an approved upland disposal site. Deployment of the material shall not occur until after the end of the 14-day inspection period. The Permittee shall ensure both a copy of the Corps permit and the signed "*Florida Artificial Reef Materials Cargo Manifest and Pre-Deployment Notification Form*" are maintained aboard the deployment vessel at all times during loading, transit, and deployment.

c. Post-Deployment Placement Report/As-Built Drawing: No less than 30 days after deployment at the reef site, the Permittee shall transmit by email to the Corps and FWC a complete and signed "*Florida Artificial Reef Materials Placement Report and Post-Deployment Notification*" form (Attachment G). Please note the Corps requires the latitude and longitude to be accurate within 5 meters horizontal distance on the post-deployment report. Attach to the report, an as-built drawing that contains the approximate deployment configurations and the height of the material after placement. Depth shall be verified utilizing fathometer, depth sounder, or similar device accurate to within 1 meter. Also, include information on the condition of the material at the time of deployment. The report and drawing shall be limited to a few pages per deployment. Representative photographs and/or video, if available, are encouraged to be submitted.

d. **Ownership/Maintenance/Liability:** By signing this permit, the Permittee certifies and acknowledges ownership of all artificial reef materials deployed on the reef, accepts responsibility for maintenance of the artificial reef, and possesses the ability to assume liability for all damages that may arise with respect to the artificial reef.

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

f. **Manatee Protection:** The Permittee shall ensure that wharf fenders are installed to reduce the risk of a vessel crushing a manatee. The wharf fenders shall be installed with appropriate materials to provide sufficient standoff space of at least 3 feet under compression. Fenders or buoys providing a minimum standoff space of at least 3 feet under compression shall be utilized between two vessels that are moored together.

7. **Self-Certification:** Within 60 days of completion of the authorized work or at the expiration of the construction window of this permit, whichever occurs first, the Permittee shall complete the attached "Self-Certification Statement of Compliance" form (Attachment E) and submit to the Corps. In the event that the completed work deviates, in any manner, from the authorized work, the Permittee shall describe, on the Self-Certification Form, the deviations between the work authorized by the permit and the work as constructed. Please note that the description of any deviations on the Self-Certification Form does not constitute approval of any deviations by the Corps.

8. **Regulatory Agency Changes:** Should any other regulatory agency require changes to the work authorized or obligated by this permit, the Permittee is advised that a modification to this permit instrument is required prior to initiation of those changes. It is the Permittee's responsibility to request a modification of this permit from the Regulatory Office.

General Conditions:

1. The time limit for completing the work authorized ends on August 17, 2015. If you find that you need more time to complete the authorized activity, submit your request for a time

Permit No SAJ-2000-03874 (SP-CJW)

extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

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

4. If you sell the property associated with this permit, you must obtain the signature and the mailing address of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(X) Section 10 of the Rivers and Harbors Act of 1899
(33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

() Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

- a. This permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.
- b. This permit does not grant any property rights or exclusive privileges.
- c. This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
- d. Design or construction deficiencies associated with the permitted work.
- e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

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

- a. You fail to comply with the terms and conditions of this permit.

Permit No SAJ-2000-03874 (SP-CJW)

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

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

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

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit including Attachments A-H).

Charlie Hunsicker, Director 8/19/10
(PERMITTEE) Manatee Co. Natural Resources (DATE)
Manatee County Dept.

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

Charles A. Schnepel 8/20/10
(DISTRICT ENGINEER) (DATE)
Alfred A. Pantano, Jr.
Colonel, U.S. Army

Permit No SAJ-2000-03874 (SP-CJW)

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

(TRANSFEROR -SIGNATURE)

(DATE)

(TRANSFEEE-SIGNATURE)

(DATE)

(NAME-PRINTED)

(ADDRESS)

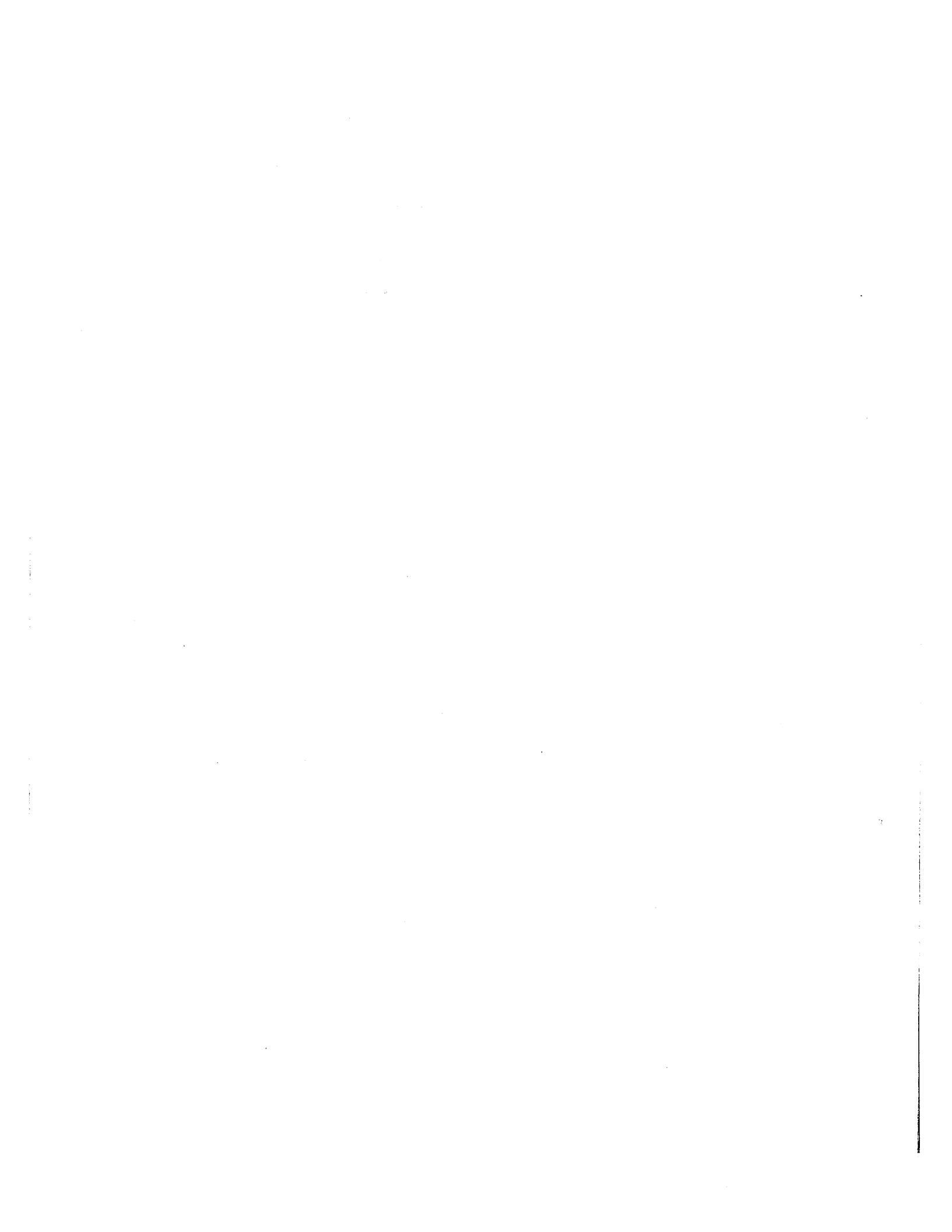
(CITY, STATE, AND ZIP CODE)

Permit No SAJ-2000-03874 (SP-CJW)

Attachment A

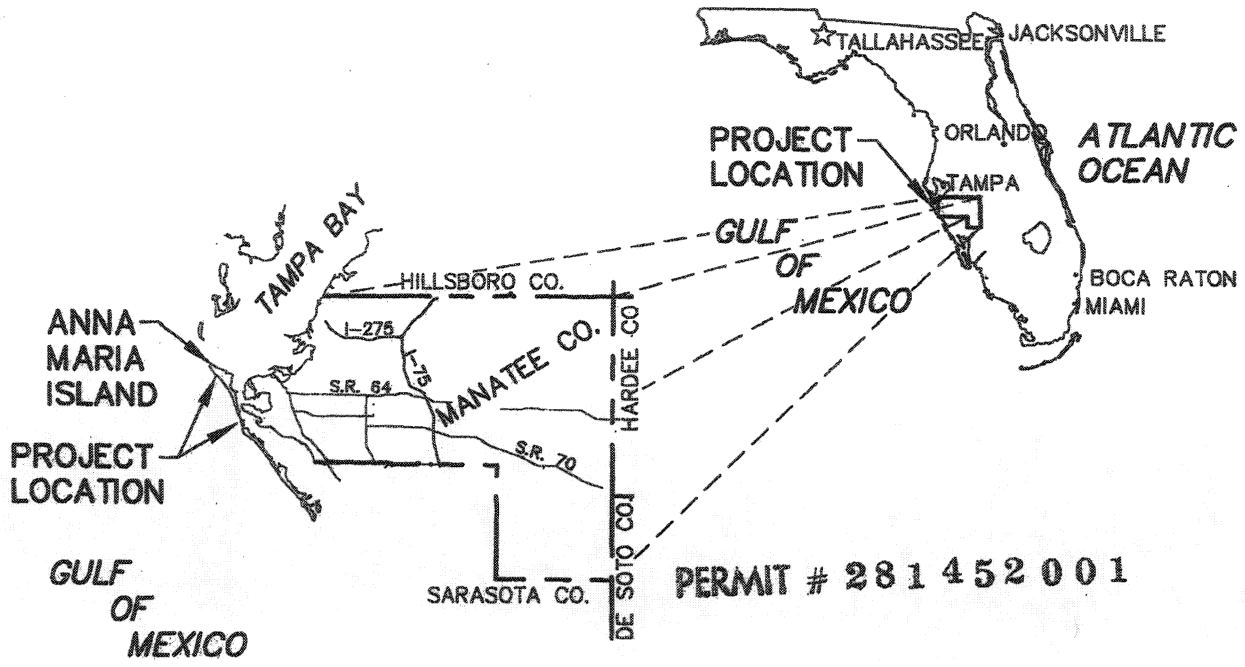
Permit Drawings

23 pages dated November 20, 2009

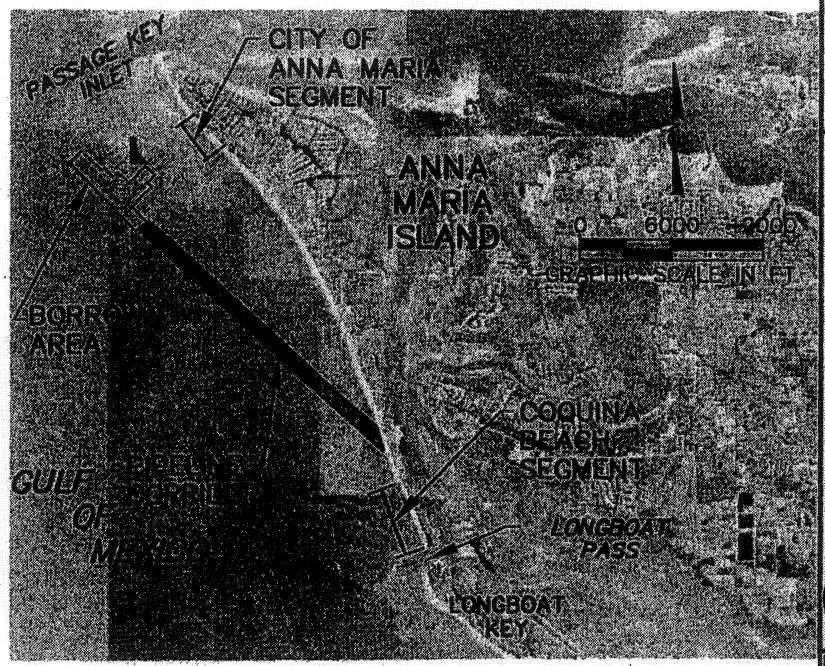


ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT MANATEE COUNTY, FLORIDA

ANNA MARIA ISLAND
BEACH NOURISHMENT PROJECT
COVER SHEET



PERMIT # 281452001



SHEET INDEX

NO.	TITLE
1	COVER SHEET
2-5	PLAN VIEWS
6-11	FILL PROFILES
12-13	2008 BORROW AREA PLAN VIEW
14-16	2008 BORROW AREA CROSS SECTIONS
17	PIPELINE CORRIDOR DETAIL
18	PIPELINE CORRIDOR PLAN VIEW
19	GEOTEXTILE TUBE CROSS- SECTION

COASTAL PLANNING & ENGINEERING, INC.
 2001 W. BOCA RATON BOULEVARD
 BOCA RATON, FLORIDA 33433
 TEL: (561) 993-4444
 FAX: (561) 993-4418
 CO. FL. REG. NO. 12028
 CO. LA. REG. NO. 12028



DATE: 4/12/07
BY: JRC

COMM. NO.: 8446.49
SHEET: 1

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

[Signature]

11/20/09

THOMAS P. PIERRO P.E. NO. 64683

DATE

REVISIONS			
DATE	BY	RAI #1	DESCRIPTION
1/4/09	JRC	RAI #1	
5/1/09	RS	RAI #2	GEOTEXTILE TUBE

SAJ-2000-03874

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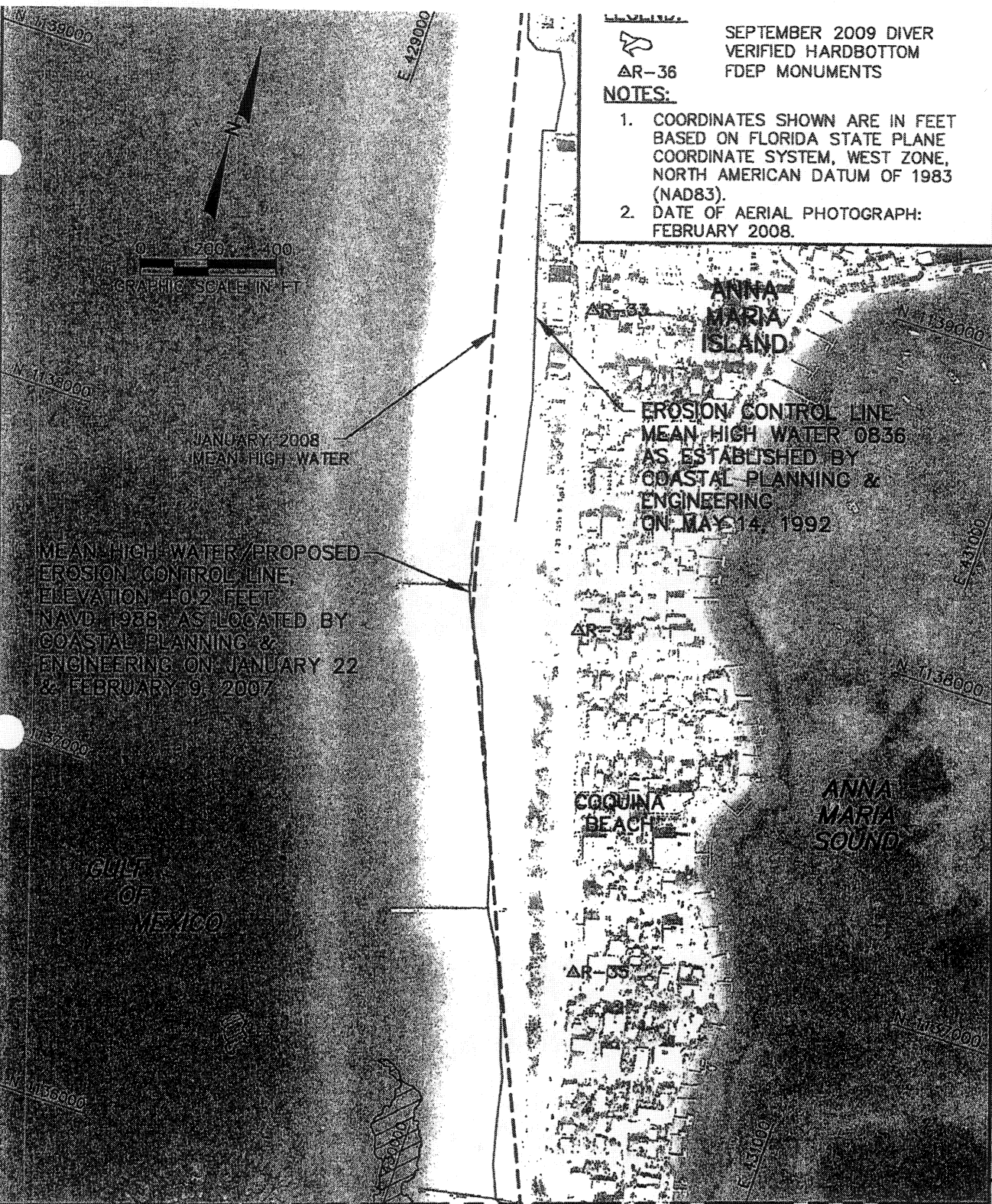
SEPTEMBER 2009 DIVER
 VERIFIED HARDBOTTOM
 FDEP MONUMENTS

AR-36

NOTES:

1. COORDINATES SHOWN ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).
2. DATE OF AERIAL PHOTOGRAPH: FEBRUARY 2008.

ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
 COQUINA BEACH SEGMENT
 PLAN VIEW



COASTAL PLANNING & ENGINEERING, INC.
 2485 NW 136th Avenue
 Boca Raton, Florida 33433
 www.CoastalPE.com



DATE: 4/12/07
 BY: JRC

NOT FOR CONSTRUCTION
 FOR REGULATORY REVIEW ONLY

Signature of Thomas P. Pierro

THOMAS P PIERRO P.E. NO. 64683

11/20/09

DATE

REVISIONS		
DATE	BY	DESCRIPTION
2/4/09	JRC	RAI #1
0/23/09	TP	ADD 2009 HARDBOTTOM EDGE

COMM NO.: 8446.49
 SHEET: 3

PERMIT # 281452001

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MATCHLINE SEE SHEET 3

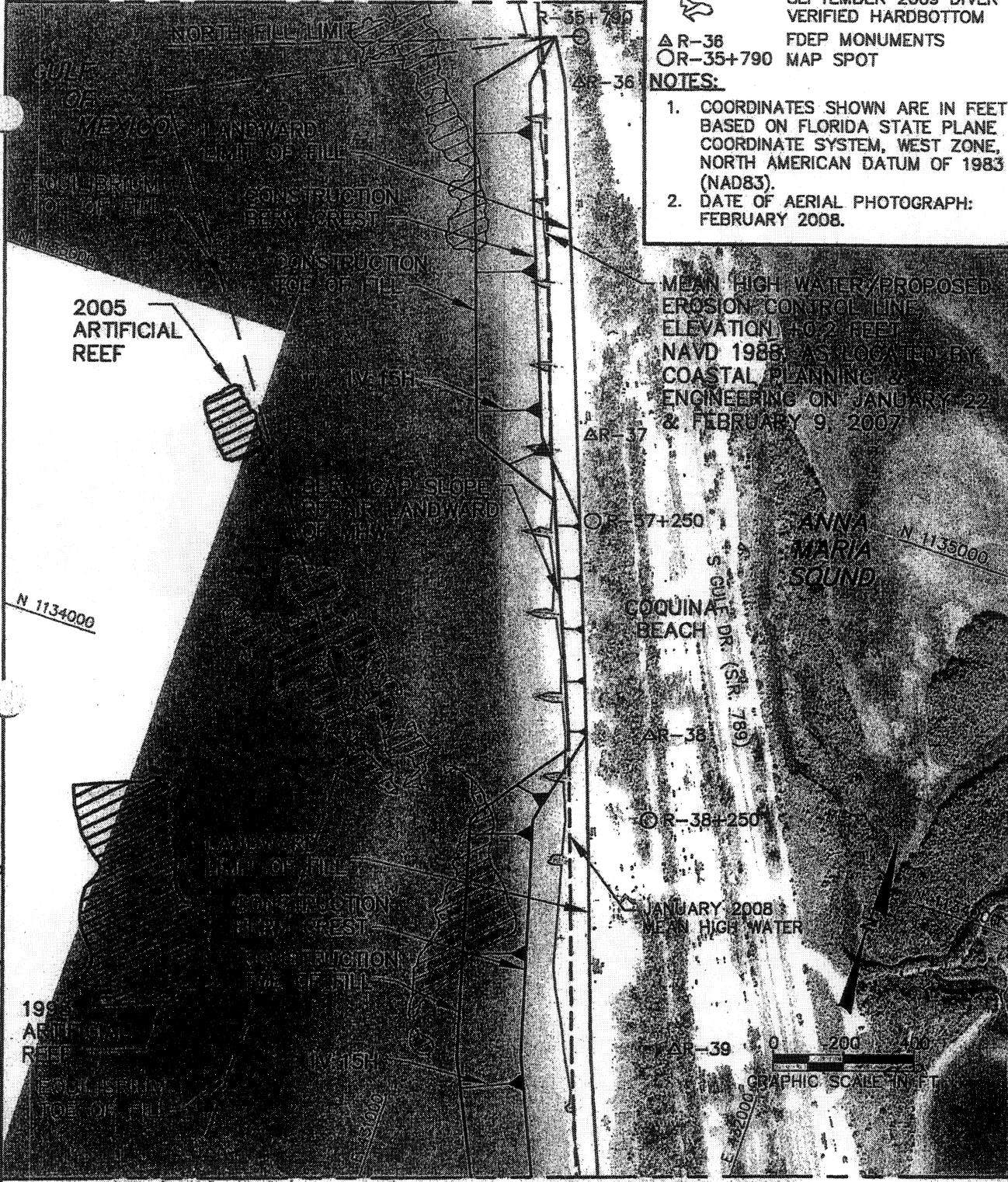
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-  SEPTEMBER 2009 DIVER VERIFIED HARDBOTTOM
- Δ R-36 FDEP MONUMENTS
- \circ R-35+790 MAP SPOT

NOTES:

1. COORDINATES SHOWN ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).
2. DATE OF AERIAL PHOTOGRAPH: FEBRUARY 2008.

ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
COQUINA BEACH SEGMENT
PLAN VIEW



MATCHLINE SEE SHEET 5

COASTAL PLANNING & ENGINEERING, INC.
PH: (813) 974-0000
 FAX: (813) 974-0001
 6004 FL. AVE. S.W.
 GDA, LA, FL 33149



DATE: 4/12/07

BY: JRC

COMM NO.: 8446.49

SHEET: 4

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

Thomas P. Pierro

THOMAS P. PIERRO P.E. NO. 64683

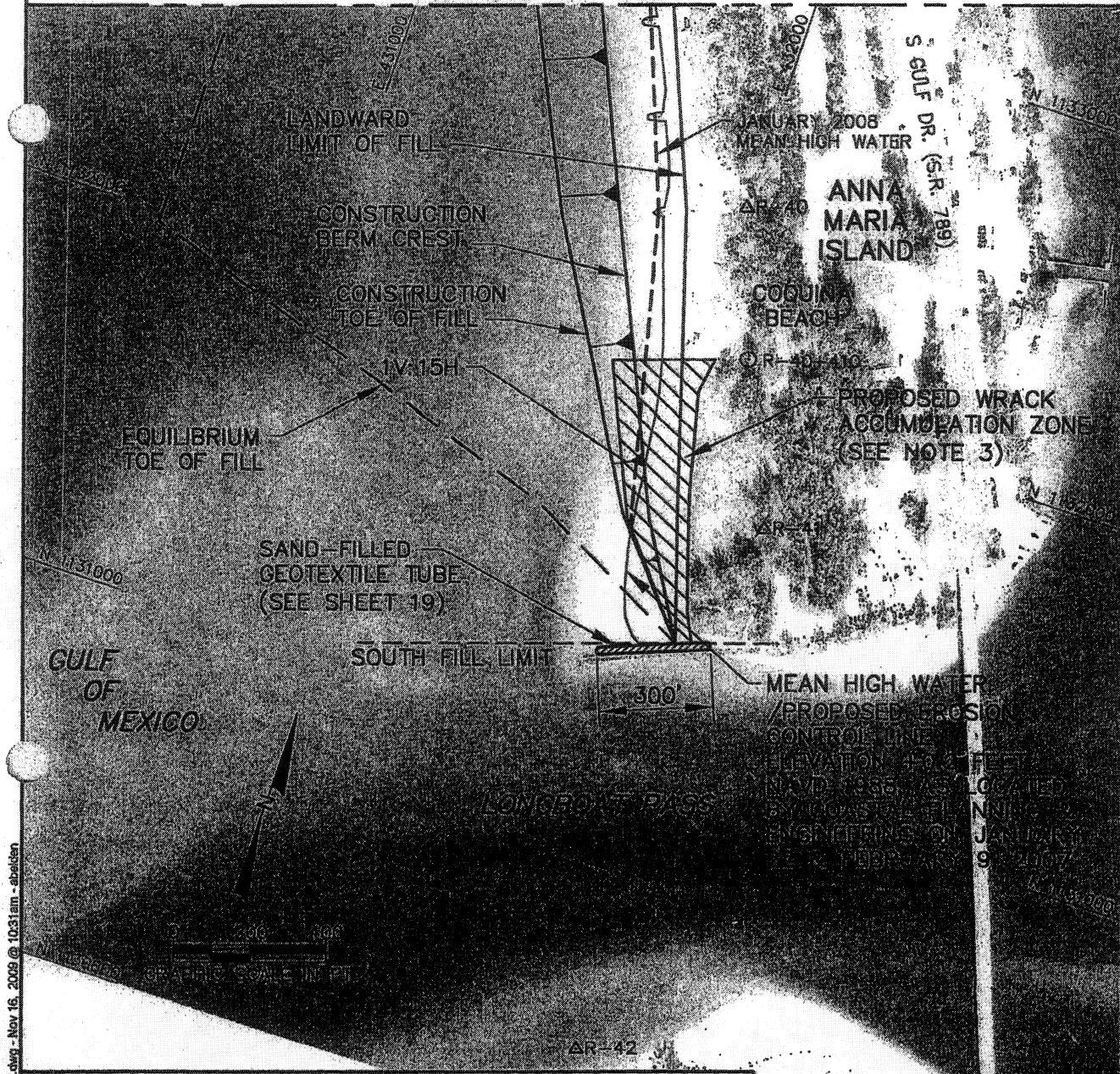
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REVISIONS		
DATE	BY	DESCRIPTION
2/4/09	JRC	RAI #1
5/9/09	RWM	RAI #2
0/23/09	TP	ADD 2009 HARDBOTTOM EDGE

PERMIT # 281452001

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ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
COQUINA BEACH SEGMENT
PLAN VIEW



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COASTAL PLANNING & ENGINEERING, INC.
201 NEE BOULEVARD
BOCA RATON, FLORIDA 33433
www.CoastalPlanning.com



DATE: 4/12/07
BY: JRC
COMM NO.: 844649
SHEET: 5

LEGEND:

ΔR-36 FDEP MONUMENTS ○R-40+410 MAP SPOT

NOTES:

1. COORDINATES SHOWN ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).
2. DATE OF AERIAL PHOTOGRAPH: FEBRUARY 2008.
3. A WRACK ACCUMULATION ZONE WILL BE DESIGNATED SOUTH OF R-40+410' WHERE BEACH RAKING AFTER CONSTRUCTION WILL BE LIMITED IN COOPERATION WITH USFWS AND FFWCC.

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

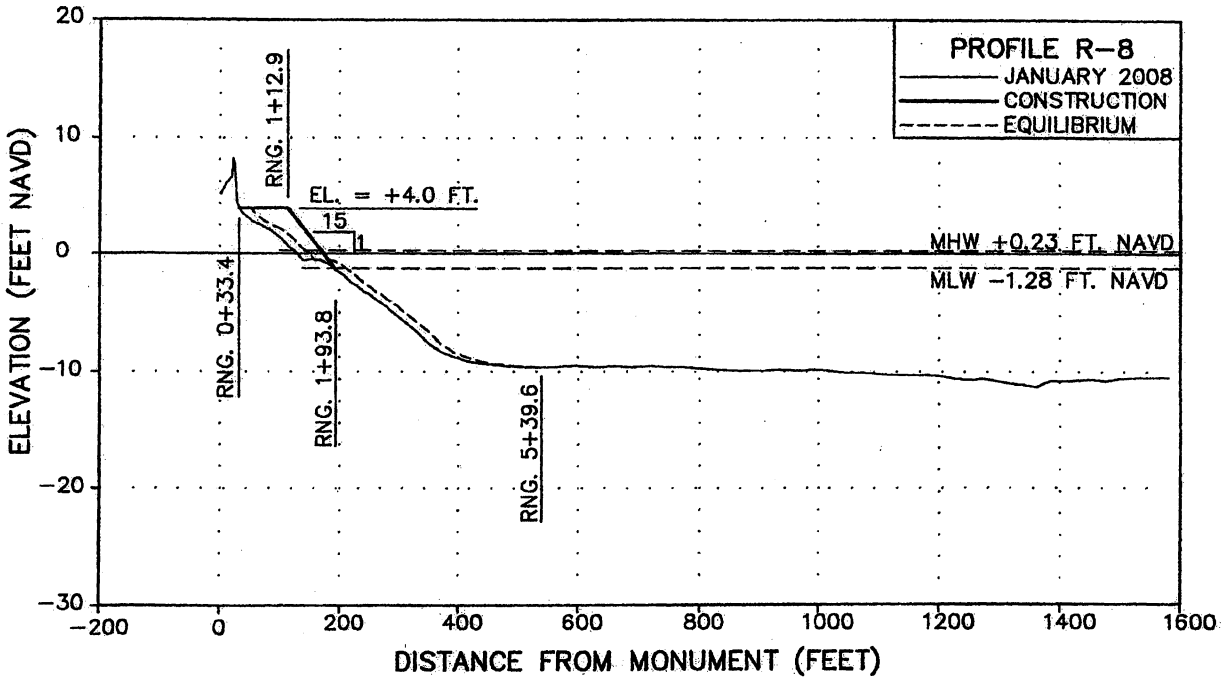
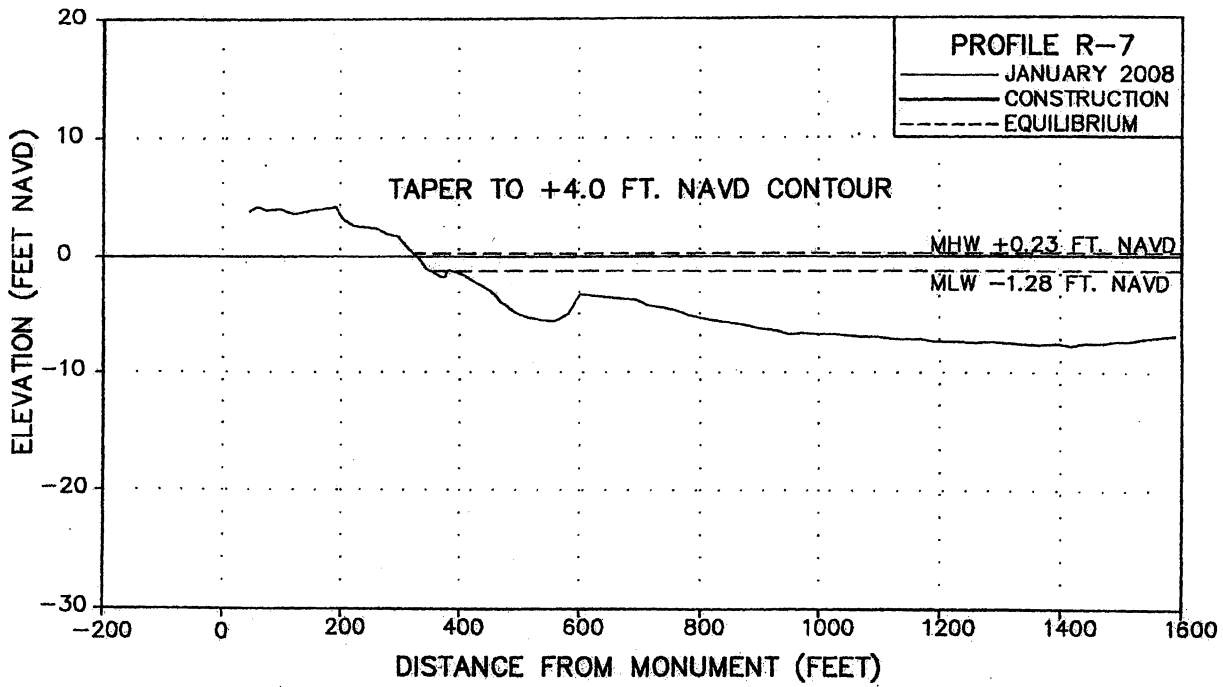
Thomas P. Pierro

THOMAS P PIERRO, P.E. NO. 64683

11/20/09
DATE

REVISIONS		
DATE	BY	DESCRIPTION
2/4/09	JRC	RAI #1
5/6/09	RWM	RAI #2
5/1/09	RS	RAI #2 - GEOTEXTILE TUBE
07/25/09	TP	ADD WRACK ZONE

PERMIT # 281452001



ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
 CITY OF ANNA MARIA SEGMENT
 FILL PROFILES

COASTAL PLANNING & ENGINEERING, INC.
 2811 W. BOCA RATON BOULEVARD
 BOCA RATON, FLORIDA 33433
 WWW.COASTALPE.com



DATE:
4/12/07

BY:
JRC

COMM NO:
8448.49

SHEET:
6

NOTE:

MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS PUBLISHED IN NAVD 88, FROM LAND BOUNDARY INFORMATION SYSTEM (LABINS) BASED ON EPOCH 1983-2001 TIDE INTERPOLATION POINT-IDENTIFICATION-NUMBER 200904.

NOT FOR CONSTRUCTION
 FOR REGULATORY REVIEW ONLY

Signature

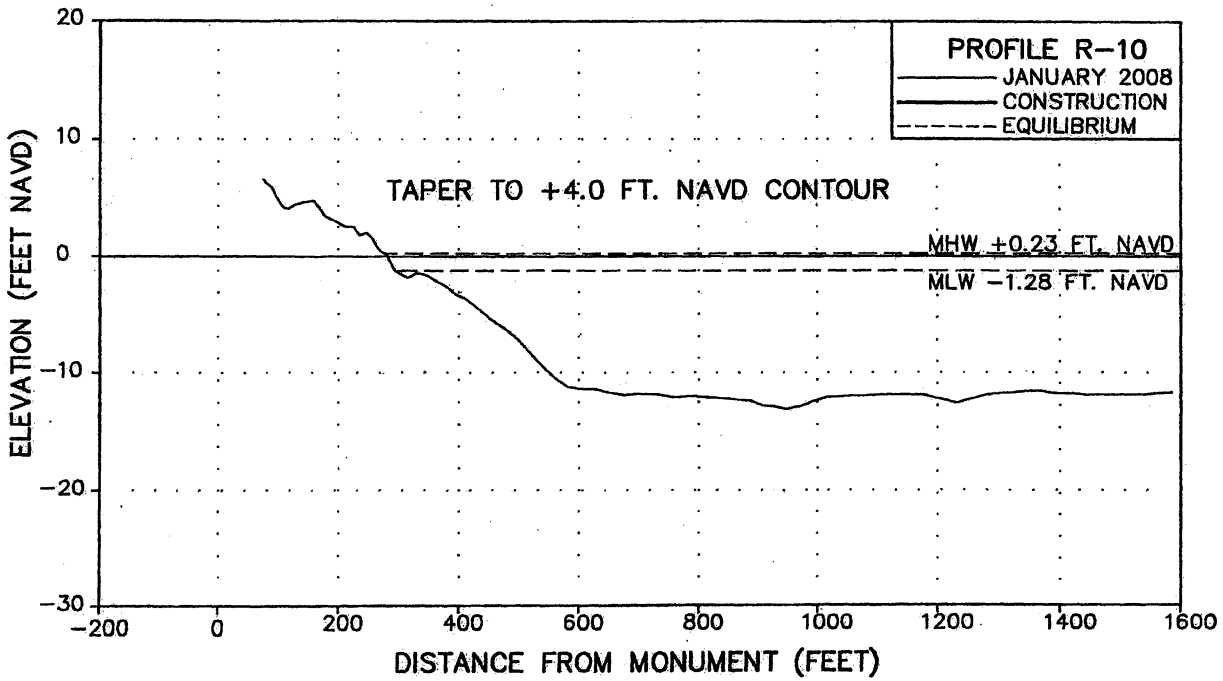
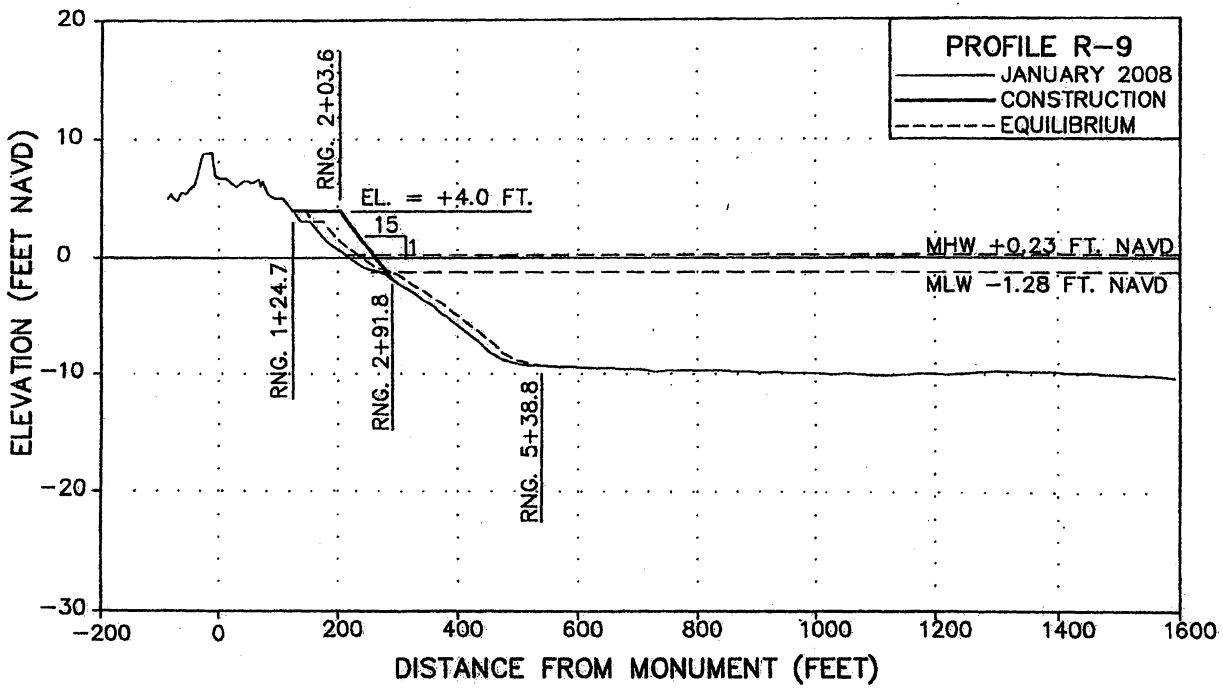
THOMAS P. PIERRO P.E. NO. 64683

11/20/09
 DATE

REVISIONS		
DATE	BY	DESCRIPTION
1/28/09	JRC	RAI #1

PERMIT # 281452001

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ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
 CITY OF ANNA MARIA SEGMENT
 FILL PROFILES

COASTAL PLANNING & ENGINEERING, INC.
 100 WEST 10TH STREET
 TAMPA, FLORIDA 33604
 TEL: 813-281-1111
 FAX: 813-281-1112
 WWW.COASTALPEINC.COM



DATE: 4/12/07
 BY: JRC
 COMM. NO.: 8448.49
 SHEET: 7

NOTE:

MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS PUBLISHED IN NAVD 88, FROM
 LAND BOUNDARY INFORMATION SYSTEM (LABINS) BASED ON EPOCH 1983-2001 TIDE INTERPOLATION
 POINT IDENTIFICATION NUMBER 200904.

NOT FOR CONSTRUCTION
 FOR REGULATORY REVIEW ONLY

Thomas P. Pierra

THOMAS P. PIERRO P.E. NO. 64683

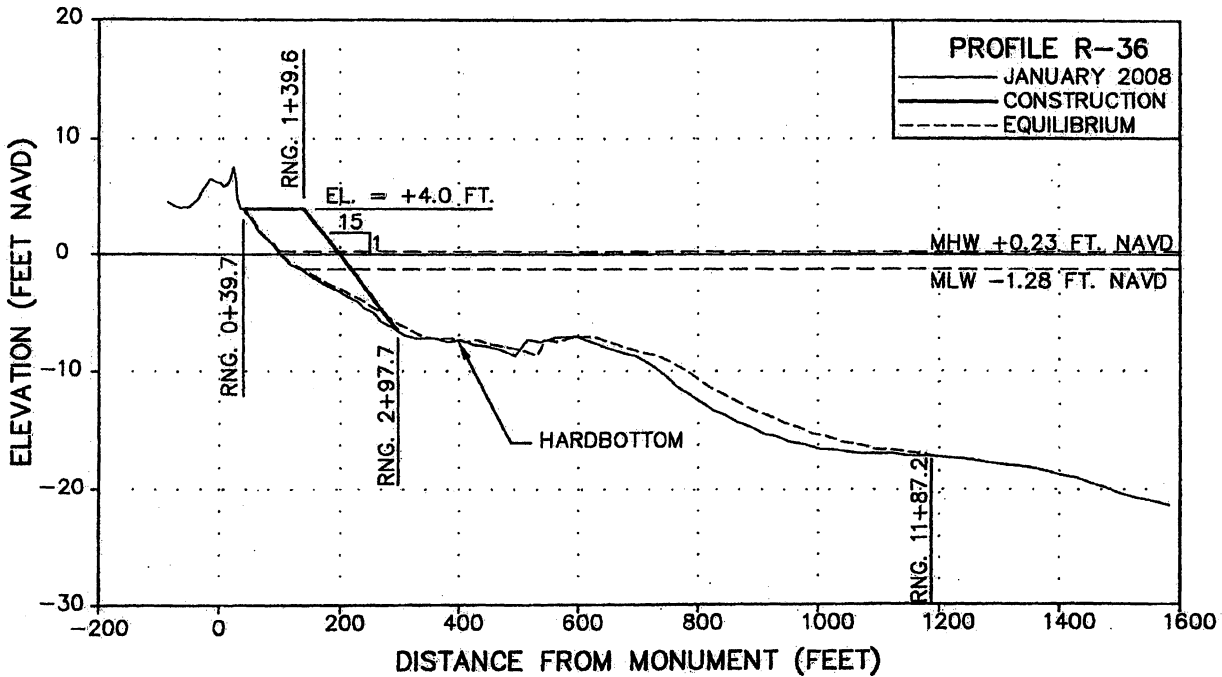
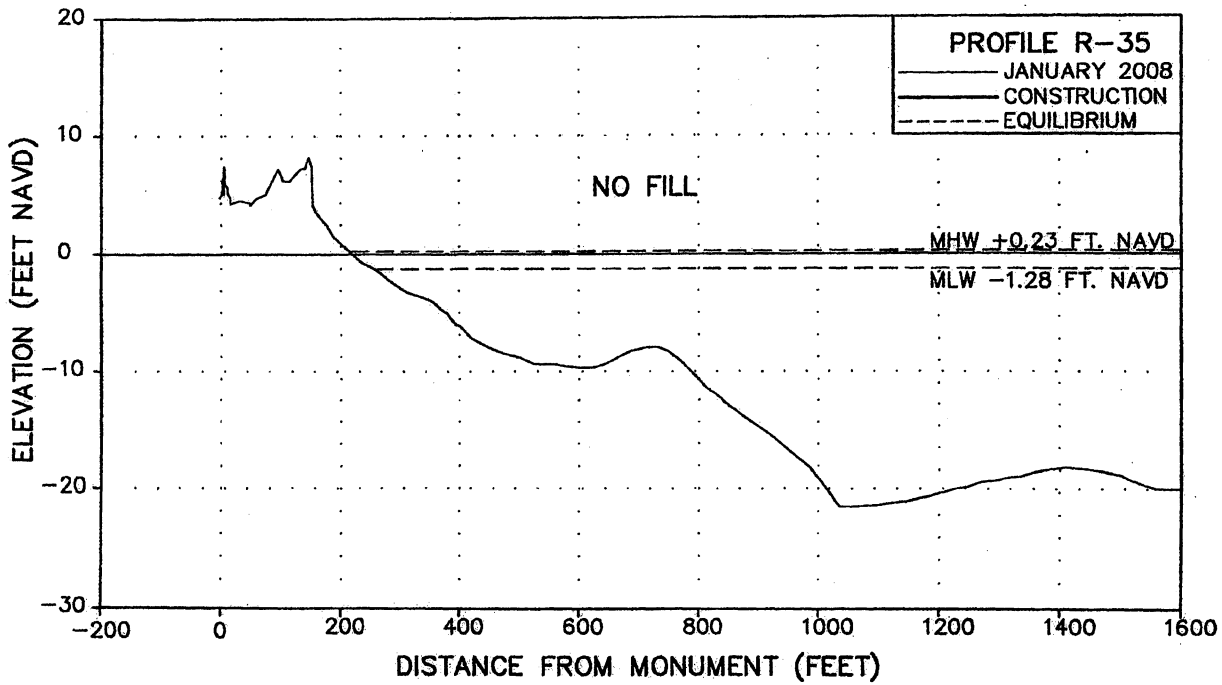
6/12/09
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REVISIONS		
DATE	BY	DESCRIPTION
7/28/09	JRC	RAI #1

PERMIT # 281452001

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ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
COQUINA BEACH SEGMENT
FILL PROFILES



NOTE:

MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS PUBLISHED IN NAVD 88, FROM LAND BOUNDARY INFORMATION SYSTEM (LABINS) BASED ON EPOCH 1983-2001 TIDE INTERPOLATION POINT IDENTIFICATION NUMBER 200904.

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

SMR

THOMAS P. PIERRO P.E. NO. 64683

11/20/09

DATE

REVISIONS		
DATE	BY	DESCRIPTION
7/28/09	JRC	RAI #1

COASTAL PLANNING & ENGINEERING, INC.
 2401 N.W. BOCA RATON BOULEVARD
 BOCA RATON, FLORIDA 33433
 WWW.COASTALPLANNING.COM



DATE:
4/12/07

BY:
JRC

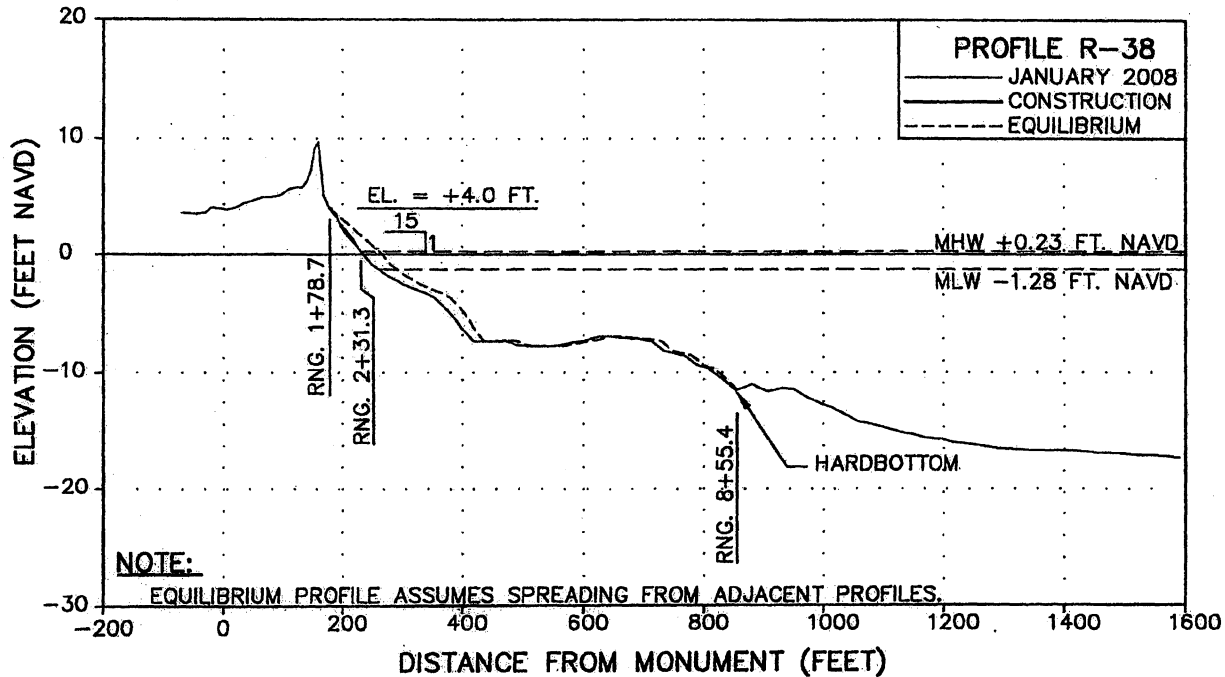
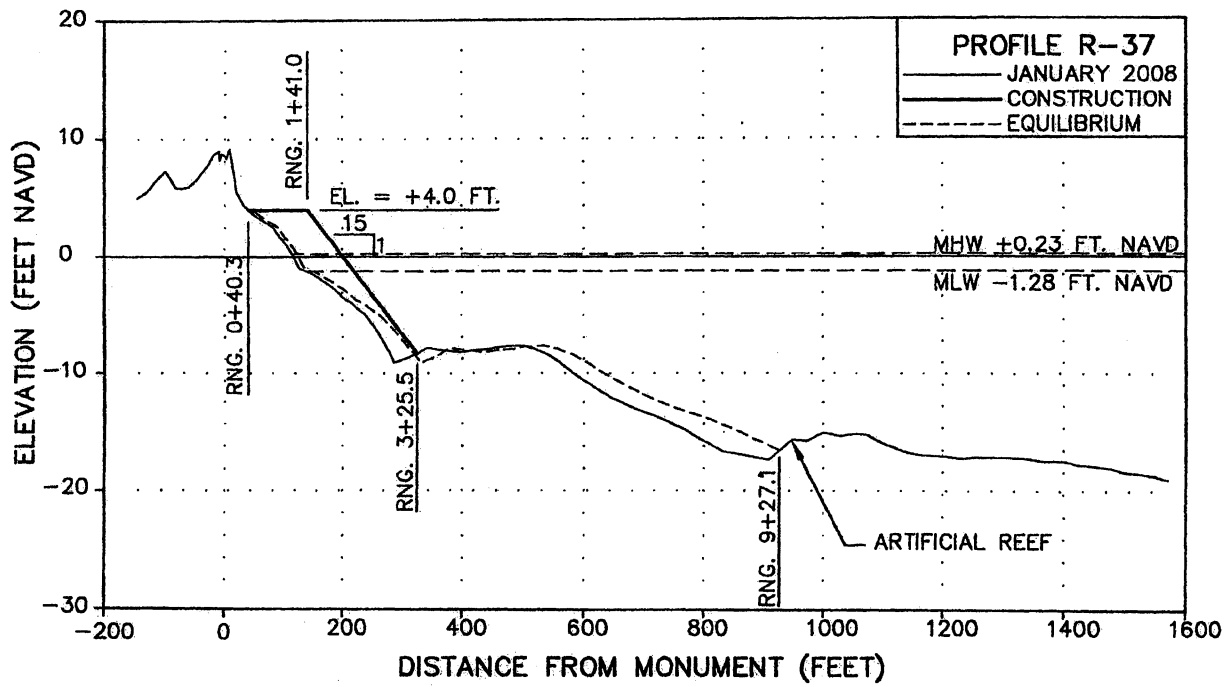
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8446.49

SHEET:
8

PERMIT # 281452001

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ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
COQUINA BEACH SEGMENT
FILL PROFILES



NOTE:
EQUILIBRIUM PROFILE ASSUMES SPREADING FROM ADJACENT PROFILES.

NOTE:

MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS PUBLISHED IN NAVD 88, FROM LAND BOUNDARY INFORMATION SYSTEM (LABINS) BASED ON EPOCH 1983-2001 TIDE INTERPOLATION POINT IDENTIFICATION NUMBER 200904.

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

Thomas P. Pierro

THOMAS P. PIERRO, P.E. NO. 64683

11/20/09
DATE

REVISIONS		
DATE	BY	DESCRIPTION
1/28/09	JRC	RAI #1
5/1/09	RS	RAI #2

DATE:
4/12/07

BY:
JRC

COMM NO.:
8446.49

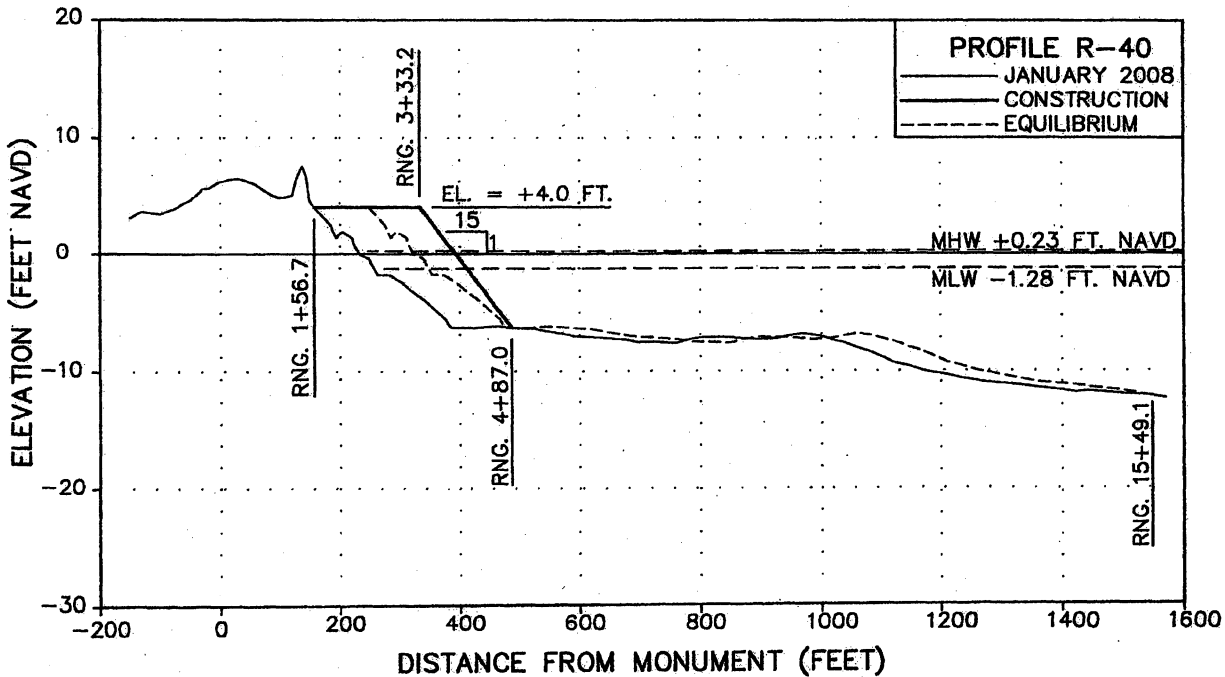
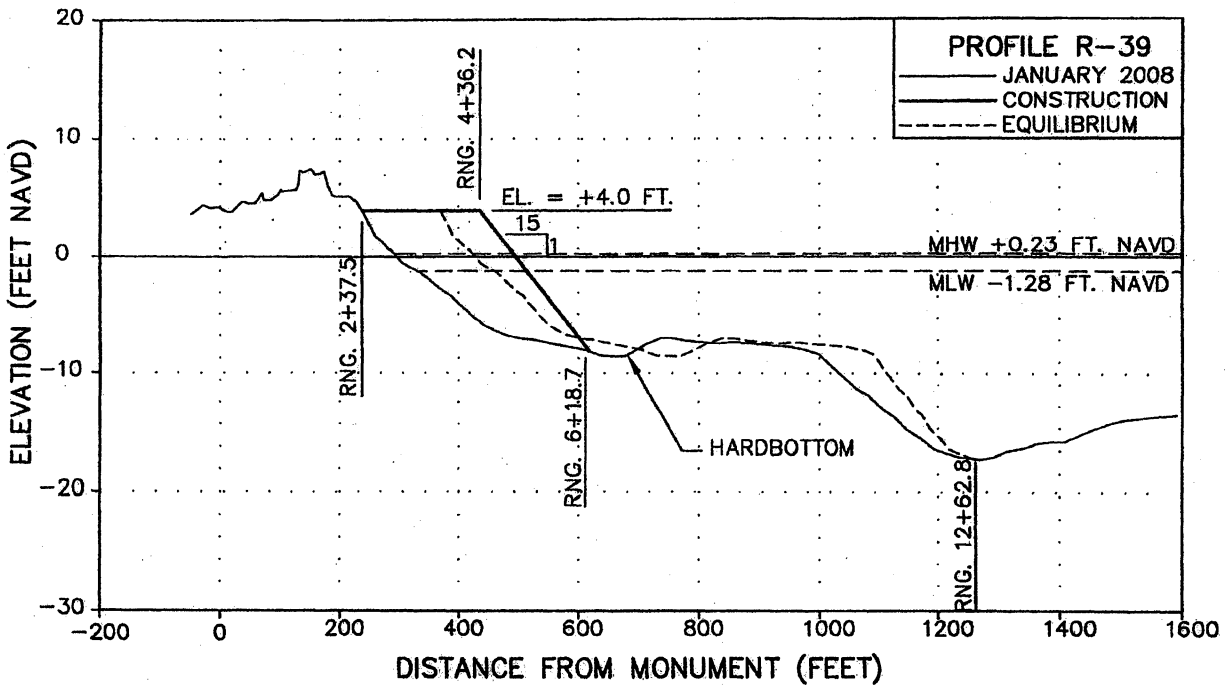
SHEET:
9

PERMIT # 281452001

COASTAL PLANNING & ENGINEERING, INC.
INC. (001) 00-0000
 1001 N.W. 10TH AVENUE SUITE 100
 BOCA RATON, FLORIDA 33431
 COASTAL PLANNING & ENGINEERING, INC.
 www.CoastalPlanning.com



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ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
COQUINA BEACH SEGMENT
FILL PROFILES

COASTAL PLANNING & ENGINEERING, INC.
 P.O. BOX 2004
 ROCK HAVEN, FLORIDA 32451
 C.O.A. # 4408
 C.S.A. # 114851
 www.CoastalPlanning.com



DATE: 4/12/07
 BY: JRC
 COMM. NO.: 8446.49
 SHEET: 10

NOTE:
 MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS PUBLISHED IN NAVD 88, FROM LAND BOUNDARY INFORMATION SYSTEM (LABINS) BASED ON EPOCH 1983-2001 TIDE INTERPOLATION POINT IDENTIFICATION NUMBER 200904.

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

Signature of Thomas P. Pierró

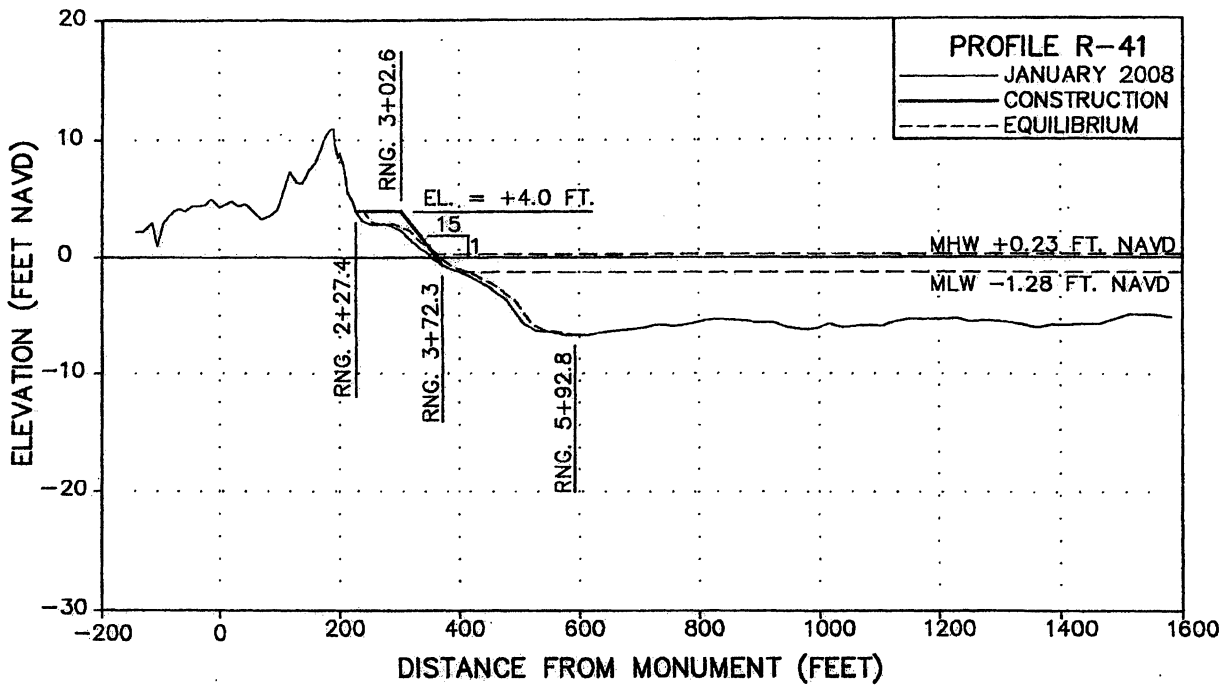
THOMAS P. PIERRÓ, P.E. NO. 64683

11/20/09
DATE

REVISIONS		
DATE	BY	DESCRIPTION
7/28/09	JRC	RAI #1

PERMIT # 281452001

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ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
COQUINA BEACH SEGMENT
FILL PROFILES

COASTAL PLANNING & ENGINEERING, INC.
 14001 S.W. 10TH AVE.
 MIAMI, FL 33186
 TEL: 305-556-1100
 FAX: 305-556-1101
 WWW.COASTALPLANNING.COM



DATE:	4/12/07
BY:	JRC
COMM NO.:	8446.49
SHEET:	11

NOTE:

MEAN HIGH-WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS PUBLISHED IN NAVD 88, FROM LAND BOUNDARY INFORMATION SYSTEM (LABINS) BASED ON EPOCH 1983-2001 TIDE INTERPOLATION POINT IDENTIFICATION NUMBER 200904.

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

THP

THOMAS P. PIERRO, P.E. NO. 64683

11/20/09
 DATE

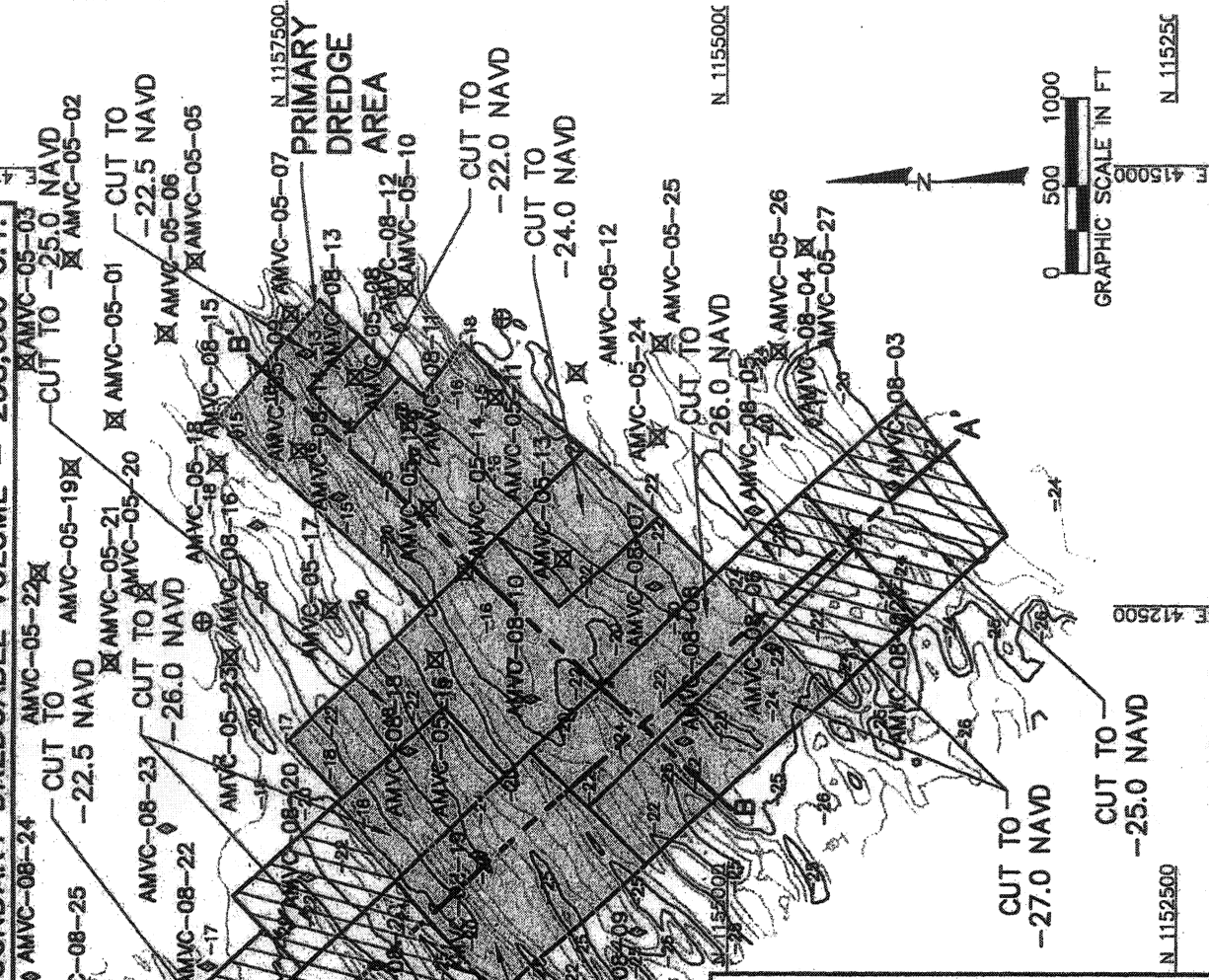
REVISIONS		
DATE	BY	DESCRIPTION
7/28/09	JRC	RAI #1

PERMIT # 281452001

H:\Manatee\919PERMITS\844649 PROFILES.dwg - Oct 23, 2009 @ 1:55pm - rchasse

H:\Marine\49PERMITS\844649 BA-REV-12-17-08.dwg - Oct 23, 2009 @ 1:59pm - rchasse

PRIMARY DREDGABLE VOLUME = 421,500 C.Y.
SECONDARY DREDGABLE VOLUME = 258,500 C.Y.



STATE OF FLORIDA
MELANY LARENAS
REGISTERED PROFESSIONAL SURVEYOR
NO. 397

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

MELANY LARENAS, P.S. 397

GULF OF MEXICO
CUT TO -23.0 NAVD

LEGEND:

- BATHYMETRIC CONTOUR
- CPE 2008 VIBRACORES
- CPE 2005 VIBRACORES
- MAGNETIC ANOMALIES
- PRIMARY DREDGE AREA
- SECONDARY DREDGE AREA

NOTES:

1. BATHYMETRIC SURVEY PERFORMED BY CPE: MARCH 2007 AND JUNE 2008.
2. ELEVATIONS ARE IN FEET REFERENCED TO 1988 (NAVD88).
3. COORDINATES SHOWN ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).

REVISIONS		
DATE	BY	DESCRIPTION
10/30/08	JRC	REV. BORROW AREA
1/4/09	JRC	RAI #1

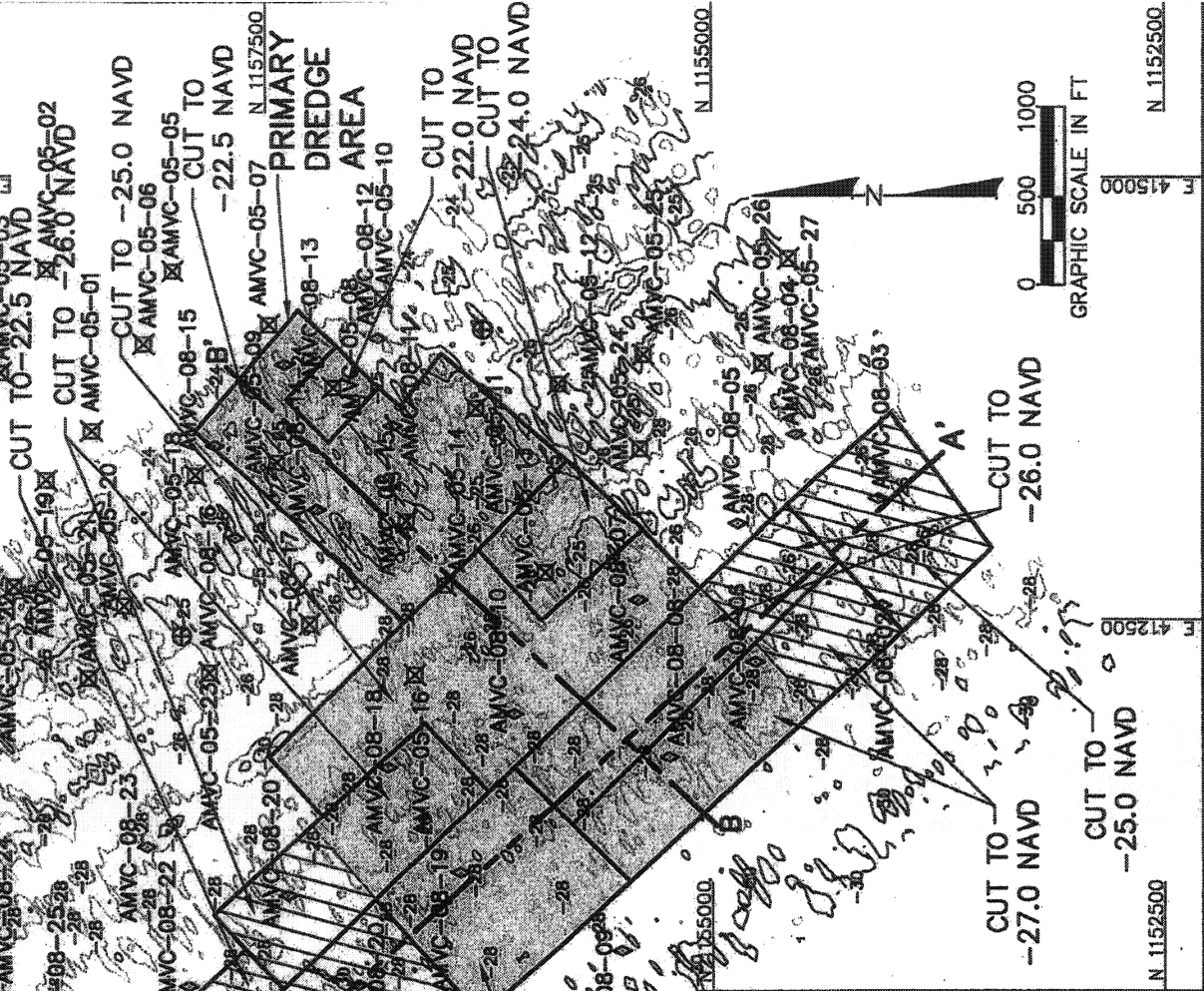
DATE: 8/9/08
 BY: JRC
 COMM NO.: 8446.49
 SHEET: 12

ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
2008 BORROW AREA BATHYMETRY

PERMIT # 281452001

H:\Manatee\649PERMITS\944648 BA-REV-12-17-08.dwg - Oct 23, 2009 @ 1:59pm - rchasse

PRIMARY DREDGABLE VOLUME = 421,500 C.Y.
SECONDARY DREDGABLE VOLUME = 258,500 C.Y.



NOT FOR CONSTRUCTION
 FOR REGULATORY REVIEW ONLY

MELANY LARENAR
 STATE OF FLORIDA
 PROFESSIONAL GEODESIST
 LICENSE NO. 662397

11/19/09
 DATE

LEGEND:

- SEISMIC REFLECTOR ELEVATION CONTOUR
- CPE 2008 VIBRACORES
- CPE 2005 VIBRACORES
- MAGNETIC ANOMALIES
- PRIMARY DREDGE AREA
- SECONDARY DREDGE AREA

NOTES:

1. SEISMIC SURVEY PERFORMED BY CPE: JUNE 2008.
2. ELEVATIONS ARE IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAD88).
3. COORDINATES SHOWN ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).

REVISIONS		
DATE	BY	DESCRIPTION
10/30/08	JRC	REV. BORROW AREA
1/4/09	JRC	RAI #1

JRC
 COMM. NO. 8446.49
 SHEET: 13

COASTAL PLANNING & ENGINEERING, INC.
 P.O. BOX 13452
 BOCA RATON, FLORIDA 33432
 G.O.A. # 10028
 G.O.A. # 10021
 www.CoastalPE.com

DATE: 8/6/08
 BY: JRC

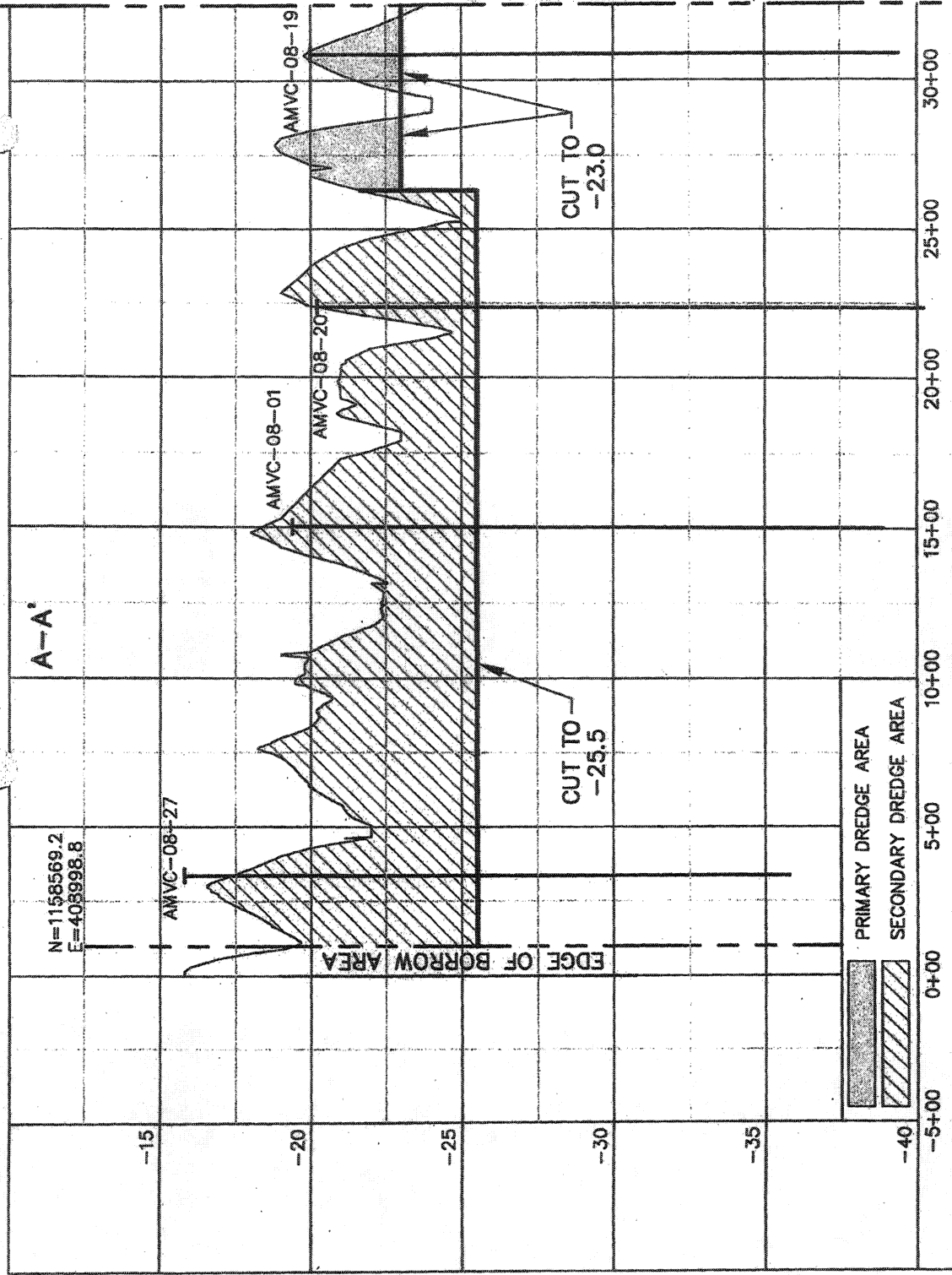
ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
2008 BORROW AREA SEISMIC REFLECTOR CONTOUR MAP

GRAPHIC SCALE IN FT
 0 500 1000

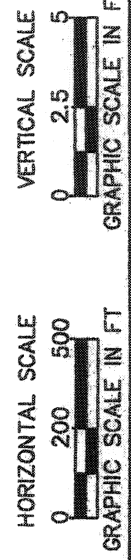
N 1152500
 E 415000

PERMIT # 281452001

H:\Marinette\2009\PERMITS\944649_BA_XS.dwg - Oct 23, 2009 @ 2:00pm - rchasse



NOTES:
 1. CORES MAY NOT FALL DIRECTLY ON CROSS SECTION LINE, BUT ARE LOCATED SUFFICIENTLY CLOSE TO REPRESENT SIMILAR MATERIAL.
 2. SEE SHEET 12 FOR LOCATION OF CROSS SECTION LINE.
 3. ELEVATION BASED ON NAVD 88.



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 FOR REGULATORY REVIEW ONLY

MELANY LAREAU
 STATE OF FLORIDA
 PROFESSIONAL GEODESIST
 NO. 582397

DATE: 11/18/09

REVISIONS		
DATE	BY	DESCRIPTION
2/4/09	JRC	RAI #1

DATE:	8/8/07
BY:	JRC
COMM NO.:	8446.49
SHEET:	14

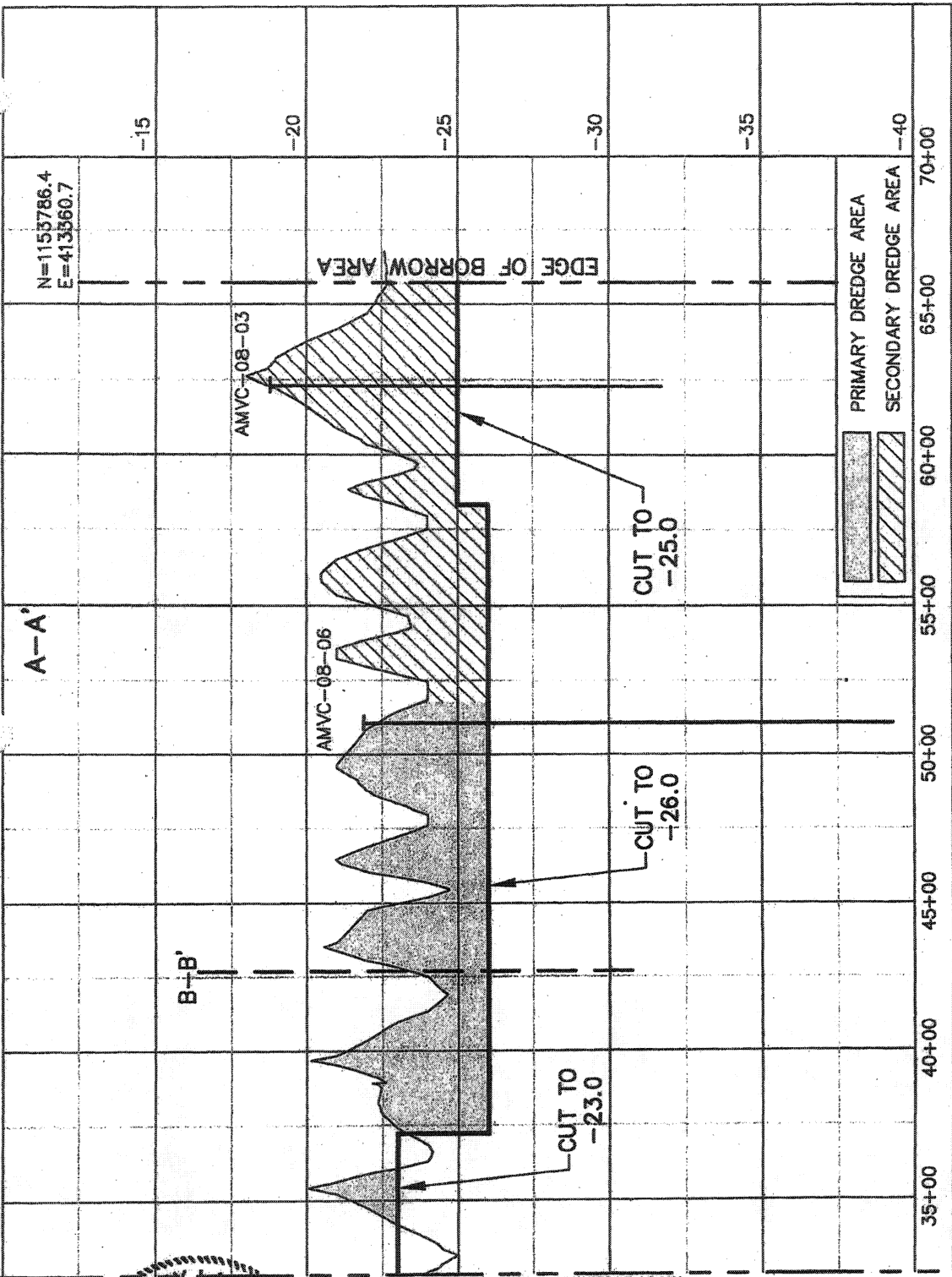
CPE

COASTAL PLANNING & ENGINEERING, INC.
 2841 N.W. BOCA RATON BOULEVARD
 BOCA RATON, FLORIDA 33433
 PH: (561) 994-4400
 FAX: (561) 994-8775
 C.O.A. #L-30028
 C.O.A. #L-68261
 www.CoastalPlanning.com

ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
 2008 BORROW AREA CROSS SECTION A-A

PERMIT # 281452001

H:\Maratee\2009\PERMITS\844649_BA_XS.dwg - Oct. 23, 2009 @ 2:00pm - rchasse



A-A'

B-B'

EDGE OF BORROW AREA

AMVC-08-03

AMVC-08-06

CUT TO -23.0

CUT TO -26.0

CUT TO -25.0

PRIMARY DREDGE AREA

SECONDARY DREDGE AREA

70+00

65+00

60+00

55+00

50+00

45+00

40+00

35+00

VERTICAL SCALE
0 2.5 5
GRAPHIC SCALE IN FT

HORIZONTAL SCALE
0 250 500
GRAPHIC SCALE IN FT

DISTANCE (FEET)

NOTES:

1. CORES MAY NOT FALL DIRECTLY ON CROSS SECTION LINE, BUT ARE LOCATED SUFFICIENTLY CLOSE TO REPRESENT SIMILAR MATERIAL.
2. SEE SHEET 12 FOR LOCATION OF CROSS SECTION LINE.
3. ELEVATION BASED ON NAVD 88.

ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
2008 BORROW AREA CROSS SECTION A-A'

COASTAL PLANNING & ENGINEERING, INC.
P.O. BOX 385200
P.O. BOX 385200
CORP. OFFICE
CORP. OFFICE
CORP. OFFICE

DATE: 8/9/07
BY: JRC
COMM NO.: 8446.49
SHEET: 15

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

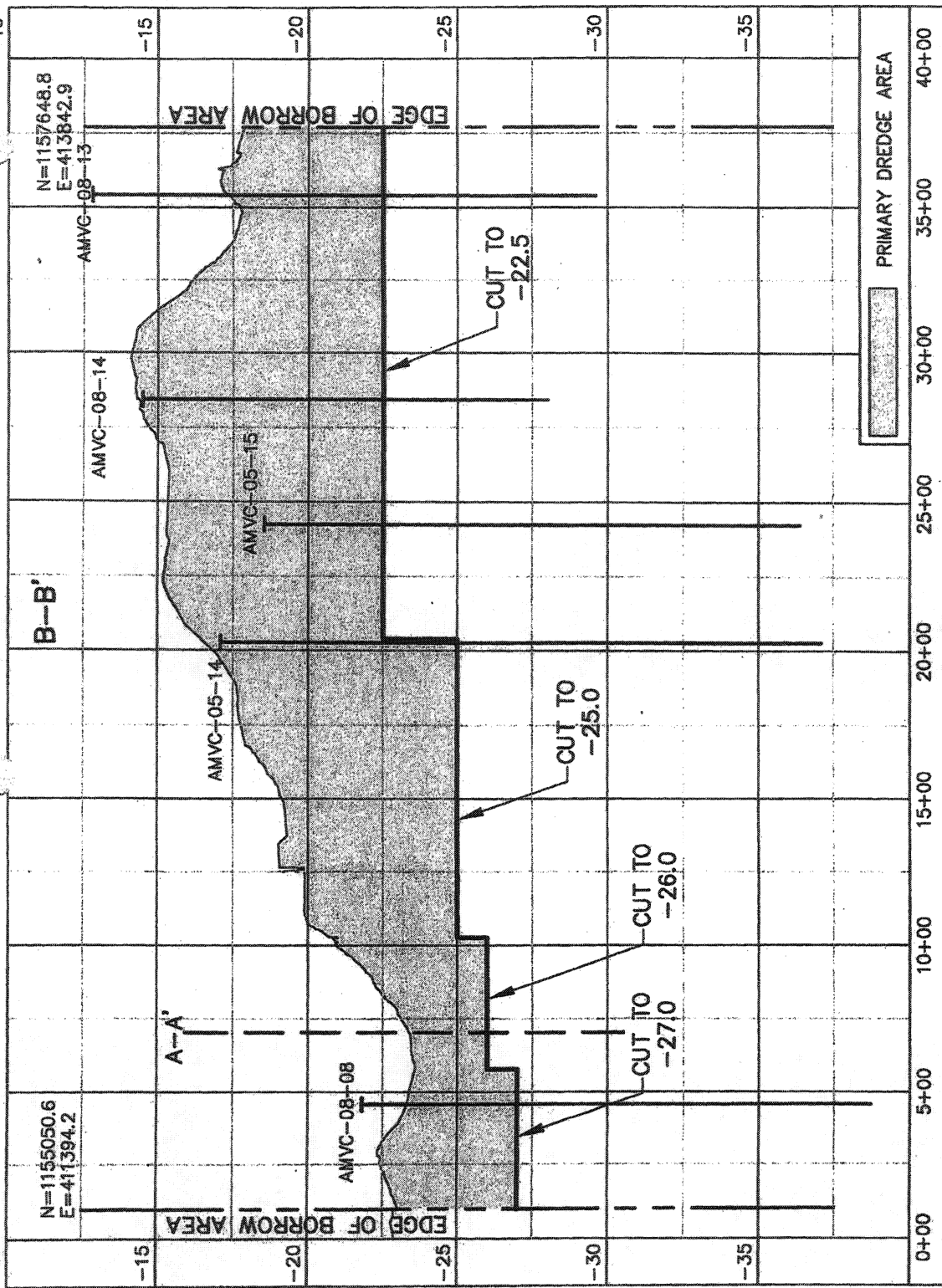
MELANY LARKIN
STATE OF FLORIDA
MELANY LARKIN, P.E. NO. 232397

11/18/09
DATE

REVISIONS		
DATE	BY	DESCRIPTION
1/4/09	JRC	RAI #1

PERMIT # 281452001

H:\Marina\2009\PERMITS\281452001\BA_XS.dwg - Oct 23, 2009 @ 2:01pm - rchessie



NOTES:
 1. CORES MAY NOT FALL DIRECTLY ON CROSS SECTION LINE, BUT ARE LOCATED SUFFICIENTLY CLOSE TO REPRESENT SIMILAR MATERIAL.
 2. SEE SHEET 12 FOR LOCATION OF CROSS SECTION LINE.
 3. ELEVATION BASED ON NAVD 88.



NOT FOR CONSTRUCTION
 FOR REGULATORY REVIEW ONLY

STATE OF FLORIDA
 MELANY LARSEN, P.E. No. 281452001

11/18/09
 DATE

REVISIONS		
DATE	BY	DESCRIPTION
1/4/09	JRC	RAI #1

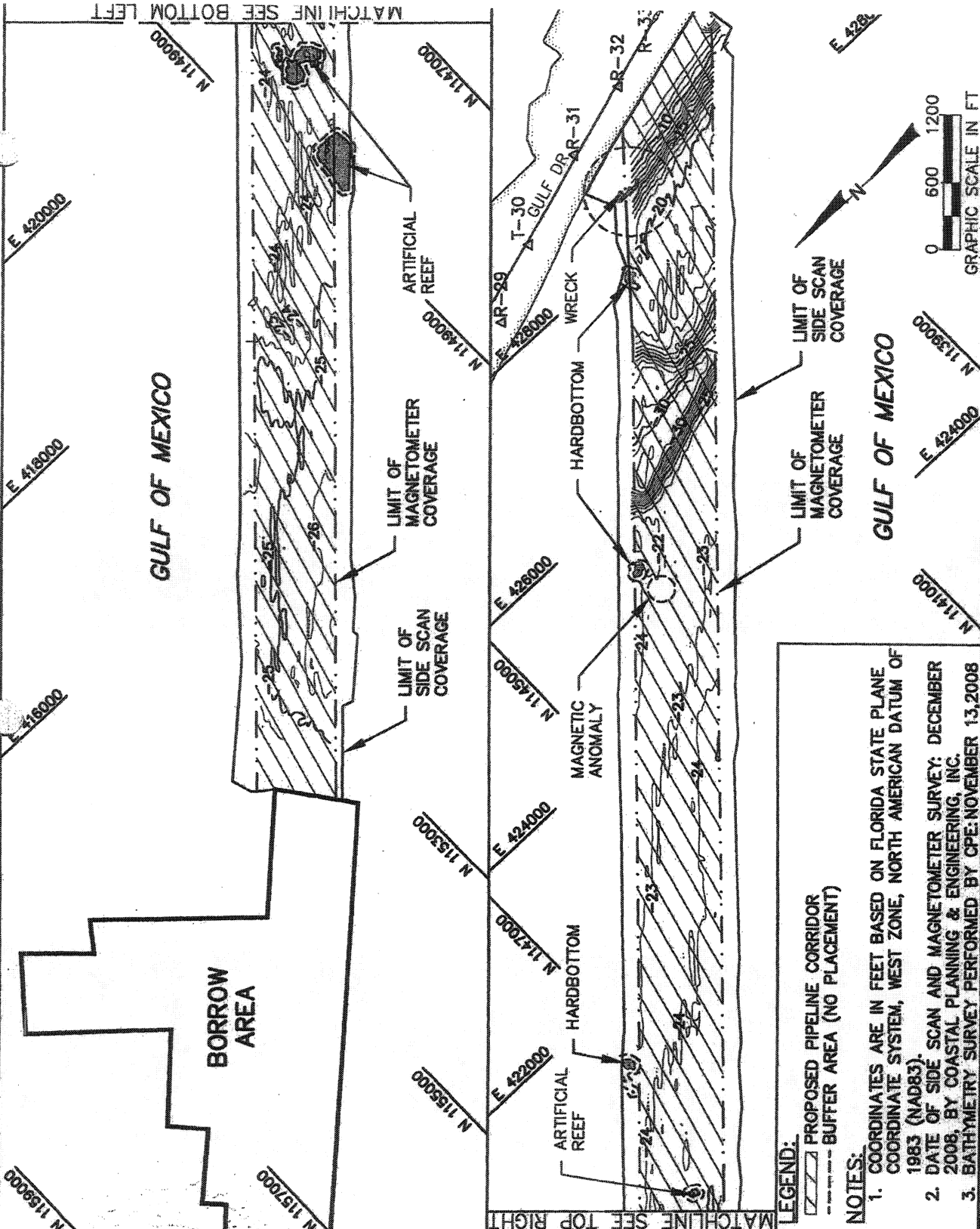
DATE: 8/9/07
 BY: JRC
 COMM. NO.: 8446.49
 SHEET: 16

ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
 2008 BORROW AREA CROSS SECTION B-B'

COASTAL PLANNING & ENGINEERING, INC.
 2485 ANN ISLAND BEACH BOULEVARD
 MOBILE, ALABAMA 36688
 P.O. BOX 141478
 FIA (981) 374-1418
 COA, FL 4608
 COA, LA 2031

PERMIT # 281452001

MATCHLINE SEE BOTTOM LEFT



**ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
PIPELINE CORRIDOR DETAIL**

LEGEND:
 [Symbol] PROPOSED PIPELINE CORRIDOR
 [Symbol] BUFFER AREA (NO PLACEMENT)

NOTES:
 1. COORDINATES ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).
 2. DATE OF SIDE SCAN AND MAGNETOMETER SURVEY: DECEMBER 2008, BY COASTAL PLANNING & ENGINEERING, INC.
 3. BATHYMETRY SURVEY PERFORMED BY CPE: NOVEMBER 13, 2008

CPE
 COASTAL PLANNING & ENGINEERING, INC.
 201 N.W. 10th Avenue, Suite 200
 Fort Lauderdale, FL 33304
 www.CoastalPlanning.com

DATE: 2/4/09
 BY: JRC

NOT FOR CONSTRUCTION.
 FOR REGULATORY REVIEW ONLY

Signature

THOMAS P. PIERRO, P.E. NO. 64683

11/20/09
 DATE

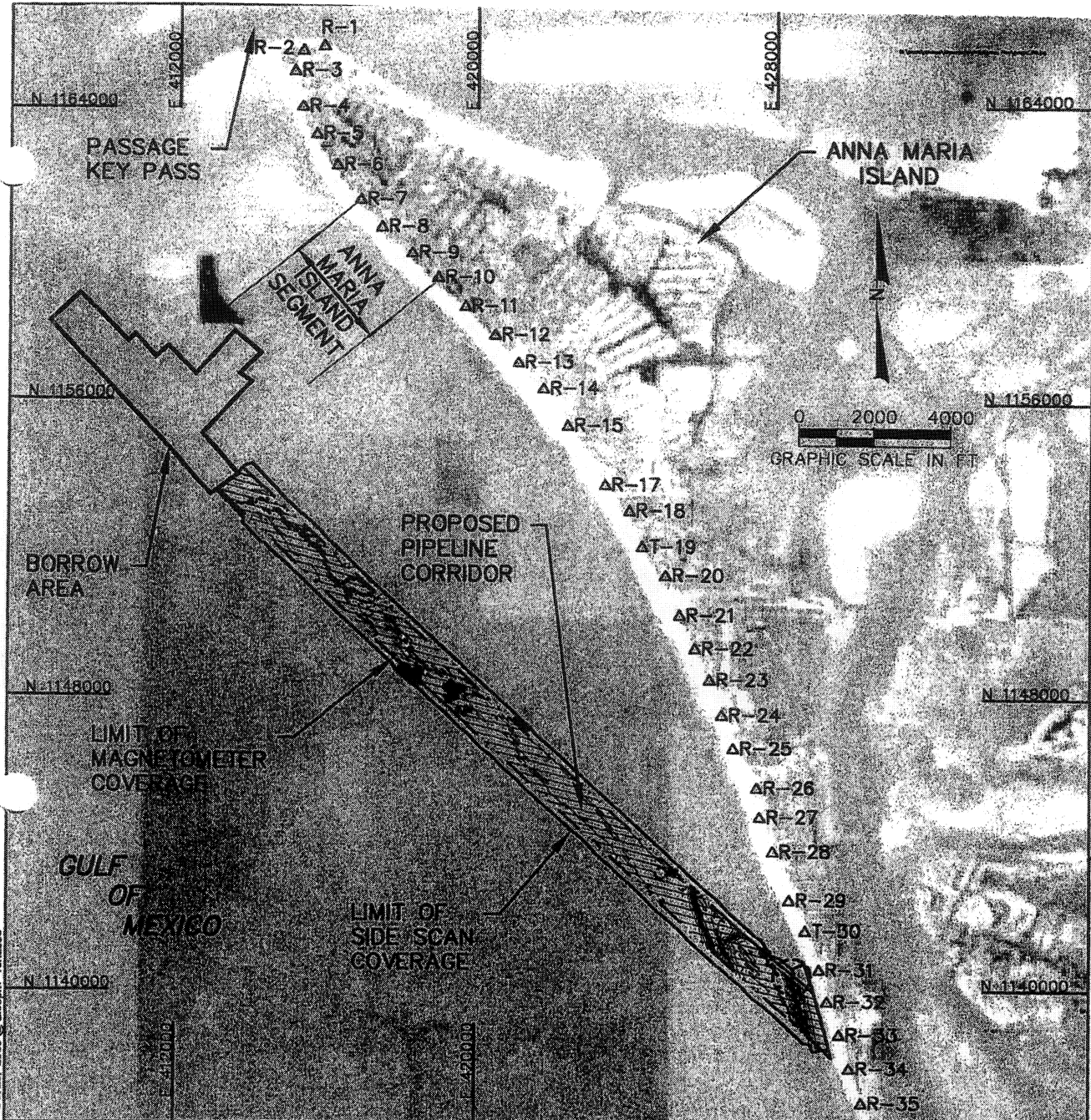
REVISIONS	
DATE	DESCRIPTION

COMM NO.: 8448.49
 SHEET: 17

PERMIT # 281452001

H:\Mentat\149\PERMITS\18448-49 PROPOSED PIPELINE.dwg - Oct 23, 2008 @ 2:03pm - rchasse

**ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
PIPELINE CORRIDOR PLAN VIEW**



LEGEND:
 PROPOSED PIPELINE CORRIDOR

NOTES:

1. COORDINATES ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).
2. DATE OF SIDE SCAN AND MAGNETOMETER SURVEY: DECEMBER 2008, BY COASTAL PLANNING & ENGINEERING, INC.
3. AERIAL DOWNLOADED FROM GOOGLE EARTH.

COASTAL PLANNING & ENGINEERING, INC.
 2885 N.W. 80th AVE. BOCA RATON BOULEVARD
 BOCA RATON, FLORIDA 33431
 P.L. (954) 361-5122
 FAX (954) 361-4716
 C.O.G. P.L. #0028
 C.O.G. I.A. #181
 www.CoastalPlanning.com



DATE:	2/4/09
BY:	JRC
COMM NO.:	8446.49
SHEET:	18

NOT FOR CONSTRUCTION
 FOR REGULATORY REVIEW ONLY

THOMAS P PIERRO P.E. NO. 64683

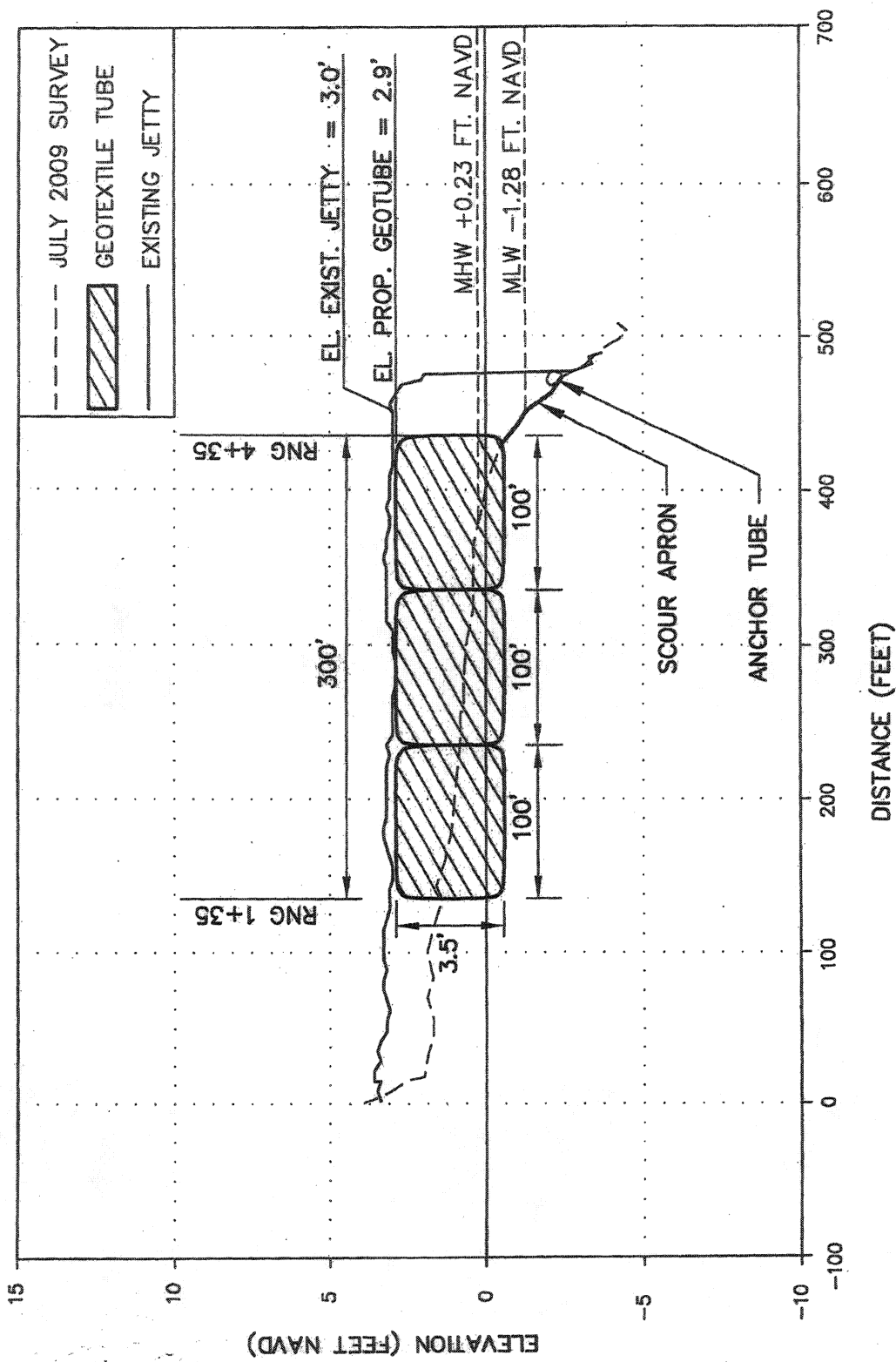
11/20/09
 DATE

REVISIONS		
DATE	BY	DESCRIPTION

PERMIT # 281452001

H:\Manatees\84-4649\PERMITS\844649 PROPOSED PIPELINE.dwg - Oct 23, 2009 @ 2:03pm - rchasse

H:\Marina\64649\PERMITS\64649_PROFILES.dwg - Oct 23, 2009 @ 1:56pm - rchassa



NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

Signature

THOMAS P. PIERRO P.E. NO. 64683

11/20/09
DATE

REVISIONS		
DATE	BY	DESCRIPTION
9/26/09	TP	PER RAI #3

DATE: 5/1/09
BY: AMB
COMM NO: 8446.49
SHEET: 19

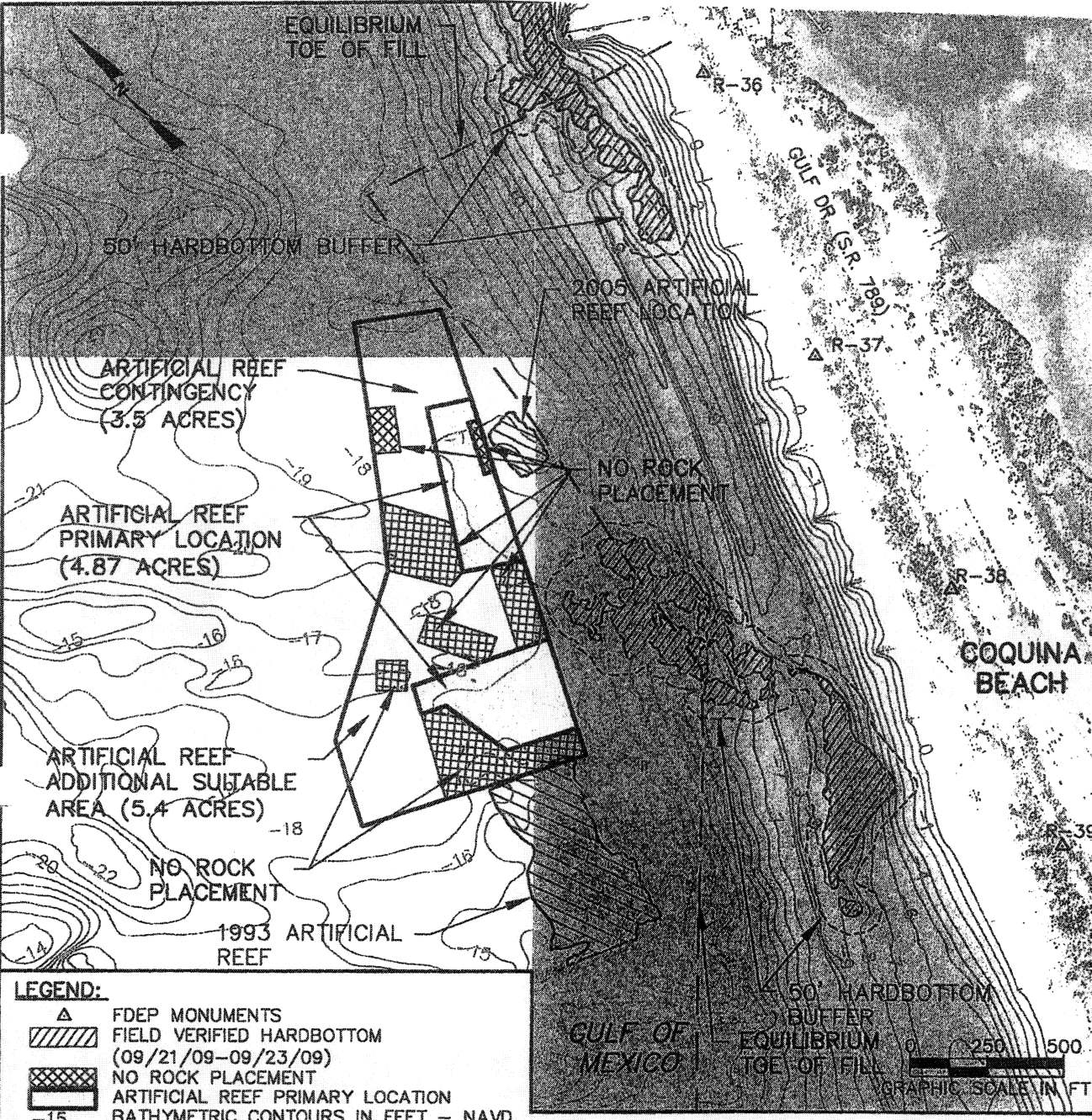
ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
COQUINA BEACH SEGMENT
GEOTEXTILE TUBE CROSS SECTION

COASTAL PLANNING & ENGINEERING, INC.
2451 N.W. COCA PASTOR COLLEGE RD
SUITE 1000, FORT LAUDERDALE, FL 33309
www.CoastalPlanning.com



PERMIT # 281452001

MANATEE COUNTY, FLORIDA
COQUINA BEACH ARTIFICIAL REEF MITIGATION PROJECT
PLAN VIEW



LEGEND:

- FDEP MONUMENTS
- FIELD VERIFIED HARDBOTTOM (09/21/09-09/23/09)
- NO ROCK PLACEMENT
- ARTIFICIAL REEF PRIMARY LOCATION
- BATHYMETRIC CONTOURS IN FEET - NAVD

NOTES:

1. COORDINATES ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).
2. ELEVATIONS ARE IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. BATHYMETRIC SURVEY CONDUCTED BY CPE SEPTEMBER 2009. CONTOURS GENERALLY LANDWARD OF -5FT CONTOUR ARE FROM 2006 LIDAR SURVEY CONDUCTED BY JALBTX.
4. HARDBOTTOM BUFFER BASED ON A 50' MINIMUM OFFSET FROM EXPOSED HARDBOTTOM VERIFIED BY DIVER OBSERVATION (SEPT. 2009).
5. DATE OF AERIAL PHOTOGRAPH: FEBRUARY 2008.
6. SEE SHEETS 4 & 5 FOR ADDITIONAL DETAILS.

**NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY**

THP

 THOMAS P PIERRO P.E. NO. 64683

2/26/2010

 DATE

REVISIONS		
DATE	BY	DESCRIPTION
1/7/10	JRC	RAI #4
2/25/10	AMB	UPDATE PRIMARY LOCATION

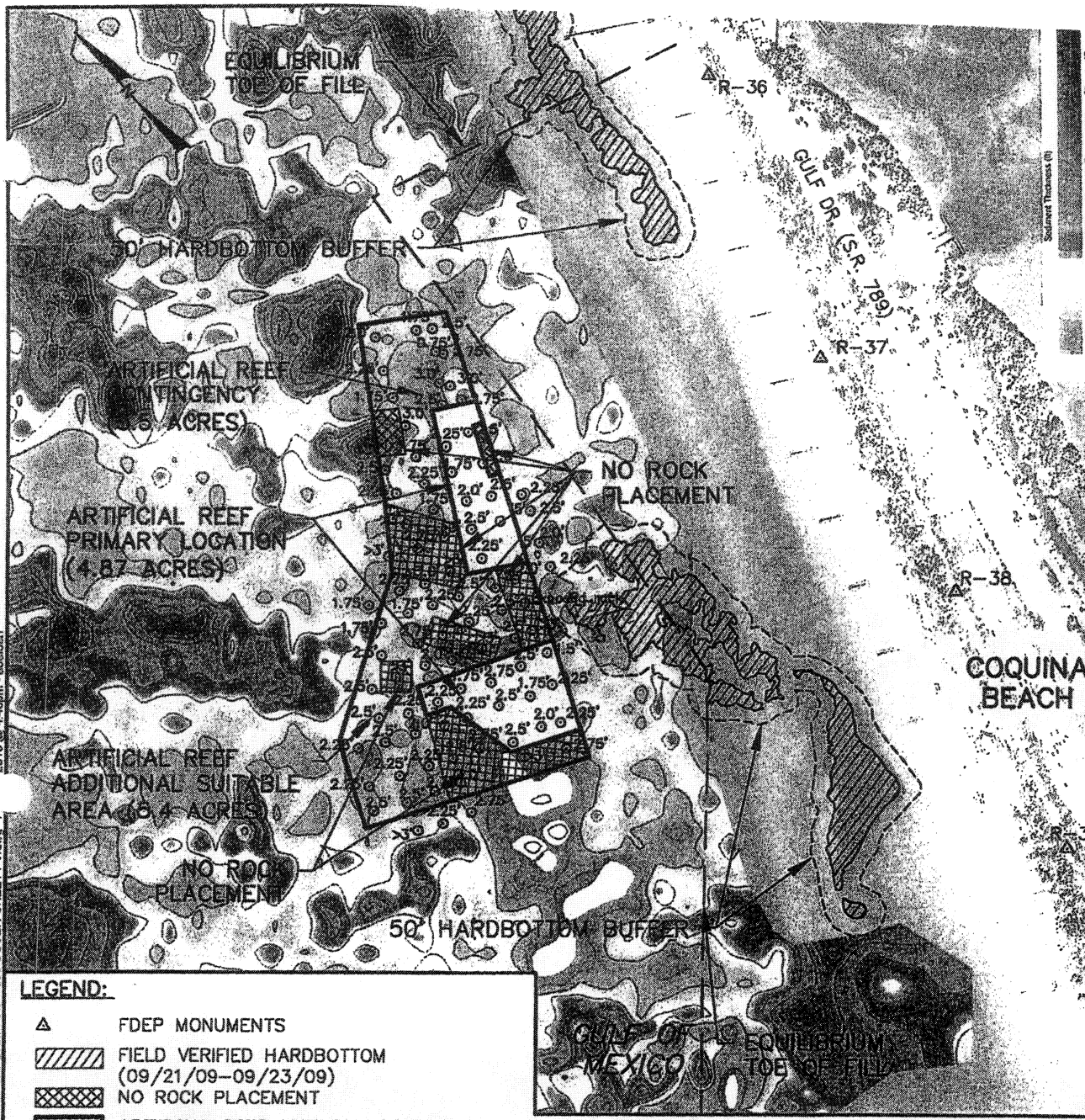
COASTAL PLANNING & ENGINEERING, INC.
 2401 N.W. 30th AVENUE
 BOCA RATON, FLORIDA 33431
 WWW.COASTALPLANNING.COM
 P.O. BOX 301-8102
 FAX (954) 364-8116
 C.O.A. P.L. #0038
 C.O.A. I.A. #0051



DATE: 10/2/09
 BY: JRC
 COMM NO.: 8446.65
 SHEET: 20

2010 @ 4:40pm - abeldan
 1 - Coquina Beach Nourishment Project, WA#14, CO#11CADIPERMITS844665 COVER SHEET, PV.dwg - F6
 P:\manatee\

2010 @ 4:40pm - abalden
55 - Coquina Beach Nourishment Project WA#14 COR1CADIPERMIT#944665 COVER SHEET PV.dwg - F



LEGEND:

- ▲ FDEP MONUMENTS
- ▨ FIELD VERIFIED HARDBOTTOM (09/21/09-09/23/09)
- ▩ NO ROCK PLACEMENT
- ▭ ARTIFICIAL REEF PRIMARY LOCATION
- 2.75' SAND PROBE LOCATIONS AND SAND DEPTH IN FEET (10/8/09)

NOTES:

1. COORDINATES ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).
2. HARDBOTTOM BUFFER BASED ON A 50' MINIMUM OFFSET FROM EXPOSED HARDBOTTOM VERIFIED BY DIVER OBSERVATION (SEPT. 2009).
3. DATE OF AERIAL PHOTOGRAPH: FEBRUARY 2008.
4. COLOR MAP BASED ON SEISMIC SURVEY PERFORMED BY CPE, SEPTEMBER, 2009.

**NOT FOR CONSTRUCTION
OR REGULATORY REVIEW ONLY**

THP

THOMAS P PIERRO P.E. NO. 64683

2/26/2010

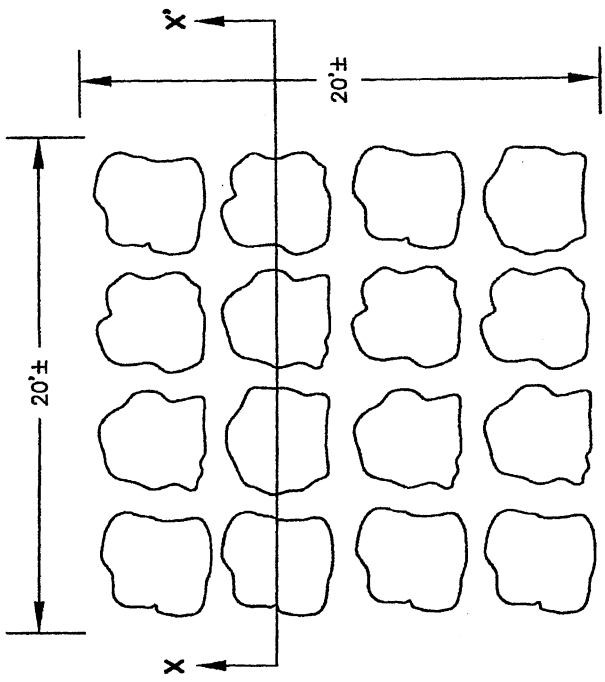
DATE

REVISIONS		
DATE	BY	DESCRIPTION
1/7/10	JRC	RAI #4
2/25/10	AMB	UPDATE PRIMARY LOCATION

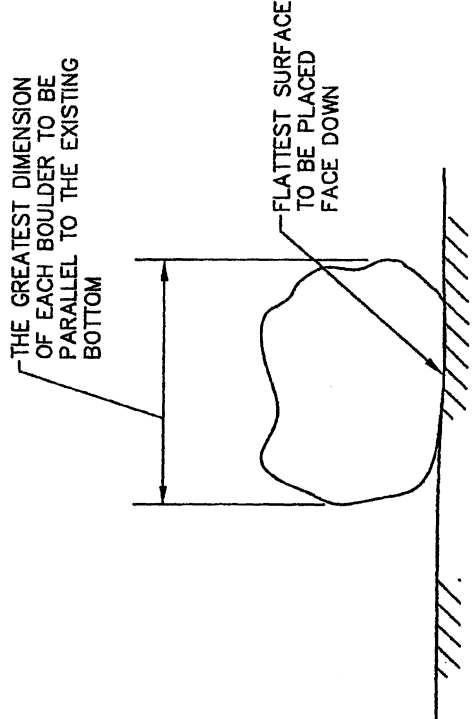
**MANATEE COUNTY, FLORIDA
COQUINA BEACH ARTIFICIAL REEF MITIGATION PROJECT
SEDIMENT THICKNESS MAP**

COASTAL PLANNING & ENGINEERING, INC.
2001 N.W. BOCA RATON BOULEVARD
BOCA RATON, FLORIDA 33433
www.CoastalPlanning.com

DATE:
10/2/09
BY:
JRC
COMM NO.:
8446.65
SHEET:
31



ARTIFICIAL REEF PLAN VIEW DETAIL (TYP.)
SCALE: N.T.S.



BOULDER PLACEMENT ORIENTATION
SCALE: N.T.S.

NOTES:

1. THE CONTRACTOR SHALL NOT WORK OR ANCHOR WITHIN 50 FEET OF ANY EXISTING HARDBOTTOM.
2. ALL BOULDERS SHALL BE PLACED IN A SINGLE LAYER AS CLOSE TOGETHER AS PRACTICAL WITH AN AVERAGE SPACING OF 1.5 FOOT, BUT NOT TO EXCEED 3 FEET. DO NOT STACK BOULDERS. SPACING BETWEEN BOULDERS WILL BE ADJUSTED PRIOR TO CONSTRUCTION BASED ON A SURVEY OF NATURAL HARDBOTTOM TO DETERMINE EXISTING SAND TO ROCK RATIO.
3. BOULDERS SHOULD BE PLACED WITH THE LONGEST DIMENSION OF EACH BOULDER PARALLEL TO THE BOTTOM.
4. PLACE THE FLATTEST OF THE TWO AVAILABLE SURFACES OF EACH BOULDER (SEE NOTE NO. 3) FACE DOWN.
5. PLAN VIEW AND CROSS-SECTION DETAIL PROVIDED FOR ILLUSTRATION OF INTENT OF SPECIFICATION, SOME VARIATION WITHIN ALLOWABLE TOLERANCES IS EXPECTED.

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

THP

THOMAS P PIERRO P.E. NO. 64683

2/26/2010
DATE

REVISIONS		
DATE	BY	DESCRIPTION

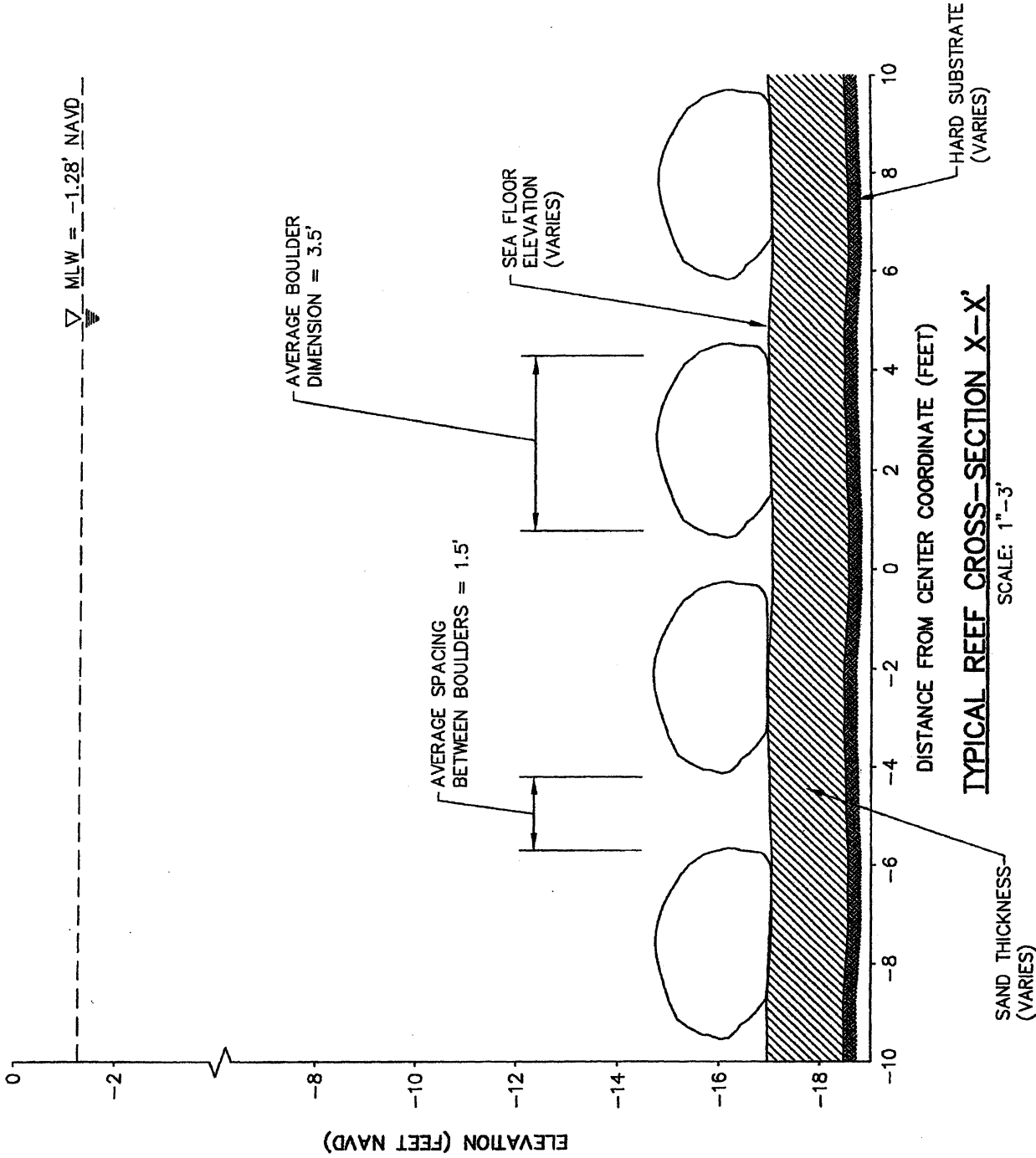
DATE: 10/2/09
BY: RC
COMM NO.: 8446.65
SHEET: 2a

MANATEE COUNTY, FLORIDA
COQUINA BEACH ARTIFICIAL REEF MITIGATION PROJECT
DETAILS

COASTAL PLANNING & ENGINEERING, INC.
2611 WEST BAYVIEW BOULEVARD
SUITE 1000
FORT MYERS, FLORIDA 33901
www.CoastalPlanning.com



▽ MLW = -1.28' NAVD



TYPICAL REEF CROSS-SECTION X-X'

SCALE: 1"=3'

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

THM

THOMAS P PIERRO P.E. NO. 64683

2/26/2010
DATE

REVISIONS		
DATE	BY	DESCRIPTION

DATE: 10/2/09
BY: TM
COMM NO.: 8446.65
SHEET: 23

MANATEE COUNTY, FLORIDA
COQUINA BEACH ARTIFICIAL REEF MITIGATION PROJECT
TYPICAL REEF CROSS-SECTION

COASTAL PLANNING & ENGINEERING, INC.
PH: (813) 331-4192
FAX: (813) 331-4196
C.O.A. FL. #4028
C.O.L. LA. #2851
www.CoastalPlanning.net



Permit No SAJ-2000-03874 (SP-CJW)

Attachment B

USFWS **Biological Opinion**
dated November 16, 2010



United States Department of the Interior

U. S. FISH AND WILDLIFE SERVICE

7915 BAYMEADOWS WAY, SUITE 200
JACKSONVILLE, FLORIDA 32256-7517

IN REPLY REFER TO:

FWS Log No. 41910-2009-F-0456

November 16, 2009

RECEIVED

NOV 19 2009

TAMPA REG.
OFFICE

Colonel Alfred A. Pantano, Jr. District Engineer
Department of the Army
Jacksonville District Corps of Engineers
Tampa Regulatory Office
10117 Princess Palm Drive, Suite 120
Tampa, FL 33610

Dear Colonel Pantano:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion (BO) based on our review of the proposed sand placement on two segments of the beach: Coquina Beach and the City of Anna Maria Island, in Manatee County, Florida, and its effects on the Florida manatee (*Trichechus manatus*), piping plover (*Charadrius melodus*), and loggerhead (*Caretta caretta*) and green (*Chelonia mydas*) sea turtles in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Your July 10, 2009, request for formal consultation was received on July 27, 2009.

This BO is for sand placement along Manatee County on the southern end of the island at Coquina Beach between Florida Department of Environmental Protection (FDEP) monuments R-35 + 790 feet and R-41 + 365 feet, and a portion of the beach in the City of Anna Maria at the northern end of the island between FDEP monuments R-7 to R-10.

The Corps determined that the proposed project may affect but was not likely to adversely affect, the Florida manatee and piping plover. The Corps also amended their determination for the loggerhead and green sea turtles. The Corps determined that the proposed project "may affect and is likely to adversely affect the loggerhead and green sea turtles. The Service concurred with these determinations.

Florida manatee

The Service concurs that, if the Standard Manatee Construction Conditions are implemented, then these activities are not likely to adversely affect the Florida manatee. We also conclude that these activities will not adversely modify its critical habitat. These

findings fulfill section 7 requirements of the Act in regard to manatees. In addition, because no incidental take of manatees is anticipated, no such authorization under the Marine Mammal Protection Act (MMPA) is needed.

Piping plover

The project area has not been consistently surveyed for wintering piping plovers per the Service's monitoring protocol. During the 1991 Florida Winter Piping Plover Census and incidental sighting in October 2009, non-breeding piping plovers were documented in areas within the proximity of the proposed project in Manatee County, Florida.

Natural organic material deposited on the beach (wrack) provides important foraging and roosting habitat for piping plovers and other shorebirds. It also serves to protect important shorebird habitat by helping stabilize beaches through reduction in erosive processes such as eolian sand transport. Protection of wrack can help to offset the direct and indirect impacts associated with beach nourishment and ensuing human disturbance.

The Service met with the applicant and FWC on September 8, 2009, to discuss areas within the project areas where natural organic material (wrack) can remain along the shoreline year-round.

The applicant agreed to the following conservation measures within the proposed project action:

1. The natural accumulation of wrack will remain on the south end of Anna Maria Island year-round (the area of beach along the no-swim area at the southern end of the island, south of R-40 + 410 feet). An exception to this will apply when the health of humans may be affected by events such as red tide and macro-algae blooms. The Service will be contacted when these issues need to be addressed. The Service and FWC will meet with Manatee County to discuss other options for minimizing the wrack removal within the project area if the above option is no longer feasible.
2. Vehicles including all-Terrain Vehicles (ATVs) traversing the beach, used by beach life-guards, beach maintenance employees, turtle watch volunteers and law enforcement will avoid the soft sand areas in the wrack protection zone and follow the FWC's Beach Driving Best Management Practices: (http://www.myfwc.com/CONSERVATION/ConservationYouLiving_w_Wildlife_BeachDriving.htm). Emergency vehicles shall have full access to the beach including the wrack protection zone.
3. Educational signs will be installed highlighting the importance of beach habitats to wildlife and explaining the importance of the wrack along the shoreline. The FWC will provide examples of the information to include on these signs.

Based on the preceding, the Service has determined that the proposed project "may affect but is not likely to adversely affect" the piping plover provided that applicant modified their

project plans to include the above measures to preserve piping plover feeding and roosting habitat within the project area.

Sea Turtles

The Service has determined that the proposed project may affect and is likely to adversely affect nesting loggerhead and green sea turtles. The Service has therefore completed the following BO that addresses the effects of the proposed action on the loggerhead and green sea turtles.

Consultation History

In 1992/93, approximately 2.32 million cubic yards of sand was placed along a 4.6 mile segment of the Anna Maria Island Coastline between FDEP monuments R-12 and R-36.

On June 27, 2001, the Service issued a BO for a Beach Nourishment Project at Anna Maria Island.

From March to May 2002, the first Anna Maria Island Beach Renourishment Project placed approximately 1.9 million cubic yards of sand along 5.2 miles of the Anna Maria Island shoreline. The 2002 project limits included the original 4.6 mile federally authorized and federally funded project area located between FDEP monuments R-12 and R-36. The County also nourished an additional 3,000 feet (previously unnourished) of beach within the City of Anna Maria between FDEP monuments R-7 and R-10.

On October 20, 2002 the Corps issued Permit Number 200003874 (IP-MN) for the city of Anna Maria Beach Renourishment Project extending between FDEP monuments R-7 and R-10.

In 2004, four hurricanes impacted the State of Florida. Two of the four hurricanes had a direct impact on Anna Maria Island. The wind and wave conditions associated with these storms accelerated the natural beach erosion process. The Corps, under Public Law 84-99 (PL 84-99), allocated emergency funds throughout the State of Florida for beach fill placement to replace the beach fill lost during the severe 2004 hurricane season.

On June 15, 2005, the Service issues a BO (05-1227) for the renourishment of 4.7 miles of beach on Anna Maria Island from FDEP monument R-12 to R-36. On December 7, 2005, the Service modified this BO to include 3000 linear feet of additional nourishment from FDEP monument R-7 to R-10 (41910-2006-F-0079).

On July 27, 2009, the Service received a letter from the Corps requesting concurrence of a "may affect, not likely to adversely affect" for nesting sea turtles. On August 6, 2009, the Service responded via email to the Corps, with an explanation of the impacts of nourishments to nesting and hatching sea turtles. On August 14, 2009, the Service received an email from the Corps, amending their determination to "may affect, likely to adversely affect" sea turtles. The Service concurred with this determination.

On September 8, 2009, the Service, FWC, applicant, and the Corps met on-site to discuss the specifics of the project.

The Service had sufficient information to issue this BO for the proposed project. Information for this BO was obtained by email correspondence, meetings, site visits, telephone conversations and other sources of information. A complete administrative record of this consultation is on file at the Service's Jacksonville Field Office.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The Applicant has proposed to place approximately 169,000 cubic yards (cy) of beach compatible material along approximately 1.0 mile of Coquina Beach and to place approximately 25,000 cy of beach quality material along 0.6 miles of the City of Anna Maria segment of beach. The constructed beach will include a berm elevation of +4 feet NAVD on a slope of 1 foot vertical to 15 feet horizontal. The County proposes to use sand from a borrow area located approximately 3,000 feet west of the north end of Anna Maria Island. The borrow area contains sediment similar to the existing beach sediment.

The Applicant proposes to use sand taken from Longboat Pass navigation channel and ebb tidal shoal for the Coquina Beach segment of the project; and sand from the previously authorized borrow area at the north end of the island being used as the source of material for the City of Anna Maria project. CPE will conduct a detailed geophysical investigation, including sub-bottom profiling, at the proposed Longboat Pass sand sources in the near future to support the request for sand source delineation.

Material transport from the borrow areas to the project site will occur through a series of submerged, floating and shore-supported pipelines connected to a hydraulic cutterhead dredge. Once deposition of material occurs at the fill site, the contractor will move the sand using heavy equipment to shape the beach to the design cross-sections.

Conservation Measures

Sea Turtles

1. FWC and the local sponsor have an agreement to conduct sea turtle monitoring for a minimum of two additional nesting seasons after nourishment event if placed sand remains.

STATUS OF THE SPECIES/CRITICAL HABITAT

The Service has responsibility for implementing recovery of sea turtles when they come ashore to nest. This BO addresses nesting sea turtles, their nests and eggs, and hatchlings as they emerge from the nest and crawl to the sea. The National Oceanic and Atmospheric

Administration's National Marine Fisheries Service (NMFS) has jurisdiction over sea turtles in the marine environment.

Loggerhead Sea Turtle

The loggerhead sea turtle was federally listed as a threatened species on July 28, 1978 (43 FR 32800). The loggerhead occurs throughout the temperate and tropical regions of the Atlantic, Pacific, and Indian Oceans.

The loggerhead sea turtle grows to an average weight of about 200 pounds and is characterized by a large head with blunt jaws. Adults and subadults have a reddish-brown carapace. Scales on the top of the head and top of the flippers are also reddish-brown with yellow on the borders. Hatchlings are a dull brown color (NMFS 2002a). The loggerhead feeds on mollusks, crustaceans, fish, and other marine animals.

The loggerhead occurs throughout the temperate and tropical regions of the Atlantic, Pacific, and Indian Oceans. It may be found hundreds of miles out to sea, as well as in inshore areas such as bays, lagoons, salt marshes, creeks, ship channels, and the mouths of large rivers. Coral reefs, rocky places, and ship wrecks are often used as feeding areas.

Within the Northwest Atlantic, the majority of nesting activity occurs from April through September, with a peak in June and July (Williams-Walls *et al.* 1983, Dodd 1988, Weishampel *et al.* 2006). Nesting occurs within the Northwest Atlantic along the coasts of North America, Central America, northern South America, the Antilles, Bahamas, and Bermuda, but is concentrated in the southeastern U.S. and on the Yucatán Peninsula in Mexico on open beaches or along narrow bays having suitable sand (Sternberg 1981, Ehrhart 1989, Ehrhart *et al.* 2003, NMFS and FWS 2008).

No critical habitat has been designated for the loggerhead sea turtle.

Green Sea Turtle

The green sea turtle was federally listed as on July 28, 1978 (43 FR 32800). Breeding populations of the green turtle in Florida and along the Pacific Coast of Mexico are listed as endangered; all other populations are listed as threatened. The green sea turtle has a worldwide distribution in tropical and subtropical waters.

The green sea turtle grows to a maximum size of about 4 feet and a weight of 440 pounds. It has a heart-shaped shell, small head, and single-clawed flippers. The carapace is smooth and colored gray, green, brown and black. Hatchlings are black on top and white on the bottom (NMFS 2002b). Hatchling green turtles eat a variety of plants and animals, but adults feed almost exclusively on seagrasses and marine algae.

Major green turtle nesting colonies in the Atlantic occur on Ascension Island, Aves Island, Costa Rica, and Surinam. Within the U.S., green turtles nest in small numbers in the U.S. Virgin Islands and Puerto Rico, and in larger numbers along the east coast of Florida,

particularly in Brevard, Indian River, St. Lucie, Martin, Palm Beach, and Broward Counties (NMFS and Service 1991a). Nesting also has been documented along the Gulf coast of Florida from Escambia County through Franklin County in northwest Florida and from Pinellas County through Collier County in southwest Florida (FWC Statewide Nesting Beach Survey database). Green turtles have been known to nest in Georgia, but only on rare occasions (Georgia Department of Natural Resources statewide nesting database). The green turtle also nests sporadically in North Carolina and South Carolina (North Carolina Wildlife Resources Commission statewide nesting database; South Carolina Department of Natural Resources statewide nesting database). Unconfirmed nesting of green turtles in Alabama has also been reported (Bon Secour National Wildlife Refuge nesting reports).

Green sea turtles are generally found in fairly shallow waters (except when migrating) inside reefs, bays, and inlets. The green turtle is attracted to lagoons and shoals with an abundance of marine grass and algae. Open beaches with a sloping platform and minimal disturbance are required for nesting.

Critical habitat for the green sea turtle has been designated for the waters surrounding Culebra Island, Puerto Rico, and its outlying keys.

Life history

Loggerhead Sea Turtle

Loggerheads are long-lived, slow-growing animals that use multiple habitats across entire ocean basins throughout their life history. This complex life history encompasses terrestrial, nearshore, and open ocean habitats. The three basic ecosystems in which loggerheads live are the:

1. Terrestrial zone (supralittoral) - the nesting beach where both oviposition (egg laying) and embryonic development and hatching occur.
2. Neritic zone - the inshore marine environment (from the surface to the sea floor) where water depths do not exceed 656 feet . The neritic zone generally includes the continental shelf, but in areas where the continental shelf is very narrow or nonexistent, the neritic zone conventionally extends to areas where water depths are less than 656 feet.
3. Oceanic zone - the vast open ocean environment (from the surface to the sea floor) where water depths are greater than 656 feet.

Maximum intrinsic growth rates of sea turtles are limited by the extremely long duration of the juvenile stage and fecundity. Loggerheads require high survival rates in the juvenile and adult stages, common constraints critical to maintaining long-lived, slow-growing species, to achieve positive or stable long-term population growth (Congdon et al. 1993; Heppell 1998; Crouse 1999; Heppell et al. 1999, 2003; Musick 1999).

The generalized life history of Atlantic loggerheads is shown in Figure 1 (from Bolten 2003).

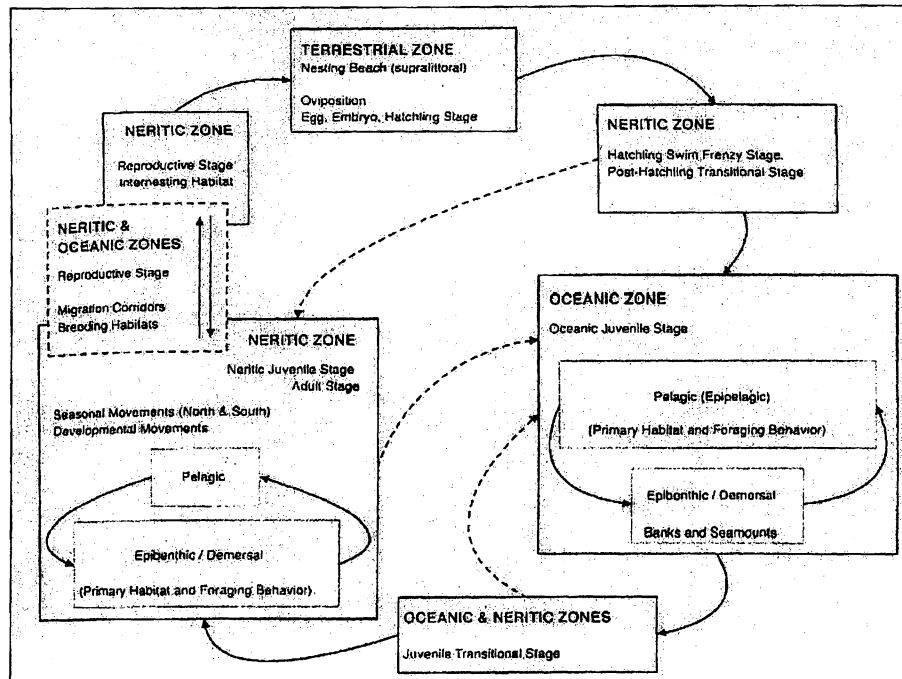


Figure 1. Life history stages of a loggerhead turtle. The boxes represent life stages and the corresponding ecosystems, solid lines represent movements between life stages and ecosystems, and dotted lines are speculative (Bolten 2003).

Numbers of nests and nesting females are often highly variable from year to year due to a number of factors including environmental stochasticity, periodicity in ocean conditions, anthropogenic effects, and density-dependent and density-independent factors affecting survival, somatic growth, and reproduction (Meylan 1982, Hays 2000, Chaloupka 2001, Solow et al. 2002). Despite these sources of variation, and because female turtles exhibit strong nest site fidelity, a nesting beach survey can provide a valuable assessment of changes in the adult female population, provided that the study is sufficiently long and effort and methods are standardized (Meylan 1982, Gerrodette and Brandon 2000, Reina et al. 2002). Table 1 summarizes key life history characteristics for loggerheads nesting in the U.S.

Table 1. Typical values of life history parameters for loggerheads nesting in the U.S. (NMFS and Service 2008).

Life History Trait	Data
Clutch size (mean)	100-126 eggs ¹
Incubation duration (varies depending on time of year and latitude)	Range = 42-75 days ^{2,3}
Pivotal temperature (incubation temperature that produces an equal number of males and females)	29.0°C ⁵
Nest productivity (emerged hatchlings/total eggs) x 100 (varies depending on site specific factors)	45-70percent ^{2,6}
Clutch frequency (number of nests/female/season)	3-4 nests ⁷
Interesting interval (number of days between successive nests within a season)	12-15 days ⁸
Juvenile (<87 cm CCL) sex ratio	65-70percent female ⁴
Remigration interval (number of years between successive nesting migrations)	2.5-3.7 years ⁹
Nesting season	late April-early September
Hatching season	late June-early November
Age at sexual maturity	32-35 years ¹⁰
Life span	>57 years ¹¹

¹ Dodd 1988.

² Dodd and Mackinnon (1999, 2000, 2001, 2002, 2003, 2004).

³ B. Witherington, FWC, pers. comm. 2006 (information based on nests monitored throughout Florida beaches in 2005, n=865).

⁴ National Marine Fisheries Service (2001); A. Foley, FWC, pers. comm. 2005.

⁵ Mrosovsky (1988).

⁶ B. Witherington, FWC, pers. comm. 2006 (information based on nests monitored throughout Florida beaches in 2005, n=1,680).

⁷ Murphy and Hopkins (1984); Frazer and Richardson (1985); Ehrhart, unpublished data; Hawkes *et al.* 2005; Scott 2006; Tony Tucker, Mote Marine Laboratory, personal communication, 2008.

⁸ Caldwell (1962), Dodd (1988).

⁹ Richardson *et al.* (1978); Bjorndal *et al.* (1983); Ehrhart, unpublished data.

¹⁰ M. Snover, NMFS, pers. comm. 2005.

¹¹ Dahlen *et al.* (2000).

Loggerheads nest on ocean beaches and occasionally on estuarine shorelines with suitable sand. Nests are typically laid between the high tide line and the dune front (Routa 1968,

Witherington 1986, Hailman and Elowson 1992). Wood and Bjorndal (2000) evaluated four environmental factors (slope, temperature, moisture, and salinity) and found that slope had the greatest influence on loggerhead nest-site selection on a beach in Florida. Loggerheads appear to prefer relatively narrow, steeply sloped, coarse-grained beaches, although nearshore contours may also play a role in nesting beach site selection (Provancha and Ehrhart 1987).

The warmer the sand surrounding the egg chamber, the faster the embryos develop (Mrosovsky and Yntema 1980). Sand temperatures prevailing during the middle third of the incubation period also determine the sex of hatchling sea turtles (Mrosovsky and Yntema 1980). Incubation temperatures near the upper end of the tolerable range produce only female hatchlings while incubation temperatures near the lower end of the tolerable range produce only male hatchlings.

Loggerhead hatchlings pip and escape from their eggs over a 1- to 3-day interval and move upward and out of the nest over a 2- to 4-day interval (Christens 1990). The time from pipping to emergence ranges from 4 to 7 days with an average of 4.1 days (Godfrey and Mrosovsky 1997). Hatchlings emerge from their nests en masse almost exclusively at night, and presumably using decreasing sand temperature as a cue (Hendrickson 1958, Mrosovsky 1968, Witherington et al. 1990). Moran *et al.* (1999) concluded that a lowering of sand temperatures below a critical threshold, which most typically occurs after nightfall, is the most probable trigger for hatchling emergence from a nest. After an initial emergence, there may be secondary emergences on subsequent nights (Carr and Ogren 1960, Witherington 1986, Ernest and Martin 1993, Houghton and Hays 2001).

Hatchlings use a progression of orientation cues to guide their movement from the nest to the marine environments where they spend their early years (Lohmann and Lohmann 2003). Hatchlings first use light cues to find the ocean. On naturally lighted beaches without artificial lighting, ambient light from the open sky creates a relatively bright horizon compared to the dark silhouette of the dune and vegetation landward of the nest. This contrast guides the hatchlings to the ocean (Daniel and Smith 1947, Limpus 1971, Salmon et al. 1992, Witherington 1997, Witherington and Martin 1996, Stewart and Wyneken 2004).

Loggerheads in the Northwest Atlantic display complex population structure based on life history stages. Based on mtDNA, oceanic juveniles show no structure, neritic juveniles show moderate structure, and nesting colonies show strong structure (Bowen *et al.* 2005). In contrast, a survey using microsatellite (nuclear) markers showed no significant population structure among nesting populations (Bowen *et al.* 2005), indicating that while females exhibit strong philopatry, males may provide an avenue of gene flow between nesting colonies in this region.

Green Sea Turtle

Green turtles deposit from one to nine clutches within a nesting season, but the overall average is about 3.3 nests. The interval between nesting events within a season varies around a mean of about 13 days (Hirth 1997). Mean clutch size varies widely among

populations. Average clutch size reported for Florida was 136 eggs in 130 clutches (Witherington and Ehrhart 1989). Only occasionally do females produce clutches in successive years. Usually two, three, four or more years intervene between breeding seasons (NMFS and Service 1991a). Age at sexual maturity is believed to be 20 to 50 years (Hirth 1997).

Population dynamics

Loggerhead Sea Turtle

The loggerhead occurs throughout the temperate and tropical regions of the Atlantic, Pacific, and Indian Oceans. However, the majority of loggerhead nesting is at the western rims of the Atlantic and Indian Oceans. The most recent reviews show that only two loggerhead nesting beaches have greater than 10,000 females nesting per year (Baldwin et al. 2003, Ehrhart et al. 2003, Kamezaki et al. 2003, Limpus and Limpus 2003, Margaritoulis et al. 2003): South Florida (U.S.) and Masirah (Oman). Those beaches with 1,000 to 9,999 females nesting each year are Georgia through North Carolina (U.S.), Quintana Roo and Yucatán (Mexico), Cape Verde Islands (Cape Verde, eastern Atlantic off Africa), and Western Australia (Australia). Smaller nesting aggregations with 100 to 999 nesting females annually occur in the Northern Gulf of Mexico (U.S.), Dry Tortugas (U.S.), Cay Sal Bank (Bahamas), Sergipe and Northern Bahia (Brazil), Southern Bahia to Rio de Janeiro (Brazil), Tongaland (South Africa), Mozambique, Arabian Sea Coast (Oman), Halaniyat Islands (Oman), Cyprus, Peloponnesus (Greece), Island of Zakynthos (Greece), Turkey, Queensland (Australia), and Japan.

The loggerhead is commonly found throughout the North Atlantic including the Gulf of Mexico, the northern Caribbean, the Bahamas archipelago, and eastward to West Africa, the western Mediterranean, and the west coast of Europe.

The major nesting concentrations in the U.S. are found in South Florida. However, loggerheads nest from Texas to Virginia. Total estimated nesting in the U.S. has fluctuated between 49,000 and 90,000 nests per year from 1999-2008 (FWC, unpublished data; GDNR, unpublished data; SCDNR, unpublished data; NCWRC, unpublished data). About 80 percent of loggerhead nesting in the southeast U.S. occurs in six Florida counties (Brevard, Indian River, St. Lucie, Martin, Palm Beach, and Broward Counties). Adult loggerheads are known to make considerable migrations between foraging areas and nesting beaches (Schroeder et al. 2003, Foley et al. 2008). During non-nesting years, adult females from U.S. beaches are distributed in waters off the eastern U.S. and throughout the Gulf of Mexico, Bahamas, Greater Antilles, and Yucatán.

From a global perspective, the U.S. nesting aggregation is of paramount importance to the survival of the species as is the population that nests on islands in the Arabian Sea off Oman (Ross 1982, Ehrhart 1989). The status of the Oman loggerhead nesting population, reported to be the largest in the world (Ross 1979), is uncertain because of the lack of long-term standardized nesting or foraging ground surveys and its vulnerability to increasing development pressures near major nesting beaches and threats from fisheries interaction on

foraging grounds and migration routes (E. Possardt, Service, personal communication 2005). The loggerhead nesting aggregations in Oman and the U.S. account for the majority of nesting worldwide.

Green Sea Turtle

About 150 to 3,000 females are estimated to nest on beaches in the continental U.S. annually (FWC 2005). In the U.S. Pacific, over 90 percent of nesting throughout the Hawaiian archipelago occurs at the French Frigate Shoals, where about 200 to 700 females nest each year (NMFS and Service 1998a). Elsewhere in the U.S. Pacific, nesting takes place at scattered locations in the Commonwealth of the Northern Marianas, Guam, and American Samoa. In the western Pacific, the largest green turtle nesting aggregation in the world occurs on Raine Island, Australia, where thousands of females nest nightly in an average nesting season (Limpus et al. 1993). In the Indian Ocean, major nesting beaches occur in Oman where 30,000 females are reported to nest annually (Ross and Barwani 1995).

Status and Distribution

Loggerhead Sea turtle

Five recovery units (subpopulations) have been identified in the Northwest Atlantic based on genetic differences and a combination of geographic distribution of nesting densities and geographic separation (NMFS and FWS 2008):

1. Northern Recovery Unit (NRU) - defined as loggerheads originating from nesting beaches from the Florida-Georgia border through southern Virginia (the northern extent of the nesting range).
2. Peninsula Florida Recovery Unit (PFRU) - defined as loggerheads originating from nesting beaches from the Florida-Georgia border through Pinellas County on the west coast of Florida, excluding the islands west of Key West, Florida.
3. Dry Tortugas Recovery Unit (DTRU) - defined as loggerheads originating from nesting beaches throughout the islands located west of Key West, Florida.
4. Northern Gulf of Mexico Recovery Unit (NGMRU) - defined as loggerheads originating from nesting beaches from Franklin County on the northwest Gulf coast of Florida through Texas.
5. Greater Caribbean Recovery Unit (GCRU) - composed of loggerheads originating from all other nesting assemblages within the Greater Caribbean (Mexico through French Guiana, The Bahamas, Lesser Antilles, and Greater Antilles).

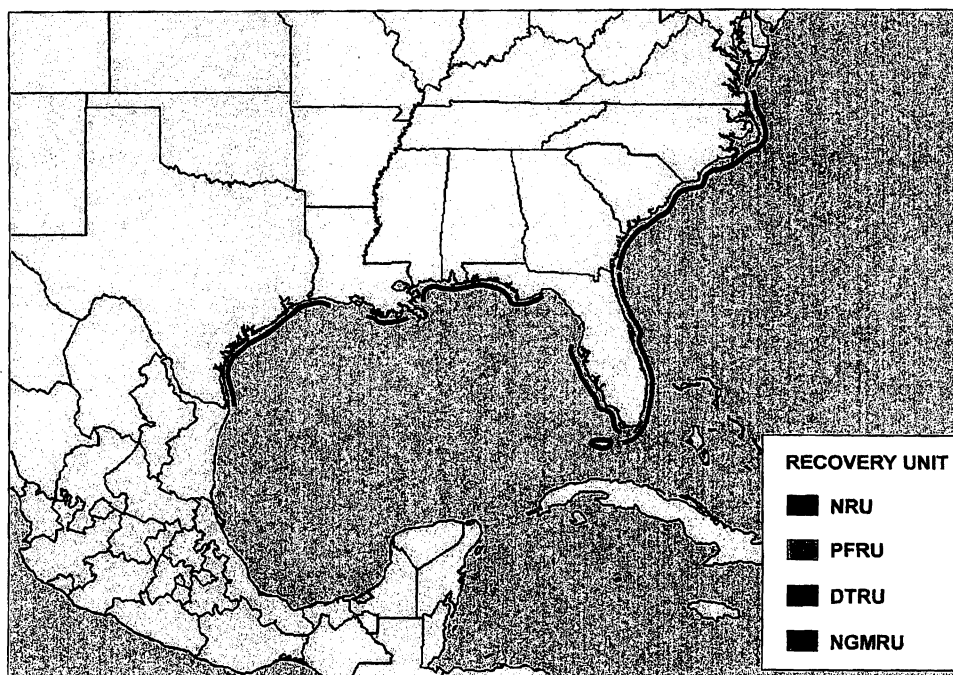


Figure 2. Map of the distribution of the loggerhead recovery units.

Mitochondrial DNA analyses show that there is limited exchange of females among these recovery units (Ehrhart 1989; Foote et al., 2000; Hawkes et al. 2005; J. Richardson, personal communication cited in NMFS 2001). Based on the number of haplotypes, the highest level of loggerhead mtDNA genetic diversity in the Northwest Atlantic has been observed in females of the Greater Caribbean Recovery Unit that nest at Quintana Roo, Mexico (Encalada et al. 1999; Nielsen et al. in press).

Nuclear DNA analyses show that there are no substantial subdivisions across the loggerhead nesting colonies in the southeastern United States. Male-mediated gene flow appears to be keeping the subpopulations genetically similar on a nuclear DNA level (Francisco-Pearce 2001).

Historically, the literature has suggested that the northern U.S. nesting beaches (NRU and NGMRU) produce a relatively high percentage of males and the more southern nesting beaches (PFRU, DTRU, and GCRU) a relatively high percentage of females (e.g., Hanson et al. 1998; NMFS 2001; Mrosovsky and Provanca 1989). The NRU and NGMRU were believed to play an important role in providing males to mate with females from the more female-dominated subpopulations to the south. However, in 2002 and 2003, researchers studied loggerhead sex ratios for two of the U.S. nesting subpopulations, the northern and

southern subpopulations (NGU and PFRU, respectively) (Blair 2005; Wyneken et al. 2005). The study produced interesting results. In 2002, the northern beaches produced more females and the southern beaches produced more males than previously believed. However, the opposite was true in 2003 with the northern beaches producing more males and the southern beaches producing more females in keeping with prior literature. Wyneken et al. (2005) speculated that the 2002 result may have been anomalous; however, the study did point out the potential for males to be produced on the southern beaches. Although this study revealed that more males may be produced on southern recovery unit beaches than previously believed, the Service maintains that the NRU and NGMRU play an important role in the production of males to mate with females from the more southern recovery units.

The NRU is the second largest loggerhead nesting aggregation in the Northwest Atlantic. Annual nest totals from northern beaches averaged 5,215 nests from 1989-2008, a period of near-complete surveys of NRU nesting beaches (Georgia Department of Natural Resources, unpublished data; North Carolina Wildlife Resources Commission, unpublished data, South Carolina Department of Natural Resources, unpublished data), representing approximately 1,272 nesting females per year (4.1 nests per female, Murphy and Hopkins 1984). The loggerhead nesting trend from daily beach surveys showed a significant decline of 1.3percent annually. Nest totals from aerial surveys conducted by the South Carolina Department of Natural Resources showed a 1.9percent annual decline in nesting in South Carolina since 1980. Overall, there is strong statistical data to suggest the NRU has experienced a long-term decline.

The PFRU is the largest loggerhead nesting assemblage in the Northwest Atlantic. A near-complete nest census of the PFRU undertaken from 1989 to 2007 reveals a mean of 64,513 loggerhead nests per year representing approximately 15,735 females nesting per year (4.1 nests per female, Murphy and Hopkins 1984) (Commission, unpublished data). This near-complete census provides the best statewide estimate of total abundance, but because of variable survey effort, these numbers cannot be used to assess trends. Loggerhead nesting trends are best assessed using standardized nest counts made at Index Nesting Beach Survey (INBS) sites surveyed with constant effort over time. An analysis of these data has shown a decline in nesting from 1989-2008 (Witherington et al. 2009). The analysis that reveals this decline uses nest-count data from 345 representative Atlantic-coast index zones (total length = 301 km) and 23 representative zones on Florida's southern Gulf coast (total length = 23 km). The spatial and temporal coverage (annually, 109 days and 368 zones) accounted for an average of 70percent of statewide loggerhead nesting activity between 1989 and 2008. Negative binomial regression models that fit restricted cubic spline curves to aggregated nest-counts were used in trend evaluations. Results of the analysis indicated that there had been a decrease of 26 percent over the 20-year period and a 41 percent decline since 1998. The mean annual rate of decline for the 20-year period was 1.6 percent.

The NGMRU is the third largest nesting assemblage among the four U.S. recovery units. Nesting surveys conducted on approximately 300 km of beach within the NGMRU (Alabama and Florida only) were undertaken between 1995 and 2007 (statewide surveys in Alabama began in 2002). The mean nest count during this 13-year period was 906 nests per year, which equates to about 221 females nesting per year (4.1 nests per female, Murphy

and Hopkins 1984) (Commission, unpublished data). Evaluation of long-term nesting trends for the NGMRU is difficult because of changed and expanded beach coverage. Loggerhead nesting trends are best assessed using standardized nest counts made at INBS sites surveyed with constant effort over time. There are 12 years (1997-2008) of Florida INBS data for the NGMRU (Commission, unpublished data). A log-linear regression showed a significant declining trend of 4.7percent annually.

The DTRU, located west of the Florida Keys, is the smallest of the identified recovery units. A near-complete nest census of the DTRU undertaken from 1995 to 2004, excluding 2002, (9 years surveyed) reveals a mean of 246 nests per year, which equates to about 60 females nesting per year (4.1 nests per female, Murphy and Hopkins 1984) (Commission, unpublished data). Surveys after 2004 did not include principal nesting beaches within the recovery unit (i.e., Dry Tortugas National Park). The nesting trend data for the DTRU are from beaches that are not part of the INBS program but are part of the Statewide Nesting Beach Survey (SNBS) program. There are 9 years of data for this recovery unit. A simple linear regression accounting for temporal autocorrelation revealed no trend in nesting numbers. Because of the annual variability in nest totals, a longer time series is needed to detect a trend.

The GCRU is composed of all other nesting assemblages of loggerheads within the Greater Caribbean. Statistically valid analyses of long-term nesting trends for the entire GCRU are not available because there are few long-term standardized nesting surveys representative of the region. Additionally, changing survey effort at monitored beaches and scattered and low-level nesting by loggerheads at many locations currently precludes comprehensive analyses. The most complete data are from Quintana Roo and Yucatán, Mexico, where an increasing trend was reported over a 15-year period from 1987-2001 (Zurita et al. 2003). However, since 2001, nesting has declined and the previously reported increasing trend appears not to have been sustained (Julio Zurita, personal communication, 2006). Other smaller nesting populations have experienced declines over the past few decades (e.g., Amorocho 2003).

Recovery Criteria

DEMOGRAPHIC RECOVERY CRITERIA:

1. Number of Nests and Number of Nesting Females
 - a. Northern Recovery Unit
 - (1) There is statistical confidence (95percent) that the annual rate of increase over a generation time of 50 years is 2percent or greater resulting in a total annual number of nests of 14,000 or greater for this recovery unit (approximate distribution of nests is NC=14percent [2,000], SC=66percent [9,200], and GA=20percent [2,800]).
 - (2) This increase in number of nests must be a result of corresponding increases in number of nesting females (estimated from nests, clutch frequency, and remigration interval).

b. Peninsular Florida Recovery Unit

- (1) There is statistical confidence (95percent) that the annual rate of increase over a generation time of 50 years is statistically detectable (1percent) resulting in a total annual number of nests of 106,100 or greater for this recovery unit.
- (2) This increase in number of nests must be a result of corresponding increases in number of nesting females (estimated from nests, clutch frequency, and remigration interval).

c. Dry Tortugas Recovery Unit

- (1) There is statistical confidence (95percent) that the annual rate of increase over a generation time of 50 years is 3percent or greater resulting in a total annual number of nests of 1,100 or greater for this recovery unit.
- (2) This increase in number of nests must be a result of corresponding increases in number of nesting females (estimated from nests, clutch frequency, and remigration interval).

d. Northern Gulf of Mexico Recovery Unit

- (1) There is statistical confidence (95percent) that the annual rate of increase over a generation time of 50 years is 3percent or greater resulting in a total annual number of nests of 4,000 or greater for this recovery unit (approximate distribution of nests (2002-2007) is FL= 92percent [3,700] and AL=8percent [300]).
- (2) This increase in number of nests must be a result of corresponding increases in number of nesting females (estimated from nests, clutch frequency, and remigration interval).

e. Greater Caribbean Recovery Unit

- (1) The total annual number of nests at a minimum of three nesting assemblages, averaging greater than 100 nests annually (e.g., Yucatán, Mexico; Cay Sal Bank, The Bahamas) has increased over a generation time of 50 years.
- (2) This increase in number of nests must be a result of corresponding increases in number of nesting females (estimated from nests, clutch frequency, and remigration interval).

2. Trends in Abundance on Foraging Grounds

A network of in-water sites, both oceanic and neritic, distributed across the foraging range is established and monitoring is implemented to measure abundance. There is statistical confidence (95percent) that a composite estimate of relative abundance from these sites is increasing for at least one generation.

3. Trends in Neritic Strandings Relative to In-water Abundance

Stranding trends are not increasing at a rate greater than the trends in in-water relative abundance for similar age classes for at least one generation.

LISTING FACTOR RECOVERY CRITERIA:

1. Present or Threatened Destruction, Modification, or Curtailment of a Species Habitat or Range

a. Terrestrial

- (1) Beach armoring, shoreline stabilization structures, and all other barriers to nesting are categorized and inventoried for areas under U.S. jurisdiction. A peer-reviewed strategy is developed and implemented to ensure that the percentage of nesting beach free of barriers to nesting is stable or increasing relative to baseline levels.
- (2) Beach sand placement projects conducted in areas under U.S. jurisdiction are in compliance with state and FWS criteria and are conducted in a manner that accommodates loggerhead needs and does not degrade or eliminate nesting habitat.
- (3) At least 982 miles of loggerhead nesting beaches and adjacent uplands (current amount as identified in Appendix 4) under U.S. jurisdiction are maintained within conservation lands in public (Federal, state, or local) or private (NGO and private conservation lands) ownership that are managed in a manner compatible with sea turtle nesting.
- (4) A peer-reviewed model is developed that describes the effects of sea level rise on loggerhead nesting beaches, and steps have been taken to mitigate such effects.
- (5) Nesting beaches outside U.S. jurisdiction are managed for compatibility with loggerhead nesting.

b. Marine (estuarine, neritic, and oceanic)

A peer-reviewed, comprehensive strategy is developed and implemented to identify, prioritize, and protect marine habitats (e.g., feeding, migratory, inter-nesting) important to loggerheads.

2. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

- a. Legal harvest (both commercial and subsistence) in the Caribbean, Atlantic, and Mediterranean is identified and quantified. A strategy is developed and implemented to eliminate legal harvest through international agreements.
- b. A scientifically based nest management plan outlining strategies for protecting nests (under U.S. jurisdiction) from natural and manmade impacts is developed and implemented.

3. Disease or Predation

- a. Ecologically sound predator control programs are implemented to ensure that the annual rate of mammalian predation on nests (under U.S. jurisdiction) is 10percent or below within each recovery unit based on standardized surveys.
- b. A peer-reviewed strategy is developed to recognize, respond to, and investigate mass/unusual mortality or disease events.

4. Inadequacy of Existing Regulatory Mechanisms

- a. Light management plans, which meet minimum standards identified in the Florida Model Lighting Ordinance (Florida Administrative Code Rule 62B-55), are developed, fully implemented, and effectively enforced on nesting beaches under U.S. jurisdiction. Annual percentage of total nests with hatchlings disoriented or misoriented by artificial lighting does not exceed 10percent based on standardized surveys.
- b. Specific and comprehensive Federal legislation is developed, promulgated, implemented, and enforced to ensure long-term (including post-delisting) protection of loggerheads and their terrestrial and marine habitats, including protection from fishery interactions.
- c. State and local legislation is developed and/or maintained, promulgated, implemented, and enforced to ensure long-term (including post-delisting) protection of loggerheads and their terrestrial and marine habitats, including protection from fishery interactions.
- d. Foreign nations with significant loggerhead foraging or migratory habitat have implemented national legislation and have acceded to international and multi-lateral agreements to ensure long-term protection of loggerheads and their habitats. Nations that have important foraging or migratory habitat include Canada, Mexico, Cuba, The Bahamas, Turks and Caicos Islands, Nicaragua, Panama, Colombia, Spain, Portugal, Morocco, and Cape Verde Islands.
- e. Nations that conduct activities affecting loggerheads in foraging or migratory habitats in the North Atlantic Basin and the western Mediterranean have implemented national legislation and have acceded to international and multi-lateral agreements to ensure long-term protection of loggerheads and their habitats throughout the high seas and in foreign EEZs.

5. Other Natural or Manmade Factors Affecting Its Continued Existence

- a. A peer-reviewed strategy is developed and fully implemented to minimize fishery interactions and mortality for each domestic commercial fishing gear type that has loggerhead bycatch.
- b. A peer-reviewed strategy is developed and fully implemented in cooperation with relevant nations to minimize fishery interactions and mortality of loggerheads in foreign EEZs and on the high seas.
- c. A peer-reviewed strategy is developed and fully implemented to quantify, monitor, and minimize effects of trophic changes on loggerheads (e.g., diet, growth rate, fecundity) from fishery harvests and habitat alterations.
- d. A peer-reviewed strategy is developed and fully implemented to quantify, monitor, and minimize the effects of marine debris ingestion and entanglement in U.S. territorial waters, the U.S. EEZ, foreign EEZs, and the high seas.
- e. A peer-reviewed strategy is developed and fully implemented to minimize vessel strike mortality in U.S. territorial waters and the U.S. EEZ.

Green Turtle

Nesting data collected as part of the Florida SNBS program (2000-2006) show that a mean of approximately 5,600 nests are laid each year in Florida. Nesting occurs in 26 counties with a peak along the east coast, from Volusia through Broward Counties. The green turtle nesting population of Florida (Florida green turtle) is increasing based on 19 years (1989-2007) of INBS data from throughout the state. The increase in nesting in Florida is likely a result of several factors, including: (1) a Florida statute enacted in the early 1970s that prohibited the killing of green turtles in Florida; (2) the species listing under the ESA in 1973, affording complete protection to eggs, juveniles, and adults in all U.S. waters; (3) the passage of Florida's constitutional net ban amendment in 1994 and its subsequent enactment, making it illegal to use any gillnets or other entangling nets in state waters; (4) the likelihood that the majority of Florida adult green turtles reside within Florida waters where they are fully protected; (5) the protections afforded Florida green turtles while they inhabit the waters of other nations that have enacted strong sea turtle conservation measures (e.g., Bermuda); and (6) the listing of the species on Appendix I of Convention on International Trade of Endangered Species (CITES), which stopped international trade and reduced incentives for illegal trade from the U.S.

Recovery Criteria

The U.S. Atlantic population of green sea turtles can be considered for delisting when, over a period of 25 years the following conditions are met:

1. The level of nesting in Florida has increased to an average of 5,000 nests per year for at least six years. Nesting data shall be based on standardized surveys.
2. At least 25 percent (65 miles) of all available nesting beaches (260 miles) are in public ownership and encompass at least 50 percent of the nesting activity.
3. A reduction in stage class mortality is reflected in higher counts of individuals on foraging grounds.
4. All priority one tasks identified in the recovery plan have been successfully implemented.

The current "Recovery Plan for the U.S. Population of Atlantic Green Turtle (*Chelonia mydas*)" was completed in 1991, the Recovery Plan for U.S. Pacific Populations of the Green Turtle (*Chelonia mydas*)" was completed in 1998, and the "Recovery Plan for U.S. Pacific Populations of the East Pacific Green Turtle (*Chelonia mydas*)" was completed in 1998. The recovery criteria contained in the plans, while not strictly adhering to all elements of the Recovery Planning Guidelines (Service and NOAA), are a viable measure of the species status.

Common threats to sea turtles in Florida

Anthropogenic (human) factors that impact hatchlings and adult female turtles on land, or the success of nesting and hatching include: beach erosion, armoring and nourishment; artificial lighting; beach cleaning; increased human presence; recreational beach equipment; beach driving; coastal construction and fishing piers; exotic dune and beach vegetation; and poaching. An increased human presence at some nesting beaches or close to nesting beaches has led to secondary threats such as the introduction of exotic fire ants, feral hogs, dogs, and an increased presence of native species (*e.g.*, raccoons, armadillos, and opossums), which raid and feed on turtle eggs. Although sea turtle nesting beaches are protected along large expanses of the western North Atlantic coast, other areas along these coasts have limited or no protection.

Anthropogenic threats in the marine environment include oil and gas exploration and transportation; marine pollution; underwater explosions; hopper dredging, offshore artificial lighting; power plant entrainment and/or impingement; entanglement in debris; ingestion of marine debris; marina and dock construction and operation; boat collisions; poaching and fishery interactions.

Fibropapillomatosis, a disease of sea turtles characterized by the development of multiple tumors on the skin and internal organs, is also a mortality factor, particularly for green turtles. This disease has seriously impacted green turtle populations in Florida, Hawaii, and other parts of the world. The tumors interfere with swimming, eating, breathing, vision, and reproduction, and turtles with heavy tumor burdens may die.

Climate change is evident from observations of increases in average global air and ocean temperatures, widespread melting of snow and ice, and rising sea level, according to the Intergovernmental Panel on Climate Change Report (IPCC 2007a). The IPCC Report (2007) describes changes in natural ecosystems with potential wide-spread effects on many organisms, including marine mammals and migratory birds. The potential for rapid climate change poses a significant challenge for fish and wildlife conservation. Species' abundance and distribution are dynamic, relative to a variety of factors, including climate. As climate changes, the abundance and distribution of fish and wildlife will also change. Highly specialized or endemic species are likely to be most susceptible to the stresses of changing climate. Based on these findings and other similar studies, the Department of the Interior (DOI) requires agencies under its direction to consider potential climate change effects as part of their long-range planning activities (Service 2007).

Temperatures are predicted to rise from 2°C to 5°C for North America by the end of this century (IPCC 2007a,b). Other processes to be affected by this projected warming include rainfall (amount, seasonal timing and distribution), storms (frequency and intensity), and sea level rise.

Climatic changes in Florida could amplify current land management challenges involving habitat fragmentation, urbanization, invasive species, disease, parasites, and water management. Global warming will be a particular challenge for endangered, threatened,

and other "at risk" species. It is difficult to estimate, with any degree of precision, which species will be affected by climate change or exactly how they will be affected. The Service will use Strategic Habitat Conservation planning, an adaptive science-driven process that begins with explicit trust resource population objectives, as the framework for adjusting our management strategies in response to climate change (Service 2006). As the level of information increases concerning the effects of global climate change on sea turtles, the Service will have a better basis to address the nature and magnitude of this potential threat and will more effectively evaluate these effects to the range-wide status of sea turtles.

Analysis of the species/critical habitat likely to be affected

The proposed action has the potential to adversely affect nesting females, nests, and hatchlings within the proposed project area. The effects of the proposed action on sea turtles will be considered further in the remaining sections of this biological opinion. Potential effects include destruction of nests deposited within the boundaries of the proposed project, harassment in the form of disturbing or interfering with female turtles attempting to nest within the construction area or on adjacent beaches as a result of construction activities, disorientation of hatchling turtles on beaches adjacent to the construction area as they emerge from the nest and crawl to the water as a result of project lighting, behavior modification of nesting females due to escarpment formation within the project area during a nesting season resulting in false crawls or situations where they choose marginal or unsuitable nesting areas to deposit eggs. The quality of the placed sand could affect the ability of female turtles to nest, the suitability of the nest incubation environment, and the ability of hatchlings to emerge from the nest.

Critical habitat has not been designated in the continental United States; therefore, the proposed action would not result in an adverse modification.

ENVIRONMENTAL BASELINE

Status of the species within the action area

Loggerhead Sea Turtle

The loggerhead sea turtle nesting and hatching season for Southern Gulf of Mexico beaches extends from April 1 through November 30. Incubation ranges from about 45 to 95 days.

The Manatee County project area has a significant number of loggerhead nests. The project lies within the Anna Maria Island area. Between 97 and 179 loggerhead nests were deposited annually on the Anna Maria Island beaches from 2003 through 2008.

Green Sea Turtle

The green sea turtle nesting and hatching season for Southern Gulf of Mexico beaches extends from May 15 through October 31. Incubation ranges from about 45 to 75 days.

The Manatee County project lies within the Anna Maria Island beaches area. One green turtle nest was deposited on Anna Maria Island in 2002. No green turtles were reported on Anna Maria Island from 2003 through 2008.

Factors affecting the species environment within the action area

Coastal Development

Loss of nesting habitat related to coastal development has had the greatest impact on nesting sea turtles in Florida. Beachfront development not only causes the loss of suitable nesting habitat, but can result in the disruption of powerful coastal processes accelerating erosion and interrupting the natural shoreline migration (National Research Council 1990a). This may in turn cause the need to protect upland structures and infrastructure by armoring, groin placement, beach emergency berm construction and repair, and beach nourishment which cause changes in, additional loss or impact to the remaining sea turtle habitat.

Hurricanes

Hurricanes were probably responsible for maintaining coastal beach habitat upon which sea turtles depend through repeated cycles of destruction, alteration, and recovery of beach and dune habitat. Hurricanes generally produce damaging winds, storm tides and surges, and rain and can result in severe erosion of the beach and dune systems. Overwash and blowouts are common on barrier islands. Hurricanes and other storms can result in the direct or indirect loss of sea turtle nests, either by erosion or washing away of the nests by wave action or inundation or "drowning" of the eggs or hatchlings developing within the nest or indirectly by loss of nesting habitat. Depending on their frequency, storms can affect sea turtles on either a short-term basis (nests lost for one season and/or temporary loss of nesting habitat) or long term, if frequent (habitat unable to recover). How hurricanes affect sea turtle nesting also depends on its characteristics (winds, storm surge, rainfall), the time of year (within or outside of the nesting season), and where the northeast edge of the hurricane crosses land.

Because of the limited remaining nesting habitat, frequent or successive severe weather events could threaten the ability of certain sea turtle populations to survive and recover. Sea turtles evolved under natural coastal environmental events such as hurricanes. The extensive amount of pre-development coastal beach and dune habitat allowed sea turtles to survive even the most severe hurricane events. It is only within the last 20 to 30 years that the combination of habitat loss to beachfront development and destruction of remaining habitat by hurricanes has increased the threat to sea turtle survival and recovery. On developed beaches, typically little space remains for sandy beaches to become re-established after periodic storms. While the beach itself moves landward during such storms, reconstruction or persistence of structures at their pre-storm locations can result in a major loss of nesting habitat.

Erosion

The designation of a Critically Eroded Beach is a planning requirement of the State's Beach Erosion Control Funding Assistance Program. A segment of beach shall first be designated as critically eroded in order to be eligible for State funding. A critically eroded area is a segment of the shoreline where natural processes or human activity have caused or contributed to erosion and recession of the beach or dune system to such a degree that upland development, recreational interests, wildlife habitat, or important cultural resources are threatened or lost. Critically eroded areas may also include peripheral segments or gaps between identified critically eroded areas which, although they may be stable or be slightly eroded now, their inclusion is necessary for continuity of management of the coastal system or for the design integrity of adjacent beach management projects (FDEP 2005). It is important to note, that for an erosion problem area to be critical, there shall exist a threat to or loss of one of four specific interests – upland development, recreation, wildlife habitat, or important cultural resources. The total of critically eroded beaches statewide in Florida for 2007 is 388 miles of 497 miles of shoreline. Seventy-eight (78) percent of the State's shoreline is considered to be critically eroded.

Beachfront Lighting

Artificial beachfront lighting may cause disorientation (loss of bearings) and misorientation (incorrect orientation) of sea turtle hatchlings. Visual signs are the primary sea-finding mechanism for hatchlings (Mrosovsky and Carr 1967; Mrosovsky and Shettleworth 1968; Dickerson and Nelson 1989; Witherington and Bjorndal 1991). Artificial beachfront lighting is a documented cause of hatchling disorientation and misorientation on nesting beaches (Mann 1977; FWC 2006). The emergence from the nest and crawl to the sea is one of the most critical periods of a sea turtle's life. Hatchlings that do not make it to the sea quickly become food for ghost crabs, birds, and other predators or become dehydrated and may never reach the sea. Some types of beachfront lighting attract hatchlings away from the sea while some lights cause adult turtles to avoid stretches of brightly illuminated beach. Research has documented significant reduction in sea turtle nesting activity on beaches illuminated with artificial lights (Witherington 1992). During the 2007 sea turtle nesting season in Florida, over 64,000 turtle hatchlings were documented as being disoriented (**Table 2**) (FWC/FWRI 2007, http://www.myfwc.com/seaturtle/Lighting/Light_Disorient.htm). Exterior and interior lighting associated with condominiums had the greatest impact causing approximately 42 percent of documented hatchling disorientation/misorientation. Other causes included urban sky glow and street lights (http://www.myfwc.com/seaturtle/Lighting/Light_Disorient.htm).

Table 2. Documented Disorientations along the Florida coast.

Year	Total Number of Hatchling Disorientation Events	Total Number of Hatchlings Involved in Disorientation Events	Total Number of Adult Disorientation Events
2001	743	28,674	19
2002	896	43,226	37
2003	1,446	79,357	18
2004	888	46,487	24
2005	976	41,521	50
2006	1,521	71,798	40
2007	1,410	64,433	25
2008	1192	49,623	62

Predation

Depredation of sea turtle eggs and hatchlings by natural and introduced species occurs on almost all nesting beaches. Depredation by a variety of predators can considerably decrease sea turtle nest hatching success. The most common predators in the southeastern United States are ghost crabs (*Ocypode quadrata*), raccoons (*Procyon lotor*), feral hogs (*Sus scrofa*), foxes (*Urocyon cinereoargenteus* and *Vulpes vulpes*), coyotes (*Canis latrans*), armadillos (*Dasypus novemcinctus*), cats (*Felis catus*), and fire ants (*Solenopsis* spp.) (Dodd 1988, Stancyk 1995). Raccoons are particularly destructive on the Atlantic coast and may take up to 96 percent of all nests deposited on a beach (Davis and Whiting 1977, Hopkins and Murphy 1980, Stancyk et al. 1980, Talbert et al. 1980, Schroeder 1981, Labisky et al. 1986). As nesting habitat dwindles, it is essential that nest production be naturally maximized so the turtles may continue to exist in the wild.

In response to increasing depredation of sea turtle nests by coyote, fox, hog, and raccoon, multi-agency cooperative efforts have been initiated and are ongoing throughout Florida, particularly on public lands.

Climate Change

Based on the present level of available information concerning the effects of global climate change on the status of sea turtles, the Service acknowledges the potential for changes to occur in the action area, but presently has no basis to evaluate if or how these changes are affecting sea turtles or its designated critical habitat. Nor does our present knowledge allow the Service to project what the future effects from global climate change may be or the magnitude of these potential effects.

EFFECTS OF THE ACTION

This section is an analysis of the beneficial, direct, and indirect effects of the proposed actions on nesting sea turtles, nests, eggs, and hatchling sea turtles within the Action Area. The analysis includes effects interrelated and interdependent of the project activities. An interrelated activity is an activity that is part of a proposed action and depends on the proposed activity. An interdependent activity is an activity that has no independent utility apart from the action.

Factors to be considered

The proposed projects will occur within habitat that is used by sea turtles for nesting and may be constructed during a portion of the sea turtle nesting season. Long-term and permanent impacts could include a change in the nest incubation environment from the restoration/nourishment material. Short-term and temporary impacts to sea turtle nesting activities could result from project work occurring on the nesting beach during the active nesting or hatching period, changes in the physical characteristics of the beach from the placement of the beach restoration/nourishment material and change in the nest incubation environment from the material.

Proximity of action: Sand placement activities would occur within and adjacent to nesting habitat for sea turtles and dune habitats that ensure the stability and integrity of the nesting beach. Specifically, the project would potentially impact loggerhead and green nesting females, their nests, and hatchling sea turtles.

Distribution: Sand placement activities that may impact nesting and hatchling sea turtles and sea turtle nests would occur along Gulf of Mexico and Atlantic Ocean coasts.

Timing: The timing of the sand placement activities could directly and indirectly impact nesting females, their nests, and hatchling sea turtles when conducted between March 1 and November 30.

Nature of the effect: The effects of the sand placement activities may change the nesting behavior of adult female sea turtles or diminish the nesting or nest success, change the behavior of hatchling sea turtles resulting in nests or hatching events being missed during the daily survey of the Action Area. Sand placement can also change the incubation conditions within the nest. Any decrease in productivity and/or survival rates would contribute to the vulnerability of the sea turtles nesting in Florida.

Duration: The sand placement activity may be a one-time activity or a multiple-year activity and each sand placement project may take between 3 and 7 months to complete. Thus, the direct effects would be expected to be short-term in duration. Indirect effects from the activity may continue to impact nesting and hatchling sea turtles and sea turtle nests in subsequent nesting seasons.

Disturbance frequency: Sea turtle populations in Florida may experience decreased nesting success, hatching success and hatchling emerging success that could result from the sand placement activities being conducted at night during one nesting season or during the earlier or latter parts of two nesting seasons.

Disturbance intensity and severity: Depending on the need (including post-disaster work) and the timing of the sand placement activities during sea turtle nesting season, effects to the sea turtle populations of Florida, and potentially the U.S. populations, could be important.

Analyses for effects of the action

Beneficial Effects

The placement of sand on a beach with reduced dry fore-dune habitat may increase sea turtle nesting habitat if the placed sand is highly compatible (i.e., grain size, shape, color, etc.) with naturally occurring beach sediments in the area, and compaction and escarpment remediation measures are incorporated into the project. In addition, a nourished beach that is designed and constructed to mimic a natural beach system may benefit sea turtles more than an eroding beach it replaces.

Adverse Effects

Through many years of research, it has been documented that beach nourishment can have adverse effects on nesting female sea turtles and hatchlings. Results of monitoring sea turtle nesting and beach nourishment activities provide additional information on how sea turtles respond to nourished beaches, minimization measures, and other factors that influence nesting, hatching, and emerging success. Science-based information on sea turtle nesting biology and review of empirical data on beach nourishment monitoring is used to manage beach nourishment activities to eliminate or reduce impacts to nesting and hatchling sea turtles and sea turtle nests so that beach nourishment can be accomplished (**Table 3**). Measures can be incorporated pre-, during, and post-construction to reduce impacts to sea turtles. Because of the long history of sea turtle monitoring in Florida, it is not necessary to require studies on each project beach to document those effects each time.

Table 3. Effects of beach nourishment on sea turtles and minimization measures.

FACTOR	DURING CONSTRUCTION	POST CONSTRUCTION	SEA TURTLE BEHAVIOR	MINIMIZATION		
				PRE	DURING	POST
Barriers - physical and visual	Low nesting success	Abort nesting	Shift nests seaward, abort nesting Barrier to hatching		Equipment stored off the beach at night, project timing outside nesting season in high density nesting areas (Broward to Brevard)	Remove equipment from the beach after project is completed.
Nest relocation	Lower hatching and emergency success		Shift nests seaward	Design	Implement	Reconfigure Natural reworking
Construction lighting	Nest site selection and Disorientation.		Shift nests seaward Misorientation landward rather than seaward	Design	Implement	Reconfigure Natural reworking
Profile		Escarpments Nest site selection Hatchling orientation	Shift nests seaward Misorientation landward rather than seaward	Design	Implement	Reconfigure Natural reworking
Elevation		Nest site selection, Unnatural profile, Disorientation.	Shift nests seaward	Design	Implement	Natural reworking
Barriers - physical and visual		Escarpments	Abort nesting	Design	Implement	Reconfigure Natural reworking
Substrate		Compaction Cementation	Abort nesting Barrier to	Material quality	QA/QC Plan	Tilling Removal of

		Color	hatching Change in incubation length/sex ratio		Limit equipment driving over beach fill	unsuitable material
Lights		Landward development	Confusion of nesting females, Dis- and mis- orientation of hatchlings	Install Wildlife Lighting	Stop gap, lights off during times of nest hatching	Install Wildlife Lighting

Direct Effects

Direct effects are those direct or immediate effects of a project on the species or its habitat. Placement of sand on a beach in and of itself may not provide suitable nesting habitat for sea turtles. Although beach nourishment may increase the potential nesting area, significant negative impacts to sea turtles may result if protective measures are not incorporated during project construction. Nourishment during the nesting season, particularly on or near high density nesting beaches, can cause increased loss of eggs and hatchlings and, along with other mortality sources, may significantly impact the long-term survival of the species. For instance, projects conducted during the nesting and hatching season could result in the loss of sea turtles through disruption of adult nesting activity and by burial or crushing of nests or hatchlings. While a nest monitoring and egg relocation program would reduce these impacts, nests may be inadvertently missed (when crawls are obscured by rainfall, wind, and/or tides) or misidentified as false crawls during daily patrols. In addition, nests may be destroyed by operations at night prior to beach patrols being performed. Even under the best of conditions, about 7 percent of the nests can be misidentified as false crawls by experienced sea turtle nest surveyors (Schroeder 1994).

1. *Nest relocation*

Besides the potential for missing nests during surveys and a nest relocation program, there is a potential for eggs to be damaged by nest movement or relocation, particularly if eggs are not relocated within 12 hours of deposition (Limpus et al. 1979). Nest relocation can have adverse impacts on incubation temperature (and hence sex ratios), gas exchange parameters, hydric environment of nests, hatching success, and hatchling emergence (Limpus et al. 1979; Ackerman 1980; Parmenter 1980; Spotila et al. 1983; McGehee 1990). Relocating nests into sands deficient in oxygen or moisture can result in mortality, morbidity, and reduced behavioral competence of hatchlings. Water availability is known to influence the incubation environment of the embryos and hatchlings of turtles with flexible-shelled eggs, which has been shown to affect nitrogen excretion (Packard et al. 1984), mobilization of calcium (Packard and Packard 1986), mobilization of yolk nutrients (Packard et al. 1985), hatchling size (Packard et al. 1981; McGehee 1990), energy reserves in the yolk at hatching (Packard et al. 1988), and locomotory ability of hatchlings (Miller et al. 1987).

In a 1994 Florida study comparing loggerhead hatching and emergence success of relocated nests with nests in their original location, Moody (1998) found that hatching success was lower in relocated nests at 9 of 12 beaches evaluated. In addition, emergence success was lower in relocated nests at 10 of 12 beaches surveyed in 1993 and 1994. Many of the direct effects of beach nourishment may persist over time. These direct effects include increased susceptibility of relocated nests to catastrophic events, the consequences of potential increased beachfront development, changes in the physical characteristics of the beach, the formation of escarpments, repair/replacement of groins and jetties and future sand migration.

2. Equipment

Heavy machinery on beach

The use of heavy machinery on beaches during a construction project may also have adverse effects on sea turtles. Equipment left on the nesting beach overnight can create barriers to nesting females emerging from the surf and crawling up the beach, causing a higher incidence of false crawls and unnecessary energy expenditure.

Driving on the beach for the project

The operation of motor vehicles or equipment on the beach to complete the project work at night affects sea turtle nesting by: interrupting or colliding with a female turtle on the beach; headlights disorienting or misorienting emergent hatchlings; vehicles running over hatchlings attempting to reach the ocean; and vehicle tracks traversing the beach interfering with hatchlings crawling to the ocean. Apparently, hatchlings become diverted not because they cannot physically climb out of the rut (Hughes and Caine 1994), but because the sides of the track cast a shadow and the hatchlings lose their line of sight to the ocean horizon (Mann 1977). The extended period of travel required to negotiate tire tracks and ruts may increase the susceptibility of hatchlings to dehydration and depredation during migration to the ocean (Hosier et al. 1981). Driving directly above or over incubating egg clutches or on the beach can cause sand compaction which may result in adverse impacts on nest site selection, digging behavior, clutch viability, and emergence by hatchlings, decreasing nest success and directly killing pre-emergent hatchlings (Mann 1977; Nelson and Dickerson 1987; Nelson 1988).

Depending on when the dune project is completed dune vegetation may have become established in the vicinity of dune restoration sites. The physical changes and loss of plant cover caused by vehicles on vegetated areas or dunes can lead to various degrees of instability and cause dune migration. As vehicles move over the sand, sand is displaced downward, lowering the substrate. Since the vehicles also inhibit plant growth, and open the area to wind erosion, the beach and dunes may become unstable. Vehicular traffic on the beach or through dune breaches or low dunes may cause acceleration of overwash and erosion (Godfrey et al. 1978). Driving along the beachfront should be between the low and high tide water lines. To minimize the impacts to the beach and recovering dunes, transport and access to the dune restoration sites should be from the road. However, if the work needs to be conducted from the beach, the areas for the truck transport and bulldozer/bobcat equipment to work in should be designated and marked.

3. Artificial lighting

Visual cues are the primary sea-finding mechanism for hatchling sea turtles (Mrosovsky and Carr 1967; Mrosovsky and Shettleworth 1968; Dickerson and Nelson 1989; Witherington and Bjorndal 1991). When artificial lighting is present on or near the beach, it can misdirect hatchlings once they emerge from their nests and prevent them from reaching the ocean (Philibosian 1976; Mann 1977; FWC sea turtle disorientation database). In addition, a significant reduction in sea turtle nesting activity has been documented on beaches illuminated with artificial lights (Witherington 1992). Therefore, construction lights along a project beach and on the dredging vessel may deter females from coming ashore to nest, misdirect females trying to return to the surf after a nesting event, and misdirect emergent hatchlings from adjacent non-project beaches.

The newly created wider and flatter beach berm exposes sea turtles and their nests to lights that were less visible, or not visible, from nesting areas before the beach nourishment leading to a higher mortality of hatchlings. Review of over 10 years of empirical information from beach nourishment projects indicates that the number of sea turtles impacted by lights increases on the post-construction berm. A review of a selected nourished beaches in Florida (South Brevard, North Brevard, Captiva Island, Ocean Ridge, Boca Raton, Town of Palm Beach, Longboat Key, and Bonita Beach) indicated disorientation reporting increased by approximately 300 percent (± 282 std. dev.) the first nesting season after project construction and up to 542 percent ($+ 872$ std. dev.) the second year compared to pre-nourishment reports (Trindell et al. 2005).

Specific examples of increased lighting disorientations after a beach nourishment project include Brevard and Palm Beach counties, Florida. A nourishment project in Brevard County, completed in 2002, showed an increase of 130 percent in disorientations in the nourished area. Disorientations on beaches in the County that were not nourished remained constant (R. Trindell, FWC, personal communication 2007). This same result was also documented in 2003 when another beach in Brevard County was nourished and the disorientations increased by 480 percent (R. Trindell, FWC, personal communication 2007). Installing appropriate beachfront lighting is the most effective method to decrease the number of disorientations on any developed beach including nourished beaches.

A shoreline protection project was constructed at Ocean Ridge in Palm Beach County, Florida between August 1997 and April 1998. Lighting disorientation events increased after nourishment. In spite of continued aggressive efforts to identify and correct lighting violations in 1998 and 1999, 86 percent of the disorientation reports were in the nourished area in 1998 and 66 percent of the reports were in the nourished area in 1999 (Howard and Davis 1999).

While the effects of artificial lighting have not been specifically studied on each beach that is nourished in Florida, based on the experience of increased artificial lighting disorientations on other Florida beaches, impacts are expected to potentially occur on all nourished beaches statewide.

Changing to sea turtle compatible lighting can be easily accomplished at the local level through voluntary compliance or by adopting appropriate regulations. Of the 27 coastal counties in Florida where sea turtles are known to nest, 19 have passed beachfront lighting ordinances in addition to 58 municipalities (FWC 2007b, http://myfwc.com/seaturtle/Lighting/Light_Ordinance.htm). Local governments have realized that adopting a lighting ordinance is the most effective method to address artificial lighting along the beachfront.

Indirect Effects

Indirect effects are those effects that are caused by or result from the proposed action, are later in time, and are reasonably certain to occur. Effects from the proposed project may continue to affect sea turtle nesting on the project beach and adjacent beaches in future years.

1. *Increased susceptibility to catastrophic events*

Nest relocation within a nesting season may concentrate eggs in an area making them more susceptible to catastrophic events. Hatchlings released from concentrated areas also may be subject to greater predation rates from both land and marine predators, because the predators learn where to concentrate their efforts (Glenn 1998; Wyneken et al. 1998).

2. *Increased beachfront development*

Pilkey and Dixon (1996) state that beach replenishment frequently leads to more development in greater density within shorefront communities that are then left with a future of further replenishment or more drastic stabilization measures. Dean (1999) also notes that the very existence of a beach nourishment project can encourage more development in coastal areas. Following completion of a beach nourishment project in Miami during 1982, investment in new and updated facilities substantially increased tourism there (National Research Council 1995). Increased building density immediately adjacent to the beach often resulted as much larger ones that accommodated more beach users replaced older buildings. Overall, shoreline management creates an upward spiral of initial protective measures resulting in more expensive development which leads to the need for more and larger protective measures. Increased shoreline development may adversely affect sea turtle nesting success. Greater development may support larger populations of mammalian predators, such as foxes and raccoons, than undeveloped areas (National Research Council 1990a), and can also result in greater adverse effects due to artificial lighting, as discussed above.

3. *Changes in the physical environment*

Beach nourishment may result in changes in sand density (compaction), beach shear resistance (hardness), beach moisture content, beach slope, sand color, sand grain size, sand grain shape, and sand grain mineral content if the placed sand is dissimilar from the original beach sand (Nelson and Dickerson 1988a). These changes could result in adverse impacts

on nest site selection, digging behavior, clutch viability, and hatchling emergence (Nelson and Dickerson 1987; Nelson 1988).

Beach nourishment projects create an elevated, wider and unnatural flat slope berm (beach). Sea turtles nest closer to the water the first few years after nourishment because of the altered profile (and perhaps unnatural sediment grain size distribution) (Ernest and Martin 1999, Trindell 2005) (Figure 3).

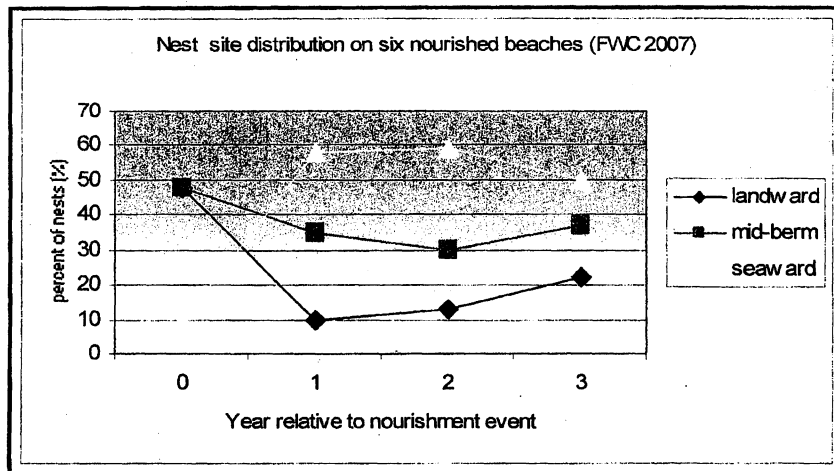


Figure 3. Review of sea turtle nesting site selection following nourishment (Trindell 2005).

Beach compaction and unnatural beach profiles resulting from beach nourishment activities could negatively impact sea turtles regardless of the timing of projects. Very fine sand and/or the use of heavy machinery can cause sand compaction on nourished beaches (Nelson et al. 1987; Nelson and Dickerson 1988a). Significant reductions in nesting success (i.e., false crawls occurred more frequently) have been documented on severely compacted nourished beaches (Fletemeyer 1980; Raymond 1984; Nelson and Dickerson 1987; Nelson et al. 1987), and increased false crawls may result in increased physiological stress to nesting females. Sand compaction may increase the length of time required for female sea turtles to excavate nests and cause increased physiological stress to the animals (Nelson and Dickerson 1988b). Nelson and Dickerson (1988c) concluded that, in general, beaches nourished from offshore borrow sites are harder than natural beaches, and while some may soften over time through erosion and accretion of sand, others may remain hard for 10 years or more.

These impacts can be minimized by using suitable sand and by tilling (minimum depth of 36 inches) compacted sand after project completion. The level of compaction of a beach can be assessed by measuring sand compaction using a cone penetrometer (Nelson 1987). Tilling of a nourished beach with a root rake may reduce the sand compaction to levels comparable to unnourished beaches. However, a pilot study by Nelson and Dickerson (1988c) showed that a tilled nourished beach will remain uncompacted for up to one year. Multi-year beach compaction monitoring and, if necessary, tilling would ensure that project impacts on sea turtles are minimized.

A change in sediment color on a beach could change the natural incubation temperatures of nests in an area, which, in turn, could alter natural sex ratios. To provide the most suitable sediment for nesting sea turtles, the color of the nourished sediments shall resemble the natural beach sand in the area. Natural reworking of sediments and bleaching from exposure to the sun would help to lighten dark nourishment sediments; however, the timeframe for sediment mixing and bleaching to occur could be critical to a successful sea turtle nesting season.

4. *Escarpment formation*

On nourished beaches, steep escarpments may develop along their water line interface as they adjust from an unnatural construction profile to a more natural beach profile (Coastal Engineering Research Center 1984; Nelson et al. 1987). These escarpments can hamper or prevent access to nesting sites (Nelson and Blihovde 1998). Researchers have shown that female sea turtles coming ashore to nest can be discouraged by the formation of an escarpment, leading to situations where they choose marginal or unsuitable nesting areas to deposit eggs (*e.g.*, in front of the escarpments, which often results in failure of nests due to prolonged tidal inundation). This impact can be minimized by leveling any escarpments prior to the nesting season.

5. *Construction of Groins and jetties*

Groins and jetties are shore-perpendicular structures that are designed to trap sand that would otherwise be transported by longshore currents. Jetties are defined as structures placed to keep sand from flowing into channels (Kaufman and Pilkey 1979; Komar 1983). In preventing normal sand transport, these structures accrete updrift beaches while causing accelerated beach erosion downdrift of the structures (Komar 1983; Pilkey et al. 1984; National Research Council 1987), a process that results in degradation of sea turtle nesting habitat. As sand fills the area updrift from the groin or jetty, some littoral drift and sand deposition on adjacent downdrift beaches may occur due to spillover. However, these groins and jetties often force the stream of sand into deeper offshore water where it is lost from the system (Kaufman and Pilkey 1979). The greatest changes in beach profile near groins and jetties are observed close to the structures, but effects eventually may extend many kilometers along the coast (Komar 1983).

Jetties are placed at ocean inlets to keep transported sand from closing the inlet channel. Together, jetties and inlets are known to have profound effects on adjacent beaches (Kaufman and Pilkey 1979). Witherington et al. (2005) found a significant negative relationship between loggerhead nesting density and distance from the nearest of 17 ocean inlets on the Atlantic coast of Florida. The effect of inlets in lowering nesting density was observed both updrift and downdrift of the inlets, leading researchers to propose that beach instability from both erosion and accretion may discourage loggerhead nesting.

Construction or repair of groins and jetties during the nesting season may result in the destruction of nests, disturbance of females attempting to nest, and disorientation of emerging hatchlings from project lighting. Following construction, the presence of groins

and jetties may interfere with nesting turtle access to the beach, result in a change in beach profile and width (downdrift erosion, loss of sandy berms, and escarpment formation), trap hatchlings, and concentrate predatory fishes, resulting in higher probabilities of hatchling predation.

Escarpments may develop on beaches between groins as the beaches equilibrate to their final profiles. These escarpments are known to prevent females from nesting on the upper beach and can cause them to choose unsuitable nesting areas, such as seaward of an escarpment. These nest sites commonly receive prolonged tidal inundation and erosion, which results in nest failure (Nelson and Blihovde 1998). As groin structures fail and break apart, they spread debris on the beach, which may further impede nesting females from accessing suitable nesting sites and trap both hatchlings and nesting turtles.

Species' response to a proposed action

The following summary illustrates sea turtle responses to and recovery from a nourishment project comprehensively studied by Ernest and Martin (1999). A significantly larger proportion of turtles emerging on nourished beaches abandoned their nesting attempts than turtles emerging on natural or pre-nourished beaches. This reduction in nesting success is most pronounced during the first year following project construction and is most likely the result of changes in physical beach characteristics associated with the nourishment project (*e.g.*, beach profile, sediment grain size, beach compaction, frequency and extent of escarpments). During the first post-construction year, the time required for turtles to excavate an egg chamber on untilled, hard-packed sands increases significantly relative to natural conditions. However, tilling (minimum depth of 36 inches) is effective in reducing sediment compaction to levels that did not significantly prolong digging times. As natural processes reduced compaction levels on nourished beaches during the second post-construction year, digging times returned to natural levels (Ernest and Martin 1999).

During the first post-construction year, nests on nourished beaches are deposited significantly seaward of the toe of the dune and significantly landward of the tide line than nests on natural beaches. More nests are washed out on the wide, flat beaches of the nourished treatments than on the narrower steeply sloped natural beaches. This phenomenon may persist through the second post-construction year monitoring and resulting from the placement of nests near the seaward edge of the beach berm where dramatic profile changes, caused by erosion and scarping, occurred as the beach equilibrate to a more natural contour.

The principal effect of beach nourishment on sea turtle reproduction is a reduction in nesting success during the first year following project construction. Although most studies have attributed this phenomenon to an increase in beach compaction and escarpment formation, Ernest and Martin (1999) indicated that changes in beach profile may be more important. Regardless, as a nourished beach is reworked by natural processes in subsequent years and adjusts from an unnatural construction profile to a natural beach profile, beach compaction and the frequency of escarpment formation decline, and nesting and nesting success return to levels found on natural beaches.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. The Service is not aware of any cumulative effects in the project area.

CONCLUSION

After reviewing the current status of the loggerhead and green turtle, the environmental baseline for the action area, the effects of the proposed beach nourishment, and the cumulative effects, the Service's BO is that the beach nourishment project, as proposed, is not likely to jeopardize the continued existence of the loggerhead and green sea turtle, and is not likely to destroy or adversely modify designated critical habitat. No critical habitat has been designated for the loggerhead and green sea turtle, in the continental United States; therefore, none will be affected.

For loggerheads, the PFRU averages 64,513 nests per year. The entire recovery unit occurs within Florida and consists of approximately 1,166 miles of shoreline. Of the available nesting habitat within the PFRU, sand placement activities will occur on 1.6 miles of nesting shoreline.

For greens, the proposed project will affect only 1.6 linear miles of the approximately 1,400 miles of available sea turtle nesting habitat in the southeastern U.S.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered or threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary, and must be implemented by the Corps so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. The Corps has a continuing

duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Corps must report the progress of the action and its impacts on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

AMOUNT OR EXTENT OF TAKE ANTICIPATED

The Service anticipates the proposed action will impact 1.6 linear miles of nesting sea turtle beach habitat, which will result in take of nesting loggerhead and green sea turtles.

Anticipated take consists of: (1) destruction of all nests that may be constructed and eggs that may be deposited and missed by a nest survey and egg relocation program within the boundaries of the proposed project; (2) destruction of all nests deposited during the period when a nest survey and egg relocation program is not required to be in place within the boundaries of the proposed project; (3) reduced hatching success due to egg mortality during relocation and adverse conditions at the relocation site; (4) harassment in the form of disturbing or interfering with female turtles attempting to nest within the construction area or on adjacent beaches as a result of construction activities; (5) misdirection of hatchling turtles on beaches adjacent to the construction area as they emerge from the nest and crawl to the water as a result of project lighting; (6) behavior modification of nesting females due to escarpment formation within the project area during a nesting season, resulting in false crawls or situations where they choose marginal or unsuitable nesting areas to deposit eggs; and (7) destruction of nests from escarpment leveling within a nesting season when such leveling has been approved by the Fish and Wildlife Service.

Incidental take is anticipated for only the 1.6 linear miles of beach that has been identified for sand placement. The Service anticipates incidental take of sea turtles will be difficult to detect for the following reasons: (1) the turtles nest primarily at night and all nests are not found because [a] natural factors, such as rainfall, wind, and tides may obscure crawls and [b] human-caused factors, such as pedestrian and vehicular traffic, may obscure crawls, and result in nests being destroyed because they were missed during a nesting survey and egg relocation program; (2) the total number of hatchlings per undiscovered nest is unknown; (3) the reduction in percent hatching and emerging success per relocated nest over the natural nest site is unknown; (4) an unknown number of females may avoid the project beach and be forced to nest in a less than optimal area; (5) lights may misdirect an unknown number of hatchlings and cause death; and (6) escarpments may form and cause an unknown number of females from accessing a suitable nesting site. However, the level of take of these species can be anticipated by the disturbance and renourishment of suitable turtle nesting beach habitat because: (1) turtles nest within the project site; (2) beach renourishment will likely occur during a portion of the nesting season; (3) the renourishment project will modify the incubation substrate, beach slope, and sand compaction; and (4) artificial lighting will deter and/or misdirect nesting females and hatchlings.

EFFECT OF THE TAKE

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species. Critical habitat has not been designated in the project area; therefore, the project will not result in destruction or adverse modification of critical habitat.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of loggerhead and green sea turtles.

1. Beach quality sand suitable for sea turtle nesting, successful incubation, and hatchling emergence and beach mouse burrow construction shall be used for sand placement.
2. All derelict concrete, metal, coastal armoring geotextile material or other debris shall be removed from the beach prior to any sand placement.
3. A post-construction survey(s) of all artificial lighting visible from the project beach shall be completed by the local sponsor or applicant. This information shall be provided to the Service and the FWC.
4. A meeting between representatives of the contractor, the Service, the FWC, and the permitted sea turtle surveyor, and other species surveyors as appropriate, shall be held prior to the commencement of work on this project.
5. During the sea turtle nesting season, daytime surveys for nesting sea turtles shall be conducted. If nests are constructed in the area of beach nourishment, the eggs shall be relocated to minimize sea turtle nest burial, crushing of eggs, or nest excavation. Nest relocation shall not occur upon completion of the project.
6. Beach compaction shall be monitored and tilling (non-vegetated areas to a minimum depth of 36 inches) shall be conducted if needed immediately after completion of the sand placement project and prior to the next three nesting seasons to reduce the likelihood of impacting sea turtle nesting and hatching activities. (NOTE: Out-year beach compaction monitoring and tilling are not required if placed material no longer remains on the dry beach.)
7. Escarpment formation shall be monitored and leveling shall be conducted if needed immediately after completion of the sand placement project and prior to the next three nesting seasons to reduce the likelihood of impacting nesting and hatchling sea turtles.
8. Construction equipment and materials shall be stored in a manner that will minimize impacts to nesting and hatchling sea turtles to the maximum extent practicable.
9. Lighting associated with the project construction shall be minimized to reduce the

possibility of disrupting and disorienting nesting and/or hatchling sea turtles.

10. During the sea turtle nesting season, the contractor shall not extend the beach fill more than 500 feet along the shoreline between dusk and the following day until the daily nesting survey has been completed and the beach cleared for fill advancement. An exception to this may occur if there is a permitted sea turtle surveyor present on-site at night to monitor and report any sea turtles that may emerge within the project area.
11. A report describing the actions taken to implement the terms and conditions of this incidental take statement shall be submitted to the Service by July 31 of the year following completion of the proposed work for each year when the activity has occurred.
12. The Service and the FWC shall be notified if a sea turtle adult, hatchling, or egg, or beach mouse is harmed or destroyed as a direct or indirect result of the project.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the Act, the Corps must comply with the following terms and conditions, which implement the reasonable and prudent measures, described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

1. Beach compatible fill shall be placed on the beach or in any associated dune system. Beach compatible fill is material that maintains the general character and functionality of the material occurring on the beach and in the adjacent dune and coastal system. Such material shall be predominately of carbonate, quartz or similar material with a particle size distribution ranging between 0.062mm and 4.76mm (classified as sand by either the Unified Soils or the Wentworth classification), shall be similar in color and grain size distribution (sand grain frequency, mean and median grain size and sorting coefficient) to the material in the historic beach sediment at the disposal site, and shall not contain:
 - 1a. Greater than 5 percent, by weight, silt, clay or colloids passing the #230 sieve;
 - 1b. Greater than 5 percent, by weight, fine gravel retained on the #4 sieve (- 2.25φ);
 - 1c. Coarse gravel, cobbles or material retained on the 3/4 inch sieve in a percentage or size greater than found on the native beach;
 - 1d. Construction debris, toxic material or other foreign matter; and
 - 1e. Material that will result in cementation of the beach.
2. All derelict concrete, metal, and coastal armoring geotextile material and other debris shall be removed from the beach prior to any sand placement to the maximum extent

practicable. If debris removal activities take place during the sea turtle nesting season (April 15 through September 30), the work shall be conducted during daylight hours only and shall not commence until completion of the sea turtle survey each day.

3. A survey shall be conducted of all lighting visible from the beach placement area by the local sponsor or applicant, using standard techniques for such a survey, between May 1 and May 15, and between July 15 and August 1, in the year following construction. A summary report of the surveys shall be submitted to the Service by December 1 of each year in which surveys are conducted. After the annual report is completed, a meeting shall be set up with the applicant or local sponsor, county or municipality, FWC and the Service to discuss the survey report, as well as any documented sea turtle disorientations in or adjacent to the project area.
4. A meeting between representatives of the contractor, the Service, the FWC, the permitted sea turtle surveyor, and other species surveyors as appropriate, shall be held prior to the commencement of work on projects. At least 10-business days advance notice shall be provided prior to conducting this meeting. The meeting will provide an opportunity for explanation and/or clarification of the sea turtle and beach mouse protection measures as well as additional guidelines when construction occurs during the sea turtle nesting season, such as storing equipment, minimizing driving, feral cat observation and reporting within the work area as well as follow up meetings during construction.
5. For sand placement projects that occur during the period from May 1 through October 31, daily early morning (before 9 a.m.) surveys shall be conducted, and eggs shall be relocated per the requirements below (7a to 7c).

Nesting surveys shall be initiated 65 days prior to nourishment or dredged channel material placement activities or by April 1 whichever is later. Nesting surveys shall continue through the end of the project or through November 30 whichever is earlier. If nests are laid in areas where they may be affected by construction activities, eggs shall be relocated per the requirement listed in 5a through 5c below.

- 5a. Nesting surveys and egg relocations will only be conducted by persons with prior experience and training in these activities and who are duly authorized to conduct such activities through a valid permit issued by FWC, pursuant to F.A.C 68E-1. Please contact FWC's Marine Turtle Management Program in Tequesta at (561) 575-5408 for information on the permit holder in the project area. Nesting surveys shall be conducted daily between sunrise and 9 a.m. (in all time zones). The contractor shall not extend the beach fill more than 500 feet along the shoreline between dusk and the following day until a daily nesting survey has been completed and the beach cleared for fill advancement. This measure will ensure that construction activity does not occur in any location prior to completion of the necessary sea turtle protection measures.

- 5b. Only those nests that may be affected by sand placement activities will be relocated. Nest relocation shall not occur upon completion of the project. Nests requiring relocation shall be moved no later than 9 a.m. the morning following deposition to a nearby self-release beach site in a secure setting where artificial lighting will not interfere with hatchling orientation. Relocated nests shall not be placed in organized groupings. Relocated nests shall be randomly staggered along the length and width of the beach in settings that are not expected to experience daily inundation by high tides or known to routinely experience severe erosion and egg loss, or subject to artificial lighting. Nest relocations in association with construction activities shall cease when construction activities no longer threaten nests.
- 5c. Nests deposited within areas where construction activities have ceased or will not occur for 65 days or nests laid in the nourished berm prior to tilling shall be marked and left in place unless other factors threaten the success of the nest. The turtle permit holder shall install an on-beach marker at the nest site and/or a secondary marker at a point as far landward as possible to assure that future location of the nest will be possible should the on-beach marker be lost. No activity will occur within this area nor will any activities occur which could result in impacts to the nest. Nest sites shall be inspected daily to assure nest markers remain in place and the nest has not been disturbed by the project activity.
6. Sand compaction shall be monitored in the area of sand placement immediately after completion of the project and prior to April 15 for 3 subsequent years. Sand compaction shall be monitored in accordance with a protocol agreed to by the Service, FWC, and the applicant or local sponsor. At a minimum, the protocol provided under 6a and 6b below shall be followed. If tilling is required, the area shall be tilled to a depth of 36 inches. All tilling activity shall be completed prior to those dates listed above.

Each pass of the tilling equipment shall be overlapped to allow thorough and even tilling. If the project is completed during the nesting season, tilling will not be performed in areas where nests have been left in place or relocated. (NOTE: The requirement for compaction monitoring can be eliminated if the decision is made to till regardless of post-construction compaction levels. Additionally, out-year compaction monitoring and remediation are not required if placed material no longer remains on the dry beach.) A report on the results of the compaction monitoring shall be submitted to the Service's field office prior to any tilling actions being taken.

- 6a. Compaction sampling stations shall be located at 500-foot intervals along the project area. One station shall be at the seaward edge of the dune/bulkhead line (when material is placed in this area), and one station shall be midway between the dune line and the high water line (normal wrack line).
- 6b. At each station, the cone penetrometer shall be pushed to a depth of 6, 12, and 18 inches three times (three replicates). Material may be removed from the hole if necessary to ensure accurate readings of successive levels of sediment. The

penetrometer may need to be reset between pushes, especially if sediment layering exists. Layers of highly compact material may lie over less compact layers. Replicates shall be located as close to each other as possible, without interacting with the previous hole and/or disturbed sediments. The three replicate compaction values for each depth shall be averaged to produce final values for each depth at each station. Reports will include all 18 values for each transect line, and the final 6 averaged compaction values.

- 6c. If the average value for any depth exceeds 500 pounds per square inch (psi) for any two or more adjacent stations, then that area shall be tilled immediately prior to the following dates listed above.
- 6d. If values exceeding 500 psi are distributed throughout the project area but in no case do those values exist at two adjacent stations at the same depth, then consultation with the Service will be required to determine if tilling is required. If a few values exceeding 500 psi are present randomly within the project area, tilling will not be required.
- 6e. Tilling shall occur landward of the wrack line and avoid all vegetated areas 3 square feet or greater with a 3 square foot buffer around the vegetated areas.
7. Visual surveys for escarpments along the project area shall be made immediately after completion of the sand placement project and during March 15 to April 15 for 3 subsequent years if sand from the project area still remains on the beach.

Escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of at least 100 feet shall be leveled and the beach profile shall be reconfigured to minimize scarp formation by April 15. Any escarpment removal shall be reported by location. If the project is completed during the sea turtle nesting and hatching season, escarpments may be required to be leveled immediately, while protecting nests that have been relocated or left in place. The Service shall be contacted immediately if subsequent reformation of escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet occurs during the nesting and hatching season to determine the appropriate action to be taken. If it is determined that escarpment leveling is required during the nesting or hatching season, the Service or FWC will provide a brief written authorization that describes methods to be used to reduce the likelihood of impacting existing nests. An annual summary of escarpment surveys and actions taken shall be submitted to the Service's Field Office. (NOTE: Out-year escarpment monitoring and remediation are not required if placed material no longer remains on the dry beach).

8. Staging areas for construction equipment shall be located off the beach, if off-beach staging areas are available, during the sea turtle nesting season. Nighttime storage of construction equipment not in use shall be off the beach to minimize disturbance to sea turtle nesting and hatching activities. In addition, all construction pipes that are placed on the beach shall be located as far landward as possible without compromising the

integrity of the existing or reconstructed dune system. Pipes placed parallel to the dune shall be 5 to 10 feet away from the toe of the dune. Temporary storage of pipes shall be off the beach to the maximum extent possible. If the pipes shall be on the beach, they shall be placed in a manner that will minimize the impact to nesting habitat and shall not compromise the integrity of the dune systems.

9. Direct lighting of the beach and nearshore waters shall be limited to the immediate construction area during the sea turtle nesting season and shall comply with safety requirements.

Lighting on offshore or onshore equipment shall be minimized through reduction, shielding, lowering, and appropriate placement to avoid excessive illumination of the water's surface and nesting beach while meeting all Coast Guard, EM 385-1-1, and OSHA requirements. Light intensity of lighting equipment shall be reduced to the minimum standard required by OSHA for General Construction areas, in order not to misdirect sea turtles. Shields shall be affixed to the light housing and be large enough to block light from all lamps from being transmitted outside the construction area.

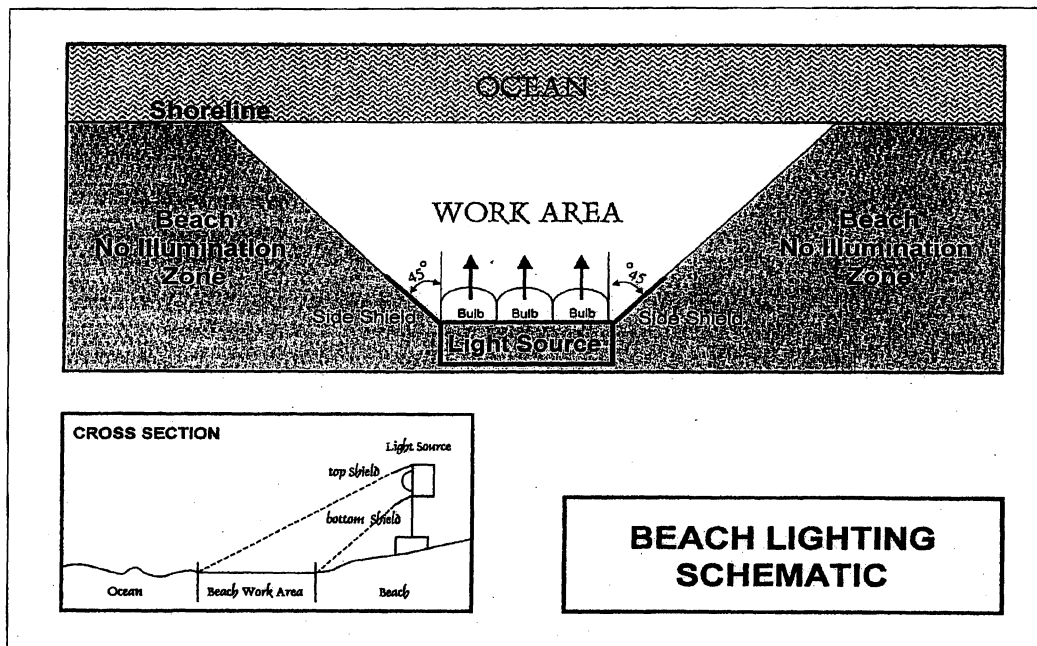


Figure 4. Beach lighting schematic.

10. During the sea turtle nesting season, the contractor shall not extend the beach fill more than 500 feet along the shoreline between dusk and the following day until the daily nesting survey has been completed and the beach cleared for fill advancement. An exception to this may occur if there is permitted sea turtle surveyor present on-site to ensure no nesting and hatching sea turtles are present within the extended work area. If the 500 feet is not feasible for the project, an agreed upon distance will be decided on during the preconstruction meeting. Once the beach has been cleared and the necessary nest relocations have been completed, the contractor will be allowed to proceed with the

placement of fill during daylight hours until dusk at which time the 500-foot length limitation shall apply.

11. A report describing the projects conducted during the year and actions taken to implement the reasonable and prudent measures and terms and conditions of this incidental take statement shall be submitted to the Service by March 1 of the following year of completing the proposed work for each year when the activity has occurred. This report will include the following information:

Table 4. Information to include in the report following the project completion.

All projects	Project location (include Florida DEP R-Monuments)
	Project description
	Dates of actual construction activities
	Names and qualifications of personnel involved in sea turtle nesting surveys and relocation activities (separate the nests surveys for nourished and non-nourished areas)
	Descriptions and locations of self-release beach sites
	Nest survey and relocation results

12. In the event a sea turtle nest is excavated during construction activities, the permitted person responsible for egg relocation for the project shall be notified immediately so the eggs can be moved to a suitable relocation site.

Upon locating a dead or injured sea turtle adult, hatchling, egg, or beach mouse that may have been harmed or destroyed as a direct or indirect result of the project, the Corps, permittee, and/or local sponsor shall be responsible for notifying FWC Wildlife Alert at 1-888-404-FWCC (3922) and the Service Office immediately.

Care shall be taken in handling injured sea turtles, eggs or beach mice to ensure effective treatment or disposition, and in handling dead specimens to preserve biological materials in the best possible state for later analysis.

The Service believes that incidental take will be limited to the 1.6 linear miles of beach that have been identified for sand placement. The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. The Service believes that no more than the following types of incidental take will result from the proposed action: (1) destruction of all nests that may be constructed and eggs that may be deposited and missed by a nest survey and egg relocation program within the boundaries of the proposed project; (2) destruction of all nests deposited during the period when a nest survey and egg relocation program is not required to be in place within the boundaries of the proposed

project; (3) reduced hatching success due to egg mortality during relocation and adverse conditions at the relocation site; (4) harassment in the form of disturbing or interfering with female turtles attempting to nest within the construction area or on adjacent beaches as a result of construction activities; (5) disorientation of hatchling turtles on beaches adjacent to the construction area as they emerge from the nest and crawl to the water as a result of project lighting; (6) behavior modification of nesting females due to escarpment formation within the project area during a nesting season, resulting in false crawls or situations where they choose marginal or unsuitable nesting areas to deposit eggs; and (7) destruction of nests from escarpment leveling within a nesting season when such leveling has been approved by the Service. The amount or extent of incidental take for sea turtles will be considered exceeded if the project results in more than a one-time placement of sand on the 1.6 linear miles of beach that have been identified for sand placement. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The Corps must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

CONSERVATION RECOMMENDATIONS

Section 7(a) (1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. Appropriate native salt-resistant dune vegetation should be established on the restored dunes. The FDEP, Bureau of Beaches and Wetland Resources, can provide technical assistance on the specifications for design and implementation.
2. Surveys for nesting success of sea turtles should be continued for a minimum of 3 years following beach nourishment to determine whether sea turtle nesting success has been adversely impacted.
3. Educational signs should be placed where appropriate at beach access points explaining the importance of the area to sea turtles and/or the life history of sea turtle species that nest in the area.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation on the action outlined in the request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal

agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have any questions regarding this BO, please contact Ann Marie Lauritsen of this office at (904) 525-0661.

Sincerely,



for David L. Hankla
Field Supervisor

Cc: Robbin Trindell- FWC
Ken Graham- Service/Atlanta

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Permit No SAJ-2000-03874 (SP-CJW)

Attachment C

National Marine Fisheries Service's
"Sea Turtle and Smalltooth Sawfish Construction Conditions"



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701

SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS

The permittee shall comply with the following protected species construction conditions:

- a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.
- b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.
- c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.
- d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.
- e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.
- f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.
- g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

Revised: March 23, 2006

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Permit No SAJ-2000-03874 (SP-CJW)

Attachment D

"Standard Manatee Conditions for In-Water Work - July 2005"

STANDARD MANATEE CONDITIONS FOR IN-WATER WORK

2009

The permittee shall comply with the following conditions intended to protect manatees from direct project effects:

- a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.
- b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- c. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
- d. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
- e. Any collision with or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-FWCC. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or Vero Beach (1-772-562-3909) for south Florida.
- f. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Awareness signs that have already been approved for this use by the Florida Fish and Wildlife Conservation Commission (FWC) must be used (see MyFWC.com). One sign which reads *Caution: Boaters* must be posted. A second sign measuring at least 8 1/2" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities.

CAUTION: MANATEE HABITAT

All project vessels

IDLE SPEED / NO WAKE

When a manatee is within 50 feet of work
all in-water activities must

SHUT DOWN

Report any collision with or injury to a manatee:



Wildlife Alert:

1-888-404-FWCC(3922)

cell *FWC or #FWC

APPENDIX TS-2

**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
JOINT COASTAL PERMIT NO. 0281452-001-JC**



Florida Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

CONSOLIDATED JOINT COASTAL PERMIT AND SOVEREIGN SUBMERGED LANDS AUTHORIZATION

PERMITTEE:

Manatee County
415 10th Street West
Bradenton, FL 34205

PERMIT INFORMATION:

Permit Number: 0281452-001-JC

Project Name: City of Anna Maria Nourishment
and Coquina Beach Restoration

AGENT:

Rick Spadoni
Coastal Planning and Engineering, Inc.
2481 Boca Raton Blvd.
Boca Raton, FL 33431

County: Manatee

Issuance Date: July 23, 2010

Expiration Date of Construction Phase: July 23,
2015

REGULATORY AUTHORIZATION:

This permit is issued under the authority of Chapter 161 and Part IV of Chapter 373, Florida Statutes (F.S.), and Title 62, Florida Administrative Code (F.A.C.). Pursuant to Operating Agreements executed between the Department of Environmental Protection (Department) and the water management districts, as referenced in Chapter 62-113, F.A.C., the Department is responsible for reviewing and taking final agency action on this activity.

ACTIVITY DESCRIPTION:

The project entails beach nourishment along 3,000 feet of shoreline in the City of Anna Maria, and beach restoration along 5,075 feet of shoreline at the Coquina Beach segment, both located on Anna Maria Island. Approximately 194,000 cubic yards of beach quality sand will be utilized to construct the two segments. There will be a 600-foot gap in the Coquina Beach segment, where fill will only be mechanically placed above the Mean High Water Line. The berm elevation for the project will be +4.0 feet NAVD, with a beach slope of 1:15 (vertical:horizontal) from the seaward edge of the berm to the slope intercept with the seabed. The construction berm crest will include the 75-foot design berm width, plus an average of 70 additional feet of berm width for advanced nourishment. A geotube assemblage comprised of three sand-filled geotextile containers/tubes will be installed north of Longboat Pass (immediately north of the existing terminal groin/jetty) to limit sand from the Coquina Beach

**Joint Coastal Permit
City of Anna Maria Nourishment and Coquina Beach Restoration
Permit No. 0281452-001-JC
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segment from passing through the existing jetty into Longboat Pass. The tube will be 100 feet in length with a crest elevation of +2.9 feet NAVD. The borrow area (for both segments of the project) will be the 2008 Anna Maria Island Borrow Area, located on the Passage Key Inlet ebb tidal shoal.

The Coquina Beach Restoration is expected to cause impacts to nearshore hardbottom. The project is expected to directly impact 1.05 acres and to indirectly impact 3.45 acres, for a total anticipated impact area of 4.50 acres of hardbottom habitat (containing 68% hardbottom and 32% persistent sand cover). In order to mitigate for the impacts to hardbottom, 4.87 acres of artificial reef habitat, with the same ratio of sand to hardbottom as the natural hardbottom, will be built. This 4.87-acre mitigation reef habitat will contain at least 3.31 net acres of hardbottom.

ACTIVITY LOCATION:

The City of Anna Maria beach nourishment site is located between R-7 and R-10. The Coquina Beach restoration site is located between R-35+790 and R-41+365, with a 600 foot gap between R-37+250 and R-38. Both segments of the project are located on Anna Maria Island, in Manatee County, Sections 18, Township 34 South, Range 16 East (City of Anna Maria Segment) and Sections 4, 9 and 10, Township 35 South, Range 16 East (Coquina Beach Segment). The Borrow Area is located on the Passage Key Inlet ebb tidal shoal, approximately 2,000 feet offshore of the north end of Anna Maria Island, in the Gulf of Mexico, Class III Waters.

PROPRIETARY AUTHORIZATION:

This activity also requires a proprietary authorization, as the activity is located on sovereign submerged lands held in trust by the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), pursuant to Article X, Section 11 of the Florida Constitution, and Sections 253.002 and 253.77, F.S. The activity is not exempt from the need to obtain a proprietary authorization. The Board of Trustees delegated the Department the responsibility to review and take final action on this request for proprietary authorization in accordance with Section 18-21.0051, F.A.C., and the Operating Agreements executed between the Department and the water management districts, as referenced in Chapter 62-113, F.A.C. This proprietary authorization has been reviewed in accordance with Chapter 253, F.S., Chapter 18-21 and Section 62-343.075, F.A.C., and the policies of the Board of Trustees.

As staff to the Board of Trustees, the Department has reviewed the project described above, and has determined that the dredging and beach placement activity qualifies for a Letter of Consent to use sovereign, submerged lands, as long as the work performed is located within the boundaries as described herein and is consistent with the terms and conditions herein. Therefore, consent is hereby granted, pursuant to Chapter 253.77, F.S., to perform the activity on the specified sovereign submerged lands.

COASTAL ZONE MANAGEMENT:

This permit constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Zone Management Act. This permit also

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constitutes certification of compliance with state water quality standards pursuant to Section 401 of the Clean Water Act, 33 U.S.C. 1341.

OTHER PERMITS:

Authorization from the Department does not relieve you from the responsibility of obtaining other permits (Federal, State, or local) that may be required for the project. When the Department received your permit application, a copy was sent to the U.S. Army Corps of Engineers (USACE) for review. The USACE will issue their authorization directly to you, or contact you if additional information is needed. If you have not heard from the USACE within 30 days from the date that your application was received by the Department, contact the nearest USACE regulatory office for status and further information. Failure to obtain USACE authorization prior to construction could subject you to federal enforcement action by that agency.

AGENCY ACTION:

The above named Permittee is hereby authorized to construct the work outlined in the activity description and activity location of this permit and shown on the approved permit drawings, plans and other documents attached hereto. This agency action is based on the information submitted to the Department as part of the permit application, and adherence with the final details of that proposal shall be a requirement of the permit. **This permit and authorization to use sovereign submerged lands are subject to the General Conditions and Specific Conditions, which are a binding part of this permit and authorization.** Both the Permittee and their Contractor are responsible for reading and understanding this permit (including the permit conditions and the approved permit drawings) prior to commencing the authorized activities, and for ensuring that the work is conducted in conformance with all the terms, conditions and drawings.

GENERAL CONDITIONS:

1. All activities authorized by this permit shall be implemented as set forth in the plans and specifications approved as a part of this permit, and all conditions and requirements of this permit. The Permittee shall notify the Department in writing of any anticipated deviation from the permit prior to implementation so that the Department can determine whether a modification of the permit is required pursuant to section 62B-49.008, Florida Administrative Code.
2. If, for any reason, the Permittee does not comply with any condition or limitation specified in this permit, the Permittee shall immediately provide the Bureau of Beaches and Coastal Systems and the appropriate District office of the Department with a written report containing the following information: a description of and cause of noncompliance; and the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

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3. This permit does not eliminate the necessity to obtain any other applicable licenses or permits that may be required by federal, state, local, special district laws and regulations. This permit is not a waiver or approval of any other Department permit or authorization that may be required for other aspects of the total project that are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of sovereignty land of Florida seaward of the mean high-water line, or, if established, the erosion control line, unless herein provided and the necessary title, lease, easement, or other form of consent authorizing the proposed use has been obtained from the State. The Permittee is responsible for obtaining any necessary authorizations from the Board of Trustees of the Internal Improvement Trust Fund prior to commencing activity on sovereign lands or other state-owned lands.
5. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered specifically approved unless a specific condition of this permit or a formal determination under section 373.421(2), F.S., provides otherwise.
6. This permit does not convey to the Permittee or create in the Permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the Permittee. The issuance of this permit does not convey any vested rights or any exclusive privileges.
7. This permit or a copy thereof, complete with all conditions, attachments, plans and specifications, modifications, and time extensions shall be kept at the work site of the permitted activity. The Permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.
8. The Permittee, by accepting this permit, specifically agrees to allow authorized Department personnel with proper identification and at reasonable times, access to the premises where the permitted activity is located or conducted for the purpose of ascertaining compliance with the terms of the permit and with the rules of the Department and to have access to an copy any records that must be kept under conditions of the permit; to inspect the facility, equipment, practices, or operations regulated or required under this permit; and to sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules. Reasonable time may depend on the nature of the concern being investigated.
9. At least forty-eight (48) hours prior to commencement of activity authorized by this permit, the Permittee shall submit to the Bureau of Beaches and Coastal Systems (JCP

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Compliance Officer) and the appropriate District office of the Department a written notice of commencement of construction indicating the actual start date and the expected completion date and an affirmative statement that the Permittee and the contractor, if one is to be used, have read the general and specific conditions of the permit and understand them.

10. If historic or archaeological artifacts, such as, but not limited to, Indian canoes, arrow heads, pottery or physical remains, are discovered at any time on the project site, the Permittee shall immediately stop all activities in the immediate area that disturb the soil in the immediate locale and notify the State Historic Preservation Officer and the Bureau of Beaches and Coastal Systems (JCP Compliance Officer). In the event that unmarked human remains are encountered during permitted activities, all work shall stop in the immediate area and the proper authorities notified in accordance with Section 872.02, F.S.
11. Within 30 days after completion of construction or completion of a subsequent maintenance event authorized by this permit, the Permittee shall submit to the Bureau of Beaches and Coastal Systems (JCP Compliance Officer) and the appropriate District office of the Department a written statement of completion and certification by a registered professional engineer. This certification shall state that all locations and elevations specified by the permit have been verified; the activities authorized by the permit have been performed in compliance with the plans and specifications approved as a part of the permit, and all conditions of the permit; or shall describe any deviations from the plans and specifications, and all conditions of the permit. When the completed activity differs substantially from the permitted plans, any substantial deviations shall be noted and explained on two paper copies and one electronic copy of as-built drawings submitted to the Bureau of Beaches and Coastal Systems (JCP Compliance Officer)

SPECIFIC CONDITIONS:

1. No work shall be conducted until and unless the Department issues a Final Order of Variance (File No. 0281452-002-BV) from Rule 62-4.244(5)(c), F.A.C., to establish an expanded mixing zone.
2. All reports or notices relating to this permit shall be sent to the DEP, Bureau of Beaches and Coastal Systems, JCP Compliance Officer, 3900 Commonwealth Boulevard, Mail Station 300, Tallahassee, Florida 32399-3000 (e-mail address: [JCP Compliance@dep.state.fl.us](mailto:JCPCompliance@dep.state.fl.us)).
3. No work shall be conducted under this permit until the Permittee has received a written notice to proceed from the Department. At least 45 days prior to the requested date of

issuance of the notice to proceed, the Permittee shall submit a written request for a Notice to Proceed and the following items for review and approval by the Department:

- a. The Permittee shall submit the *final plans and specifications* for this project, which must be consistent with the activity description of this permit and the approved permit drawings. The Permittee shall point out any deviations from the activity description or the approved permit drawings, and any significant changes would require a permit modification. Submittal shall include one (1) hardcopy (sized 11 inches by 17 inches or greater, with all text legible) and one (1) electronic copy of the final plans and specifications. The plans and specifications shall be accompanied by a letter indicating the project name, the permit number, the type of construction activity, the specific type of equipment to be used, the anticipated volume of material to be moved (if applicable) and the anticipated schedule. Further, the Permittee shall specify any anticipated sites that will be used (such as a disposal or re-use location) and appropriate contact information for those facilities. The final plans and specifications submitted under this condition must comply with all conditions set forth in this permit.
 - b. ***Turbidity monitoring qualifications.*** Construction at the project site shall be monitored closely by person(s) with professional experience in monitoring turbidity for beach restoration or nourishment projects to assure that turbidity levels do not exceed the compliance standards established in this permit. Also, an individual familiar with beach construction techniques and turbidity monitoring shall be present at all times when fill material is discharged on the beach. This individual shall have authority to alter construction techniques or shut down the dredging or beach construction operations if turbidity levels exceed the compliance standards established in this permit. The names and qualifications of those individuals performing these functions, along with 24-hour contact information, shall be submitted for approval.
 - c. **Biological monitoring qualifications:** Biological monitoring qualifications shall be submitted to DEP/BBCS for review at least 30 days prior the sampling event. If additional monitoring team(s) are subcontracted, or new staff is added to the monitoring team, proposed changes and qualifications shall be submitted to DEP/BBCS for review at least 30 days prior the sampling event. The Permittee's agent is fully responsible for training of new staff members and subcontractors as well as the QA/QC verification of their work.
4. **Pre-Construction Conference.** The Permittee shall conduct a pre-construction conference to review the specific conditions and monitoring requirements of this permit with Permittee's contractors, the engineer of record and the JCP Compliance Officer (or designated alternate). In order to ensure that appropriate representatives are available, at least twenty-one (21) days prior to the intended commencement date for the permitted

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construction, the Permittee is advised to contact the Department, and the other agency representatives listed below:

DEP, Bureau of Beaches & Coastal Systems
JCP Compliance Officer
3900 Commonwealth Boulevard, MS 300
Tallahassee, Florida 32399-3000
phone: (850) 414-7716
e-mail: JCP.Compliance@dep.state.fl.us

DEP Southwest District Office
Submerged Lands & Environmental Resources
13051 North Telecom Parkway
Temple Terrace, FL 33637
(813)632-7600

Imperiled Species Management Section
Florida Fish & Wildlife Conservation Commission
620 South Meridian Street
Tallahassee, Florida 32399-1600
phone: (850) 922-4330
fax: (850) 921-4369 or email: marine.turtle@myfwc.com

Florida Fish & Wildlife Conservation Commission
Division of Marine Fisheries
Artificial Reef Program
620 S. Meridian Street, Box 4B2
Tallahassee, FL 32399-1600
phone: (850) 922-4340 x207

The Permittee is also advised to schedule the pre-construction conference at least a week prior to the intended commencement date. At least seven (7) days in advance of the pre-construction conference, the Permittee shall provide written notification, advising the participants (listed above) of the agreed-upon date, time and location of the meeting, and also provide a meeting agenda and a teleconference number.

5. Following construction of the artificial reefs, the Permittee shall complete the Florida Fish & Wildlife Conservation Commission's **FLORIDA ARTIFICIAL REEF MATERIALS PLACEMENT REPORT AND POST-DEPLOYMENT NOTIFICATION** using the form provided on their web page:

<http://myfwc.com/docs/Conservation/FWCArtificialReefMaterialPlacementReport.pdf>.

Within 30 days following construction, the completed form shall be submitted to the Florida Fish & Wildlife Conservation Commission, Division of Marine Fisheries, Artificial Reef Program, 620 S. Meridian Street, Tallahassee, FL 32399 and a copy e-mailed to the JCP Compliance Officer. In addition to attaching the completed form, please indicate on the e-mail that the information is being submitted for the City of Anna Maria Nourishment and Coquina Beach Restoration project, Permit No. 0281452-001-JC.

6. Sediment quality shall be assessed as outlined in the Sediment QA/QC Plan, dated and approved on June 21, 2010 (attached). Any occurrences of unacceptable material will be handled according to the protocols set forth in the Sediment QA/QC Plan. The sediment testing results shall be submitted to FDEP within 90 days following the completion of beach construction.
7. Per the attached “*Anna Maria Island Beach Nourishment Project – Hardbottom Mitigation and Monitoring Plan*”, approved on March 24, 2010, the Permittee shall construct a 4.87-acre limestone boulder artificial reef site, containing at least 3.31 net acres of limestone boulder hardbottom to mitigate for anticipated impacts to 4.5 acres of hardbottom habitat, which contained 3.06 net acres of hardbottom, located from R-35-R-39. The ratio of boulder to sand within the artificial reef site to be constructed shall meet or exceed the ratio found at the impact site, which was 68% hardbottom and 32% sand cover. The ratio was based on a line-intercept survey conducted in the summer of 2010, which took into account relatively stable areas of sand covering hardbottom. The net amount of hardbottom within the artificial reef shall be estimated using the line-intercept method to assess the projective cover of the boulders.
8. The construction of the mitigative artificial reef (also referenced herein as the ‘New Artificial Reef’ to distinguish it from artificial reefs constructed in 1993 and 2005) shall occur prior to the completion of construction of the beach restoration project. If the construction of the mitigative artificial reef has not commenced by the time the beach restoration construction is completed, based on the date of contractor demobilization, the total amount of mitigation will be increased by 0.3 acre per year. The material used to construct the artificial reef shall consist of limestone boulders. The boulders shall have an average diameter large enough to remain stable (3.5 feet) and be placed in a single layer, in areas underlain by rock with an overlying sand layer that is shallow enough to minimize subsidence, such that the post-subsidence relief of the artificial reef will be approximately 1-2 feet. The mitigative reef shall be placed so as not to impact existing hardbottom habitats and the 4.87 acres mitigation site (which is divided into two areas) is approximately 150 feet from exposed, natural hardbottom communities. A minimum 50 foot buffer between the new artificial reef and all existing artificial reef and/or natural hardbottom communities shall be maintained during boulder placement.

9. **Contingency Mitigation Plan.** The primary 4.87-acre artificial reef site was designed to mitigate for the anticipated project-related impacts to hardbottom contained within a 4.50-acre impact area. Hardbottom coverage in that impact area was 68% and sand coverage was 32%, so the impact area contained 3.06 net acres of hardbottom. However, a contingency plan has been developed for any project-related impacts to nearshore hardbottom resources that may exceed the anticipated 4.50 acres of hardbottom habitat impact. A contingency artificial reef establishment area will provide for the creation of up to 3.50 acres of mitigation between R-36 and R-38, adjacent to the primary reef. Another suitable area of 5.40 acres has been identified between R-37 and R-39. Selection criteria and proximity to existing hardbottom and artificial reefs for the contingency and additional suitable areas follow the same methods used to design the primary mitigation reef. If additional mitigation is required, the Department will conduct a second Uniform Mitigation Assessment Method (UMAM) assessment to calculate the appropriate mitigation acreage.
10. The pipeline corridor shall avoid placement over hardbottom communities if possible (buffer of at least 200 feet); if the passage over hardbottom is unavoidable, efforts to minimize impacts by using risers in the area where the pipeline crosses hardbottom shall be made. If the pipeline extends over the hardbottom or within 200 feet of the hardbottom or artificial reef, then monitoring (pre-, during, and post-construction) will be required in the areas of hardbottom crossings and/or areas of hardbottom (artificial reefs) in the distance less than 200 feet from the pipeline.

Marine Turtle Protection Conditions

11. ***Pre-Construction Meeting.*** A meeting between representatives of the contractor, the Service, the FWC, and the permitted sea turtle surveyor prior to the commencement of work on this project must be held. At least 10 business days advance notice must be provided prior to conducting this meeting. This will provide an opportunity for explanation and/or clarification of the sea turtle and piping plover protection measures as well as additional guidelines when construction occurs during the nesting season such as storing equipment, minimizing driving, and follow up meetings during construction.
12. ***Marine Turtle Nest Surveys.*** Sea turtle nesting surveys shall be initiated 65 days prior to sand placement or by April 15, whichever is later. Nesting surveys must continue through the end of the project or through November 30, whichever is earlier. Hatchling and emerging success monitoring will involve checking nests beyond the completion date of the daily early morning nesting surveys.
 - a) Sea turtle nesting surveys and egg relocations will only be conducted by persons with prior experience and training in these activities and who is duly authorized to conduct such activities through a valid permit issued by FWC, pursuant to FAC 68E-1. Nesting surveys must be conducted daily between sunrise and 9 a.m.

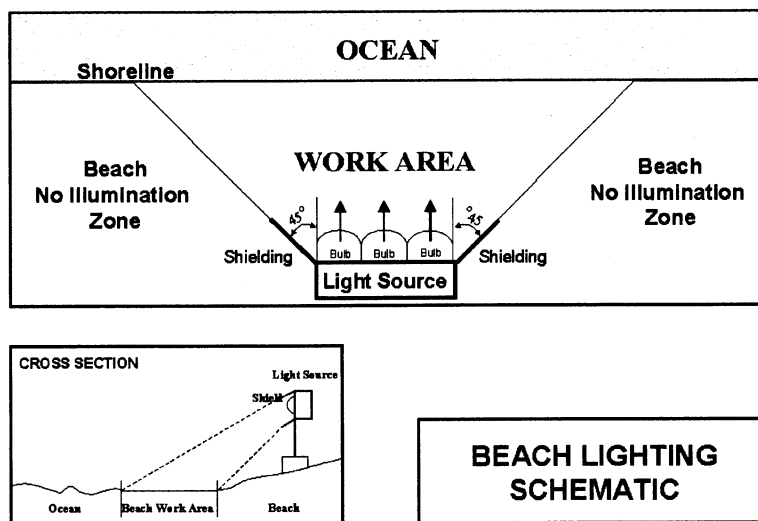
- b) The contractor shall not initiate work until daily notice has been received from the sea turtle permit holder that the morning survey has been completed. Surveys must be performed in such a manner so as to ensure that construction activity does not occur in any location prior to completion of the necessary sea turtle protection measures.
- c) The surveys shall be conducted and eggs shall be relocated per the following requirements.
 - i) Only those nests that may be affected by material placement will be relocated. Nests requiring relocation shall be moved no later than 9 a.m. the morning following deposition to a nearby self-release beach site in a secure setting where artificial lighting will not interfere with hatchling orientation. Relocated nests shall not be placed in organized groupings; relocated nests shall be randomly staggered along the length and width of the beach in settings that are not expected to experience daily inundation by high tides or known to routinely experience severe erosion and egg loss, or subject to artificial lighting. Nest relocations in association with construction activities shall cease when construction activities no longer threaten nests.
 - ii) Sea turtle nests deposited where the project activities have ceased or will not occur for 65 days shall be marked and left *in situ* unless other factors threaten the success of the nest. The turtle permit holder shall install an on-beach marker at the nest site and/or a secondary marker at a point landward as possible to assure that future location of the nest will be possible should the on-beach marker be lost. A series of stakes and highly visible survey ribbon or string shall be installed to establish a 10-foot radius around the nest. No activity shall occur within this area, nor will any activities occur which could result in impacts to the nest. Nest sites shall be inspected daily to assure nest markers remain in place and the nest has not been disturbed by the project activities.
 - iii) Reports on all nesting activity shall be provided for the initial nesting season and for a minimum of three additional nesting seasons if placed material still remains on the beach. Monitoring of nesting activity in the seasons following construction shall include daily report sheets noting all activity, nesting success rates, hatching success of all relocated nests, hatching success of a representative sampling of nests left in place (if any), dates of construction and names of all personnel involved in nest surveys and relocation activities. Data should be reported separately for the nourished areas and for an equal length of adjacent beach that is not nourished in accordance with the attached Table. Summaries of nesting activity shall be submitted in electronic format (Excel spreadsheets). All reports should be submitted by January 15 of the following year.

Table 1. Marine Turtle Monitoring for Beach Restoration Projects

The following monitoring is required for beach restoration projects. Reports summarizing the nesting should be submitted to the Tequesta office with a copy to the Tallahassee office by January 15 of the subsequent year. Data for nesting activity on the nourished beach and on an equal length of beach that is not nourished shall be reported separately, and should include numbers of nests lost to erosion or washed out. Summaries of nesting activity shall be submitted in electronic format (Excel spreadsheets).

Characteristic	Parameter	Measurement	Variable
Nesting Success	False crawls - number	Visual assessment of all false crawls	Number and location of false crawls in fill areas and nonfill areas: any interaction of the turtle with obstructions, such as groins, seawalls, or scarps, should be noted.
	False crawl - type	Categorization of the stage at which nesting was abandoned	Number in each of the following categories: emergence-no digging, preliminary body pit, abandoned egg chamber.
	Nests	Number	The number of marine turtle nests in filled and nonfilled areas should be noted. If possible, the location of all marine turtle nests shall be marked on map of project, and approximate distance to sea walls or scarps measured using a meter tape. Any abnormal cavity morphologies should be reported as well as whether turtle touched groins, seawalls, or scarps during nest excavation
		Lost Nests	The number of nests lost to inundation, erosion or the number with lost markers that could not be found.
	Lighting Impacts	Disoriented sea turtles	The number of disoriented hatchlings and adults shall be documented and reported in accordance with existing FWC protocol for disorientation events.
Reproductive Success	Emergence & hatching success	Standard survey protocol	Numbers of the following: unhatched eggs, depredated nests and eggs, live pipped eggs, dead pipped eggs, live hatchlings in nest, dead hatchlings in nest, hatchlings emerged, disoriented hatchlings, depredated hatchlings per each nest.

13. **Project Lighting.** Lighting on offshore or onshore equipment shall be minimized through reduction, shielding, lowering, and appropriate placement to avoid excessive illumination of the water's surface and nesting beach while meeting all Coast Guard, EM 385-1-1, and OSHA requirements. Light intensity shall be reduced to the minimum standard required by OSHA for General Construction areas, in order not to misdirect sea turtles. Shields shall be affixed to the light housing and be large enough to block light from all lamps from being transmitted outside the construction area, as illustrated below.



14. **Equipment Storage.** Staging areas for construction equipment for sand placement shall be located off the beach to the maximum extent practicable from April 15 to October 31; if construction is to occur during this timeframe, the following protocols shall apply:
- Nighttime storage of the beach restoration project construction equipment not in use shall be off the beach to minimize disturbance to sea turtle nesting and hatching activities.
 - All construction pipes that are placed on the beach shall be located as far landward as possible without compromising the integrity of the existing dune system.
 - Temporary storage of pipes shall be off the beach to the maximum extent possible.
 - Temporary storage of pipes on the beach shall be in such a manner so as to impact the least amount of nesting habitat and shall not compromise the integrity of the dune systems.

- iii) Pipes placed parallel to the dune shall be five to ten feet away from the toe of the dune.
15. **Fill Restrictions.** During nesting season, the contractor shall not extend the beach fill more than 500 feet along the shoreline between dusk and the following day until the daily nesting survey has been completed and the beach cleared for fill advancement, in accordance with the following protocols:
- a) If the 500 feet is not feasible for the project, an agreed upon distance shall be decided on during the preconstruction meeting.
 - b) Once the beach has been cleared and the necessary nest relocations have been completed, the contractor is allowed to proceed with the placement of fill during daylight hours until dusk at which time the 500-foot length limitation shall apply.
16. **Beach Maintenance.** All derelict concrete, metal, and coastal armoring material and other debris shall be removed from the beach prior to any dredged material placement to the maximum extent practicable. If debris removal activities will take place from April 15 through September 30, the work shall be conducted during daylight hours only and shall not commence until completion of the sea turtle survey each day. All excavations and temporary alterations of the beach topography shall be filled or leveled to the natural beach profile prior to 9 p.m. each day.
17. **Compaction Sampling.** Immediately after completion of the beach restoration project and prior to April 15 for 3 subsequent years, sand compaction shall be monitored in the area of sand placement in accordance with the following protocols:
- a) Compaction sampling stations shall be located at 500-foot intervals along the project area. One station shall be at the seaward edge of the dune/bulkhead line (when material is placed in this area) and one station shall be midway between the dune line and the high water line (normal wrack line).
 - b) At each station, the cone penetrometer shall be pushed to a depth of 6, 12, and 18 inches three times (three replicates). Material may be removed from the hole if necessary to ensure accurate readings of successive levels of sediment. The penetrometer may need to be reset between pushes, especially if sediment layering exists. Layers of highly compact material may lie over less compact layers. Replicates shall be located as close to each other as possible, without interacting with the previous hole and/or disturbed sediments. The three replicate compaction values for each depth shall be averaged to produce final values for each depth at each station. Reports shall include all 18 values for each transect line, and the final 6 averaged compaction values.

- c) If the average value for any depth exceeds 500 psi for any two or more adjacent stations, then that area shall be tilled prior to April 15.
 - d) If values exceeding 500 psi are distributed throughout the project area but in no case do those values exist at two adjacent stations at the same depth, then consultation with the FWC shall be required to determine if tilling is required. If a few values exceeding 500 psi are present randomly within the project area, tilling shall not be required.
18. ***Tilling Requirements.*** Immediately after completion of the beach fill placement event, and prior to April 1 for 3 subsequent years, if placed sand still remains on the beach, the beach shall be tilled as described below or the applicant may follow the procedure outlined below to request a waiver of the tilling requirement. During tilling, at a minimum, the protocol provided below shall be followed:
- a) The area shall be tilled to a depth of 36 inches. All tilling activity must be completed prior to April 1. Each pass of the tilling equipment shall be overlapped to allow more thorough and even tilling. Tilling should occur landward of the wrack line and avoid all vegetated areas 3 square feet or greater with a 3 foot buffer around the vegetated areas.
 - b) An annual summary of compaction surveys and the actions taken shall be submitted to the FWC.
 - c) If the project is completed just before the nesting season, tilling shall not occur in areas where nests have been left in place or relocated unless authorized by the U.S. Fish and Wildlife Service in an Incidental Take Statement.
 - d) This condition shall be evaluated annually and may be modified if necessary to address sand compaction problems identified during the previous year.
 - e) To request a waiver of the tilling requirement, the Permittee may measure sand compaction in the area of restoration in accordance with a protocol agreed to by the FWC, the Department, the U.S. Fish & Wildlife Service, and the applicant to determine if tilling is necessary.
19. ***Escarpment Surveys.*** Visual surveys for escarpments along the beach fill area shall be made immediately after completion of the beach nourishment project and between March 15 and April 15 for the following three years if placed sand still remains on the beach. All scarps shall be leveled or the beach profile shall be reconfigured to minimize scarp formation. In addition, weekly surveys of the project area shall be conducted during the two nesting seasons following completion of fill placement as follows:

- a) The number of escarpments and their location relative to DNR-DEP reference monuments shall be recorded during each weekly survey and reported relative to the length of the beach surveyed (e.g., 50% scarps). Notations on the height of these escarpments shall be included (0 to 2 feet, 2 to 4 feet, and 4 feet or higher) as well as the maximum height of all escarpments.
 - b) Escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet shall be leveled to the natural beach contour by April 15. Any escarpment removal shall be reported relative to R-monument.
 - c) If weekly surveys during the marine turtle nesting season document subsequent reformation of escarpments that exceed 18 inches in height for a distance of 100 feet, the FWC shall be contacted immediately to determine the appropriate action to be taken. Upon written notification, the Permittee shall level escarpments in accordance with mechanical methods prescribed by the FWC.
20. ***Lighting Surveys.*** A survey of all artificial lighting visible from the project beach shall be conducted after the beach restoration project to determine if any lighting can be seen. The surveys shall document all lighting visible from the post-project restored beach. The post-project survey shall be conducted by May 15 following the project work and again by June 15, July 15, August 15, and September 15 of that nesting season. For each light source visible, it must be documented that the property owner(s) have been notified of the problem light with recommendations for correcting the light. Recommendations must be in accordance with the Florida Model Lighting Ordinance for Marine Turtle Protection FAC 62B-55. A summary report of each survey including documentation of property owner notification shall be submitted to the FWC Imperiled Species Management Section in Tallahassee by the 1st of the following month; and a final summary report provided by December 15 of that year. After the final report is completed, a meeting must be set up with FWC and the USFWS to discuss the survey report and documented sea turtle disorientations.
21. ***Marine Turtle or Nest Encounters.*** Upon locating a dead, injured, or sick endangered or threatened sea turtle specimen, initial notification must be made to the FWC at 1-888-404-FWCC. Care should be taken in handling sick or injured specimens to ensure effective treatment and care and in handling dead specimens to preserve biological materials in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured endangered or threatened species or preservation of biological materials from a dead animal, the finder has the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed. In the event a sea turtle nest is excavated during construction activities, all work shall cease in that area immediately and the permitted person responsible for egg relocation for the project should be notified so the eggs can be moved to a suitable relocation site.

Shorebird Protection Conditions

22. ***Shorebird Surveys.*** Shorebird surveys should be conducted by trained, dedicated individuals (Shorebird Monitor) with proven shorebird identification skills and avian survey experience. Credentials of the Shorebird Monitor will be submitted to the FWC Regional Biologist for review and approval. Shorebird Monitors will use the following survey protocols:
- a) ***Nesting Season Surveys.*** Shorebird Monitors should review and become familiar with the general information and data collection protocols outlined on the FWC's Beach-Nesting Bird Website (<http://myfwc.com/shorebirds/>). An outline of what data should be collected, including downloadable field data sheets, is available on the website.
 - i) The nesting season is generally 1 April – 1 September, but some nesting may occur through September. In addition, the imperiled snowy plover (*Charadrius alexandrinus*) may nest as early as February along the west coast and panhandle of Florida.
 - ii) Nesting season surveys shall begin on February 15 or 10 days prior to project commencement (including surveying activities and other pre-construction presence on the beach), whichever is later, and be conducted daily throughout the construction period or through August, whichever is earlier. Weekly surveys of the project site shall continue through August or through fledgling or loss of identified nests or hatchlings, whichever is later.
 - iii) Nesting season surveys shall be conducted in all potential beach-nesting bird habitat within the project boundaries that may be impacted by construction or pre-construction activities during the nesting season. Portions of the project in which there is no potential for project-related activity during the nesting season may be excluded.
 - iv) Surveys for detecting new nesting activity will be completed on a daily basis prior to movement of equipment, operation of vehicles, or other activities that could potentially disrupt nesting behavior or cause harm to the birds or their eggs or young.
 - v) Surveys should be conducted by traversing the length of the project area and visually inspecting, using binoculars or spotting scope, for the presence of shorebirds exhibiting breeding behavior.

- vi) If an ATV or other vehicle is needed to cover large project areas, the vehicle must be operated at a speed <6 mph, shall be run at or below the high-tide line, and the Shorebird Monitor will stop at no greater than 200 meter intervals to visually inspect for nesting activity.
 - vii) Once breeding is confirmed by the presence of a scrape, eggs, or young, the Bird Monitor will notify the Regional Nongame Biologist of the FWC at (863) 648-3200 within 24 hours.
 - viii) All breeding activity will be reported to the Beach-Nesting Bird website within one week of data collection.
 - ix) Observations of non-breeding shorebirds should be reported to the Shorebird-Seabird Occurrence Database, as described below.
23. ***Buffer Zones and Travel Corridors.*** Within the project area, the Permittee shall establish a 300 ft-wide buffer zone around any location where shorebirds have been engaged in nesting behavior, including territory defense. Any and all construction activities, including movement of vehicles, should be prohibited in the buffer zone.
- a) The width of the buffer zone shall be increased if birds appear agitated or disturbed by construction or other activities in adjacent areas.
 - b) Site-specific buffers may be implemented upon approval by FWC as needed.
 - c) Reasonable and traditional pedestrian access should not be blocked where nesting birds will tolerate pedestrian traffic. This is generally the case with lateral movement of beach-goers walking parallel to the beach at or below the highest tide line. Pedestrian traffic may also be tolerated when nesting was initiated within 300 feet of an established beach access pathway. The Permittee shall work with FWC staff to determine if pedestrian access can be accommodated without compromising nesting success.
 - d) Designated buffer zones must be posted with clearly marked signs around the perimeter. If pedestrian pathways are approved within the 300-foot buffer zone, these should be clearly marked. These markings shall be maintained until nesting is completed or terminated. In the case of solitary nesters, nesting is not considered to be completed until all chicks have fledged.
 - e) No construction activities, movement of vehicles, or stockpiling of equipment shall be allowed within the buffer area.

- f) FWC-approved travel corridors should be designated and marked outside the buffer areas. Heavy equipment, other vehicles, or pedestrians may transit past nesting areas in these corridors. However, other activities such as stopping or turning shall be prohibited within the designated travel corridors adjacent to the nesting site.
 - i) Where such a travel corridor must be established within the project area it should avoid critical areas for shorebirds (known nesting sites, wintering grounds, FWC-designated Critical Wildlife Areas, and USFWS-designated critical piping plover habitat) as much as possible, and be marked with signs clearly delineating the travel corridor from the shorebird buffer areas described above.
 - ii) To the degree possible, the Permittee should maintain some activity within these corridors on a daily basis, without directly disturbing any shorebirds documented on site or interfering with sea turtle nesting, especially when those corridors are established prior to commencement of construction. Passive methods to modify nesting site suitability must be approved by FWC Regional Biologist for that region.
24. ***Placement of Equipment and Sand.*** If it will be necessary to extend construction pipes past a known shorebird nesting site or over-wintering area for piping plovers, then whenever possible those pipes should be placed landward of the site before birds are active in that area. No pipe or sand shall be placed seaward of a known shorebird nesting site during the shorebird nesting season.
25. ***Notification.*** If shorebird nesting occurs within the project area, a bulletin board will be placed and maintained in the construction area with the location map of the construction site showing the bird nesting areas and a warning, clearly visible, stating that “BIRD NESTING AREAS ARE PROTECTED BY THE FLORIDA THREATENED AND ENDANGERED SPECIES ACT AND THE STATE AND FEDERAL MIGRATORY BIRD ACTS”.
26. ***Beach Contours.*** Shorebird surveys must be conducted at least ten (10) days prior to any tilling or scarp removal that occurs during shorebird nesting season, starting February 15. It is the responsibility of the contractors to avoid tilling or scarp removal in areas where nesting birds are present.
- a) A relatively even surface, with no deep ruts or furrows, shall be created during tilling. To do this, chain-linked fencing or other material shall be dragged over those areas as necessary after tilling.
 - b) The slope between the mean high water line and the mean low water line must be maintained in such a manner as to approximate natural slopes.

Manatee Protection Conditions

27. The permittee shall comply with the following conditions intended to protect manatees from direct project effects:
- a) All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.
 - b) All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
 - c) Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
 - d) All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
 - e) Any collision with or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-FWCC. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or Vero Beach (1-772-562-3909) for south Florida.
 - f) Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Awareness signs that have already been approved for this use by the Florida Fish and Wildlife Conservation Commission (FWC) must be used (see MyFWC.com). One sign which reads *Caution: Boaters* must be posted. A second sign measuring at least 8 1/2" by 11" explaining the requirements for "Idle Speed/No Wake" and the shutdown of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities.

MONITORING REQUIRED:
WATER QUALITY MONITORING

28. Water Quality - Turbidity shall be monitored as follows:

Units: Nephelometric Turbidity Units (NTUs).

Frequency: 3 times daily at least 4 hours apart during all dredging and sand placement operations.

Location: Background: At mid-depth, clearly outside the influence of any artificially generated turbidity plume.

Dredge Site: approximately 300 meters in the opposite direction of the prevailing current flow.

Beach Site: approximately 500 meters upcurrent of the point where the return water from the dredged discharge reenters the Gulf of Mexico and the same distance offshore as the associated compliance sample.

Compliance: At mid-depth, within the densest portion of any visible turbidity plume generated by this project.

Dredge Site: Samples shall be collected 150 meters downcurrent from the dredge head, in the densest portion of any visible turbidity plume.

Beach Site: Samples shall be collected where the densest portion of the turbidity plume crosses the edge of the mixing zone, which measures 300 meters offshore and 1,000 meters downcurrent from the point where the return water from the dredged discharge reenters the Gulf of Mexico.

Intermediate Monitoring: Mid-depth, at points approximately 250 meters, 500 meters, and 750 meters downcurrent from the point where the return water from the dredged discharge reenters the Gulf of Mexico, within the densest portion of any visible turbidity plume. These measurements will be used to calibrate the size of the mixing zone for future events.

29. The **compliance** locations given above shall be considered the limits of the temporary mixing zone for turbidity allowed during construction. If monitoring reveals turbidity levels at the **compliance** sites that are greater than 29 NTUs above the corresponding

background turbidity levels, construction activities shall **cease immediately** and not resume until corrective measures have been taken and turbidity has returned to acceptable levels. Any such occurrence shall also be immediately reported to the JCP Compliance Officer at JCP.Compliance@dep.state.fl.us and the Department's Southwest District office in Tampa.

The turbidity monitor is also responsible for observing any potential turbidity plumes around the pipeline, which could be created by a pipeline leak. If a pipeline leak is observed, the JCP Compliance Officer shall be notified. If the plume from the pipeline leak is recoded where the pipeline is crossing sandy areas, the dredging crew shall be notified to fix the problem. If the plume from the pipeline leak is recoded within 200 feet of hardbottom, construction activities shall **cease immediately** until the leak is fixed.

30. Turbidity Reports. All turbidity monitoring data shall be submitted within one week of analysis, along with documents containing the following information:
- a. time of day samples were taken;
 - b. dates of sampling and analysis;
 - c. depth of water body;
 - d. depth of each sample;
 - e. antecedent weather conditions, including wind direction and velocity;
 - f. tidal stage and direction of flow;
 - g. water temperature;
 - h. a map indicating the sampling locations;
 - i. a statement describing the methods used in collection, handling, storage and analysis of the samples;
 - j. a statement by the individual responsible for implementation of the sampling program concerning the authenticity, precision, limits of detection, calibration of the meter and accuracy of the data.

Monitoring reports shall be submitted to the BBCS in Tallahassee (attn: JCP Compliance Officer) and to the Department's Southwest District office. Failure to submit reports in a timely manner constitutes grounds for revocation of the permit. When submitting this information to the Department, on the cover page to the submittal and at the top of each page, please state: "This information is provided in partial fulfillment of the monitoring requirements in Permit No. 0281452-001-JC, for the City of Anna Maria Nourishment and Coquina Beach Restoration Project."

Any project-associated discharge other than dredging, or placing sand on the beach (e.g., scow leakage or runoff from temporary containment area) shall be monitored as close to the source as possible every hour until compliance levels match the background turbidity levels, or until otherwise directed by the Department. The Permittee shall notify the

Department by separate email to the JCP Compliance Officer, of such an event within 24 hours of the time the Permittee first becomes aware of the discharge.

BIOLOGICAL MONITORING

31. Nearshore Hardbottom Monitoring

A. ***In-situ Hardbottom Delineation.*** In order to quantify changes in hardbottom exposure, divers will periodically delineate the hardbottom through filed studies based on the most recent, clear aerial imagery available. Once hardbottom resources are delineated, the acreage of exposed hardbottom in the nearshore Coquina Beach Nourishment Project area will be determined. Results of each hardbottom investigation will be compared to previous hardbottom mapping surveys to show changes in hardbottom exposure over time. If impacts are more than anticipated, further mitigation shall be required.

B. ***Transect establishment and monitoring:*** In order to monitor impacts to the nearshore hardbottom area, a total of thirteen (13) transects shall be established in the nearshore hardbottom areas. Of these 13 transects, 9 will be monitored for unanticipated impacts (section 1. below), and 4 will be monitored to assess the impact area (section 2. below).

1. **Unanticipated Impacts:** In order to assess any unanticipated project-related impacts to natural nearshore hardbottom, nine (9) of the transects will be monitored outside the impact area, including the hardbottom area north of the project area and the hardbottom resources located west (seaward) of the equilibrium toe of fill (ETOF). For these transects, the following monitoring protocols shall be performed (in the order listed):

- i. ***Line-intercept method*** will be used to monitor sediment coverage. During each survey, a biologist will swim the length of each transect and note the location along the transect tape, and linear extent, of each sand patch that is at least 0.5 m in length and uninterrupted by benthic biota.
- ii. ***BEAMR assessment*** will be performed to characterize the benthic communities. The BEAMR method is summarized in the attached Monitoring and Mitigation Plan. Photographs will be taken to supplement BEAMR data along each transect.
- iii. ***Video Documentation*** will supplement the BEAMR and line-intercept data along the nine (9) transects outside the ETOF to help assess any unanticipated

project-related impacts. Video will be collected along each transect in an east to west direction.

2. **Impact Area:** In order to record the condition of hardbottom within the impact area and to document sedimentation and any potential re-exposure, video will be collected along the four (4) transects within the ETOF that are anticipated to experience project-related impacts. Video will be collected along each transect in an east to west direction.

C. **Schedule.** Hardbottom delineation, as well as the thirteen (13) nearshore hardbottom transects, shall be monitored on five (5) occasions, with all surveys taking place during the summer: once before construction of the City of Anna Maria Nourishment and Coquina Beach Restoration Project (a second, additional pre-construction survey may be conducted by the Permittee as an optional survey); once immediately following construction; and then annually for three years post-construction. Each monitoring event shall include line-intercept, BEAMR and video data collection on the nine (9) transects outside the ETOF, and video collection on the four (4) transects located within the ETOF.

D. **Reports.** An immediate post-construction, first annual, second annual and third annual post-construction nearshore hardbottom monitoring report shall be prepared and submitted to the Department for review within 90 days of the completion of each monitoring event, for three years post-construction. Monitoring progress shall be reported weekly until the completion of each survey, at which point the JCP Compliance Officer shall be notified that the survey is complete. The immediate post-construction report, and all following reports, shall compare data to pre-construction results and to each previous post-construction report. A final report shall be prepared following the conclusion of the third year of post-construction monitoring and shall summarize and compare data of all reports. Reports shall analyze and discuss any observed burial, sedimentation, or changes to benthic communities based on the transect monitoring, including line-intercept and BEAMR data. Data shall be analyzed to determine any potential secondary impacts due to the City of Anna Maria Nourishment and Coquina Beach Restoration Project. Videos collected along monitoring transects shall be submitted on DVDs with each annual report. Each annual report shall also include the results of the annual summer hardbottom delineation and a comparison of exposed hardbottom acreage delineated during all hardbottom investigations.

Annual monitoring reports shall include:

- A map including the Coquina Beach Restoration Project area and adjacent hardbottom resources and monitoring transects overlaid onto recent, clear aerial photographs;
- Analysis of sedimentation on the transects outside the ETOF based on line-intercept data and data from quadrats;

- Multivariate analysis of quantitative BEAMR data with subsequent analysis of benthic biological components on the transects outside the ETOF (*e.g.*, percent cover by corals, octocorals, sponges, and algae);
- A description of the condition (*e.g.*, exposed or buried) of transects located within the ETOF;
- A comparison of post-construction monitoring results to pre-construction monitoring results;
- A figure comparing the most recent annual hardbottom delineation and all previous hardbottom delineations;
- Calculation of exposed hardbottom acreage and comparison to previous exposed hardbottom acreages;
- Copies of all transect video submitted on DVDs; and,
- All raw data in the format that was used for the analysis.

32. **Mitigation Reef Monitoring**

A. ***Line Intercept Study.*** Immediately following construction of the New Artificial Reef, divers shall conduct a line-intercept survey as part of the as-built survey in order to estimate percent of net boulder cover. Preceding this survey, the placement of 30-meter transects within the artificial reef site will be determined by randomly generating the start points and degree headings for each transect, with approximately 12 transects per acre of artificial reef. During the line-intercept survey, divers will swim the length of each transect and record the projection of limestone boulders on the transect line. Based on the data collected along all transects, the percent net boulder cover and percent sand cover within the artificial reef site will be calculated and reported.

B. ***Transect Establishment and Monitoring.*** In order to monitor benthic colonization and succession, twenty (20) monitoring transects shall be established on the New Artificial Reef, according to the Monitoring and Mitigation Plan:

- i. The **BEAMR assessment**, as described in the Monitoring and Mitigation Plan, shall be used to assess the benthic communities. Photographs shall be taken to supplement BEAMR data along each transect.
- ii. **Video Documentation** shall be collected along all artificial reef transects to supplement the BEAMR data. Video shall be collected along each transect in an east to west direction.
- iii. **Photo Quadrat Monitoring.** In order to create a photo record of colonization and succession, five (5) 0.5- m² photoquadrats shall be monitored on the New Artificial Reef. The time-series photographs will provide a clear visual representation of the colonization and succession on the Artificial Reef, and the

Coral Point Count calculations will quantify the change in benthic cover taking place over time in each photo-quadrat. These data will lead to a better understanding of the colonization processes occurring on artificial reefs in the nearshore habitat of the Gulf coast of Florida.

C. ***Comparison to 2005 Artificial Reef.*** The 2005 Artificial Reef shall be monitored and compared to the New Artificial Reef built for this project, in order to gain insight into colonization and succession patterns occurring on artificial reefs in the nearshore habitat of the Gulf coast of Florida. Divers shall survey the 2005 Artificial Reef during each monitoring event. Data collected on the 2005 Artificial Reef shall not be used as one of the criteria of mitigation success of the New Artificial Reef; success of the New Artificial Reef will be solely determined by comparison to the natural nearshore hardbottom habitat expected to be impacted by the project (see F below).

D. ***Mapping of Artificial Reef.*** During the final (third) monitoring survey on the New Artificial Reef, biologists shall also map the artificial reef in order to determine the total acreage.

E. ***Schedule.*** Immediately following construction of the New Artificial Reef, divers shall conduct a line-intercept survey as part of the as-built survey. The artificial reef transects, (including twenty (20) transects on the New Artificial Reef and ten (10) transects on the 2005 Artificial Reef), shall be monitored annually (summer) for three years following placement of the New Artificial Reef. During the final (third) monitoring survey, biologists shall map the artificial reef.

F. ***Success.*** Success will be achieved when the benthic community and colonization of the mitigation reef has been documented to be comparable to the benthic community and species composition documented in the impact area during the September 2009 survey. The criteria for successful mitigation will be defined by: 1) 90% of species found in the impact site shall be present in the mitigation site by the time of the completion of the monitoring period; and 2) percent cover by the major groups of organisms in the mitigation site shall be no less that it was in the impact site.

G. ***Reports.*** A first, second and third annual mitigative artificial reef monitoring report shall be completed within 90 days of the completion of each annual monitoring event, for three years following placement of the New Artificial Reef. Monitoring progress shall be reported weekly until the completion of each survey, at which point the JCP Compliance Officer shall be notified that the survey is complete. Each annual report shall document the colonization of the New Artificial Reef and compare the species composition on this reef to that documented in the impact area during the September 2009 survey. The benthic community on the New Artificial Reef shall also be compared to the benthic community found on the 2005 Artificial Reef so that community succession can be analyzed on both artificial reefs.

Annual monitoring reports shall include:

- A map including the Coquina Beach Restoration Project area, adjacent hardbottom resources and monitoring transects, the New Artificial Reef and 2005 Artificial Reef and associated monitoring transects overlaid onto recent, clear aerial photographs;
- An analysis of quantitative BEAMR data on benthic biological components on artificial reef monitoring transects (*e.g.*, percent cover by corals, octocorals, sponges, and algae);
- A comparative analyses of the new mitigative artificial reef and natural hardbottom resources to determine mitigation success;
- An analysis of succession based on comparison of benthic communities found on the New Artificial Reef and 2005 Artificial Reef;
- An analysis of colonization and succession within the five (5) photo-quadrats, including time-series photographs;
- Current acreage of artificial reef (for Final report only);
- Copies of all transect video submitted on DVDs; and
- All raw data in the format that was used for the analysis.

33. PHYSICAL MONITORING REQUIRED:

Pursuant to 62B-41.005(16), F.A.C., physical monitoring of the project is required through acquisition of project-specific data to include, at a minimum, topographic and bathymetric surveys of the beach, offshore, and borrow site areas, and engineering analysis. The monitoring data is necessary in order for both the project sponsor and the Department to regularly observe and assess, with quantitative measurements, the performance of the project, any adverse effects which have occurred, and the need for any adjustments, modifications, or mitigative response to the project. The scientific monitoring process also provides the project sponsor and the Department information necessary to plan, design, and optimize subsequent follow-up projects, potentially reducing the need for and costs of unnecessary work, as well as potentially reducing any environmental impacts that may have occurred or be expected.

The Monitoring Plan shall indicate the project's predicted design life.

The approved Monitoring Plan is attached to this permit and can be revised at any later time by written request of the Permittee and with the written approval of the Department. If subsequent to approval of the Monitoring Plan there is a request for modification of the permit, the Department may require revised or additional monitoring requirements as a condition of approval of the permit modification.

As guidance for obtaining Department approval, the Monitoring Plan shall generally contain the following items:

- a. Topographic and bathymetric profile surveys of the beach and offshore shall be conducted within 90 days prior to commencement of construction, and within 60 days following completion of construction of the project. Thereafter, monitoring surveys shall be conducted annually for a period of three (3) years and then biennially until the next beach nourishment event or the expiration of the project design life, whichever occurs first. The monitoring surveys shall be conducted during a spring or summer month and repeated as close as practicable during that same month of the year. If the time period between the immediate post-construction survey and the first annual monitoring survey is less than six months, then the Permittee may request a postponement of the first monitoring survey until the following spring/summer. A prior design survey of the beach and offshore may be submitted for the pre-construction survey if consistent with the other requirements of this condition.

The monitoring area shall include profile surveys at each of the Department of Environmental Protection's reference monuments within the bounds of the beach fill area and along at least 5,000 feet of the adjacent shoreline on both sides of the beach fill area. For those project areas that contain erosion control structures, such as groins or breakwaters, additional profile lines shall be surveyed at a sufficient number of intermediate locations to accurately identify patterns of erosion and accretion within this subarea. All work activities and deliverables shall be conducted in accordance with the latest update of the Bureau of Beaches and Coastal Systems (BBCS) *Monitoring Standards for Beach Erosion Control Projects, Sections 01000 and 01100*.

- b. Bathymetric surveys of the borrow area(s) shall be conducted within 90 days prior to commencement of construction, and within 60 days following completion of construction of the project concurrently with the beach and offshore surveys required above. Thereafter, monitoring surveys of the borrow areas shall be dependent on their location. Borrow sites located in tidal inlet shoals or in nearshore waters above the depth of closure for littoral transport processes shall be at two (2) year intervals concurrently with the beach and offshore surveys required above. These biennially monitoring surveys are not required for borrow sites located below the depth of closure for littoral transport processes. A prior design survey of the borrow area may be submitted for the pre-construction survey if consistent with the other requirements of this condition.

Survey grid lines across the borrow area(s) shall be spaced to provide sufficient detail for accurate volumetric calculations but spaced not more than a maximum of 500 feet apart, and shall extend a minimum of 500 feet beyond the boundaries of the borrow site. For borrow sites located in tidal inlet shoals, bathymetric surveys of the entire shoal complex, including any attachment bars, shall be conducted unless otherwise specified by the Department based upon the size of the shoal and the potential effects of the dredging on inlet processes. In all other aspects, work activities and deliverables shall be consistent with the BBCS Monitoring Standards for Beach Erosion Control Projects, Section 01200.

**Joint Coastal Permit
City of Anna Maria Nourishment and Coquina Beach Restoration
Permit No. 0281452-001-JC
Page 28 of 29**

- c. The Permittee shall submit an engineering report and the monitoring data to the BBCS within 90 days following completion of the post-construction survey and each annual or biennial monitoring survey.

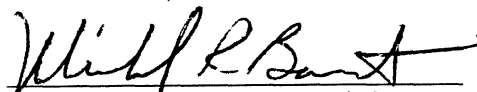
The report shall summarize and discuss the data, the performance of the beach fill project, and identify erosion and accretion patterns within the monitored area. In addition, the report shall include a comparative review of project performance to performance expectations and identification of adverse impacts attributable to the project.

Appendices shall include plots of survey profiles and graphical representations of volumetric and shoreline position changes for the monitoring area. Results shall be analyzed for patterns, trends, or changes between annual surveys and cumulatively since project construction.

- d. Monitoring reports and data shall be submitted to the Bureau of Beaches and Coastal Systems in Tallahassee. Failure to submit reports and data in a timely manner constitutes grounds for revocation of the permit. When submitting any monitoring information to the Bureau, please include a transmittal cover letter clearly labeled with the following at the top of each page: **"This monitoring information is submitted in accordance with Item No. [XX] of the approved Monitoring Plan for Permit No. 0281452-001-JC for the monitoring period [XX]."**
34. All reports or notices relating to this permit shall be sent to the Department, Bureau of Beaches and Coastal Systems, JCP Compliance Officer, 3900 Commonwealth Boulevard, Mail Station 300, Tallahassee, Florida 32399-3000 (e-mail address: JCPCompliance@dep.state.fl.us).

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



Michael R. Barnett, P.E., Chief
Bureau of Beaches and Coastal Systems

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section 120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

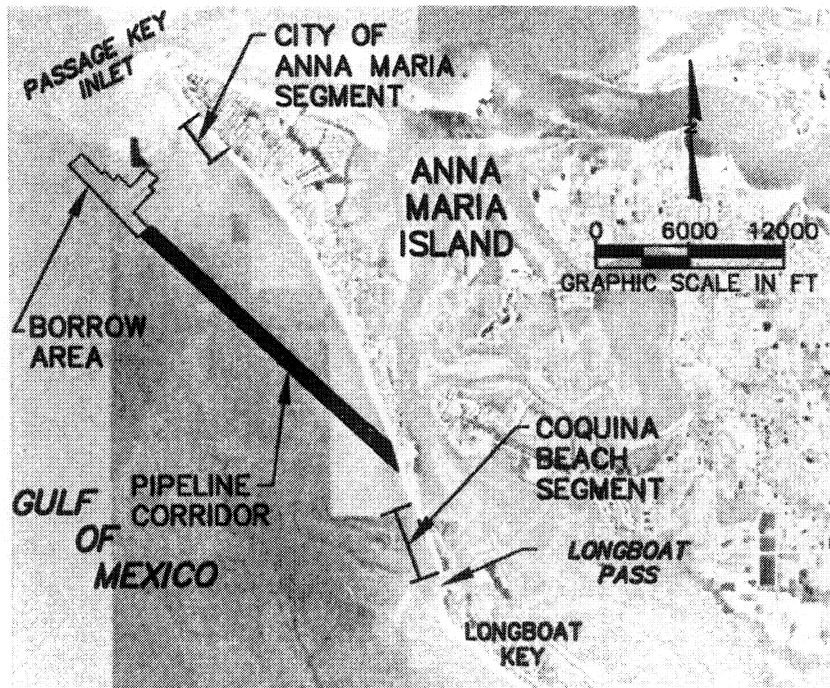
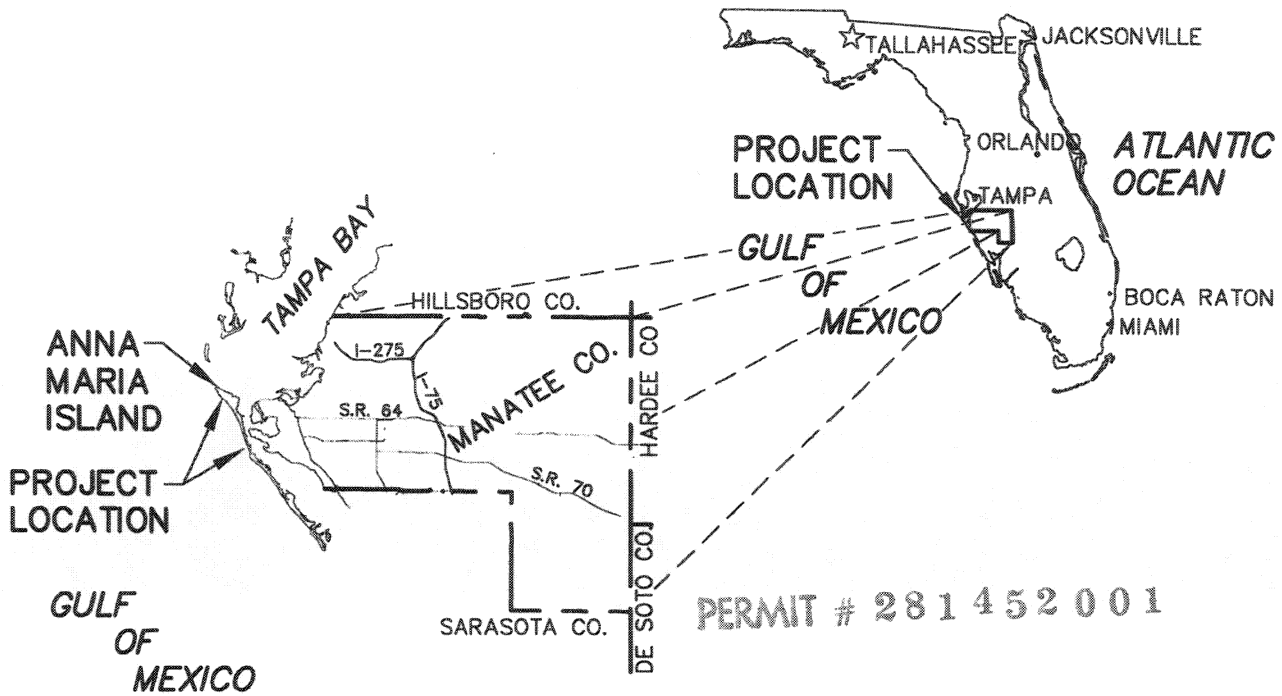
Deputy Clerk

Date

Prepared by Lainie Edwards, Ph.D.

Attachments: Approved Permit Drawings (19 pages)
Physical Monitoring Plan (approved 5-20-2010)
Sediment QA/QC Plan (approved 6-21-2010)
Coquina Mitigation and Monitoring Plan (approved 3-24-2010)

ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT MANATEE COUNTY, FLORIDA



SHEET INDEX

NO.	TITLE
1	COVER SHEET
2-5	PLAN VIEWS
6-11	FILL PROFILES
12-13	2008 BORROW AREA PLAN VIEW
14-16	2008 BORROW AREA CROSS SECTIONS
17	PIPELINE CORRIDOR DETAIL
18	PIPELINE CORRIDOR PLAN VIEW
19	GEOTEXTILE TUBE CROSS- SECTION

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

Thomas P. Pierro

THOMAS P PIERRO P.E. NO. 64683

11/20/09

DATE

REVISIONS

DATE	BY	DESCRIPTION
1/4/09	JRC	RAI #1
5/1/09	RS	RAI #2 - GEOTEXTILE TUBE

ANNA MARIA ISLAND
BEACH NOURISHMENT PROJECT
COVER SHEET

COASTAL PLANNING & ENGINEERING, INC.
PH. (851) 381-4102
FAX (851) 381-9116
C.O.A. FL. #4028
C.O.A. LA. #331
2461 N.W. BOCA RATON BOULEVARD
BOCA RATON, FLORIDA 33485
www.CoastalPlanning.net



DATE:
4/12/07

BY:

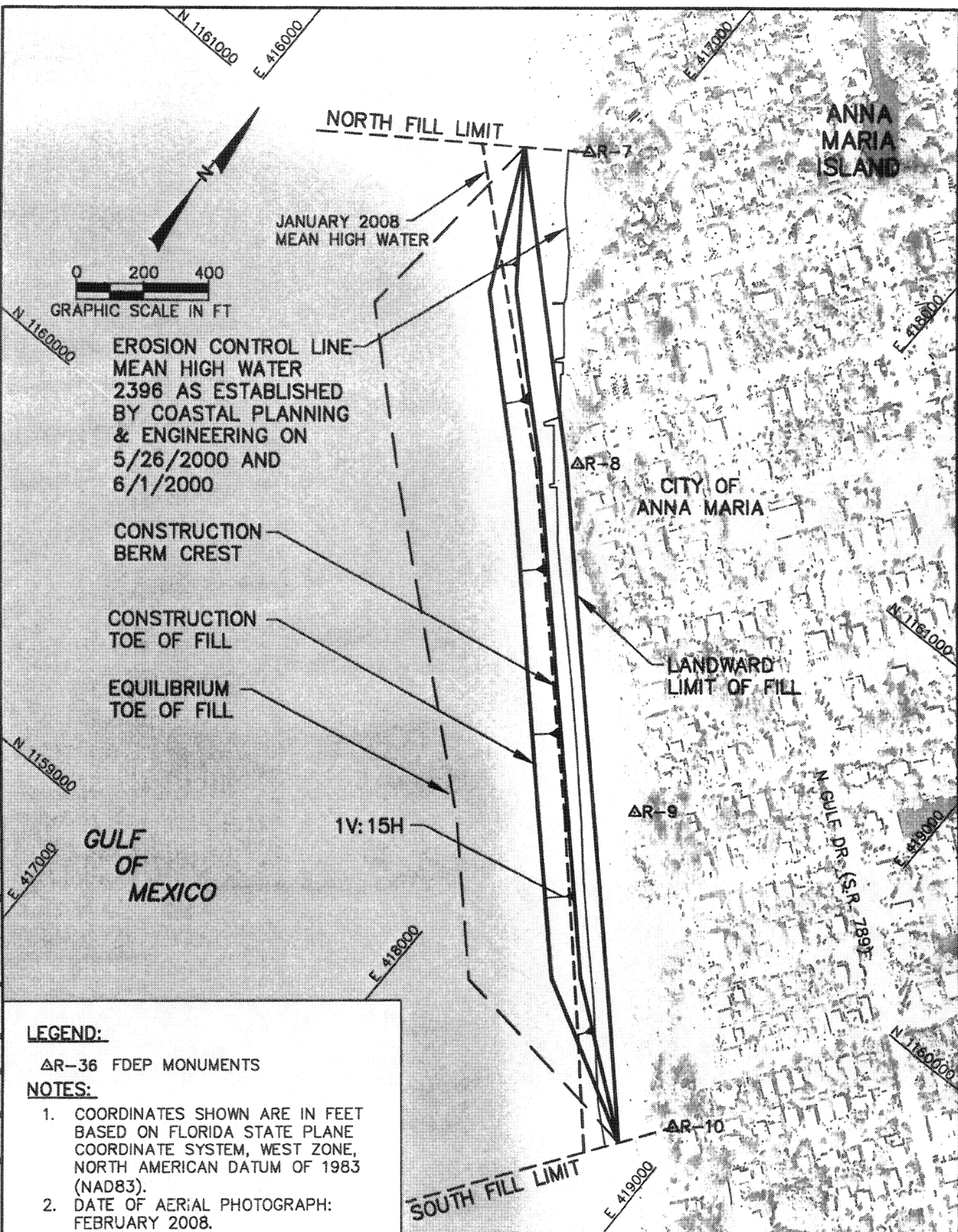
JRC

COMM NO.:

8446.49

SHEET:

1



ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
CITY OF ANNA MARIA SEGMENT
PLAN VIEW

COASTAL PLANNING & ENGINEERING, INC.
 304 N.W. BOCA RATON BOULEVARD
 BOCA RATON, FLORIDA 33431
 PH: (561) 994-4702
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 C.O.A. LA. #231
 www.CoastalPlanning.net

LEGEND:

ΔR-36 FDEP MONUMENTS

NOTES:

1. COORDINATES SHOWN ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).
2. DATE OF AERIAL PHOTOGRAPH: FEBRUARY 2008.

**NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY**

Sm R

THOMAS P PIERRO P.E. NO. 64683

11/20/09
DATE

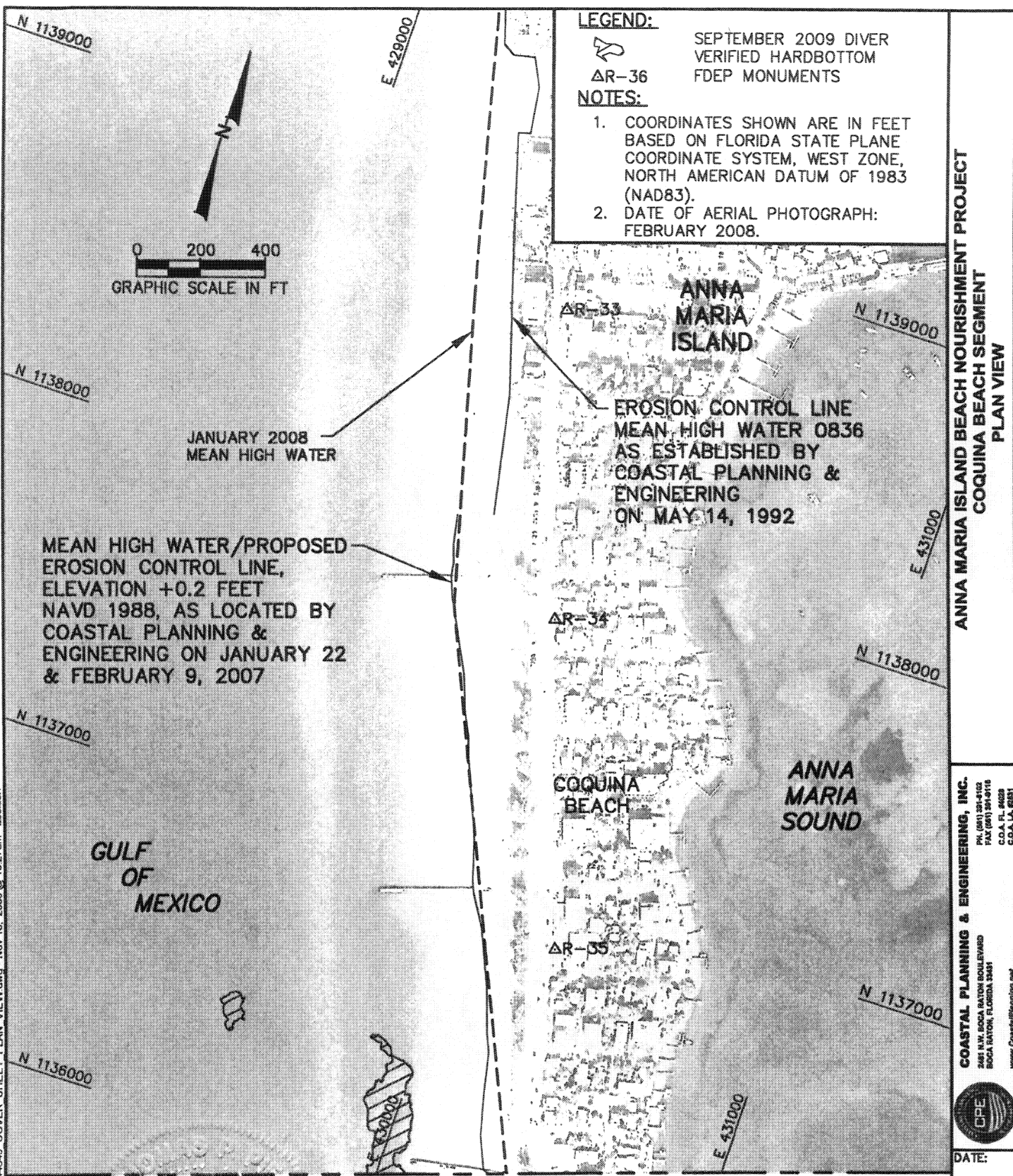
REVISIONS		
DATE	BY	DESCRIPTION
2/4/09	JRC	RAI #1

DATE: 4/12/07
BY: JRC

COMM NO.: 8446.49
SHEET: 2

PERMIT # 281452001

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LEGEND:


 ΔR-36

SEPTEMBER 2009 DIVER
 VERIFIED HARDBOTTOM
 FDEP MONUMENTS

NOTES:

1. COORDINATES SHOWN ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).
2. DATE OF AERIAL PHOTOGRAPH: FEBRUARY 2008.

**ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
 COQUINA BEACH SEGMENT
 PLAN VIEW**

JANUARY 2008
MEAN HIGH WATER

MEAN HIGH WATER/PROPOSED
EROSION CONTROL LINE,
ELEVATION +0.2 FEET
NAVD 1988, AS LOCATED BY
COASTAL PLANNING &
ENGINEERING ON JANUARY 22
& FEBRUARY 9, 2007

EROSION CONTROL LINE
MEAN HIGH WATER 0836
AS ESTABLISHED BY
COASTAL PLANNING &
ENGINEERING
ON MAY 14, 1992

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COASTAL PLANNING & ENGINEERING, INC.
 P.O. BOX 281452
 BOCA RATON, FLORIDA 33431
 TEL (561) 361-4100
 FAX (561) 361-4116
 C.O.A. # 0229
 C.O.A. I.A. 0351
 www.CoastalPlanning.net



DATE: 4/12/07

BY: JRC

COMM NO.: 8446.49

SHEET: 3

MATCHLINE SEE SHEET 4

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

Thomas P. Pierro

THOMAS P. PIERRO P.E. NO. 64683

11/20/09
DATE

REVISIONS		
DATE	BY	DESCRIPTION
2/4/09	JRC	
0/23/09	TP	ADD 2009 HARDBOTTOM EDGE

PERMIT # 281452001

MATCHLINE SEE SHEET 3

LEGEND:



SEPTEMBER 2009 DIVER
VERIFIED HARDBOTTOM

△ R-36

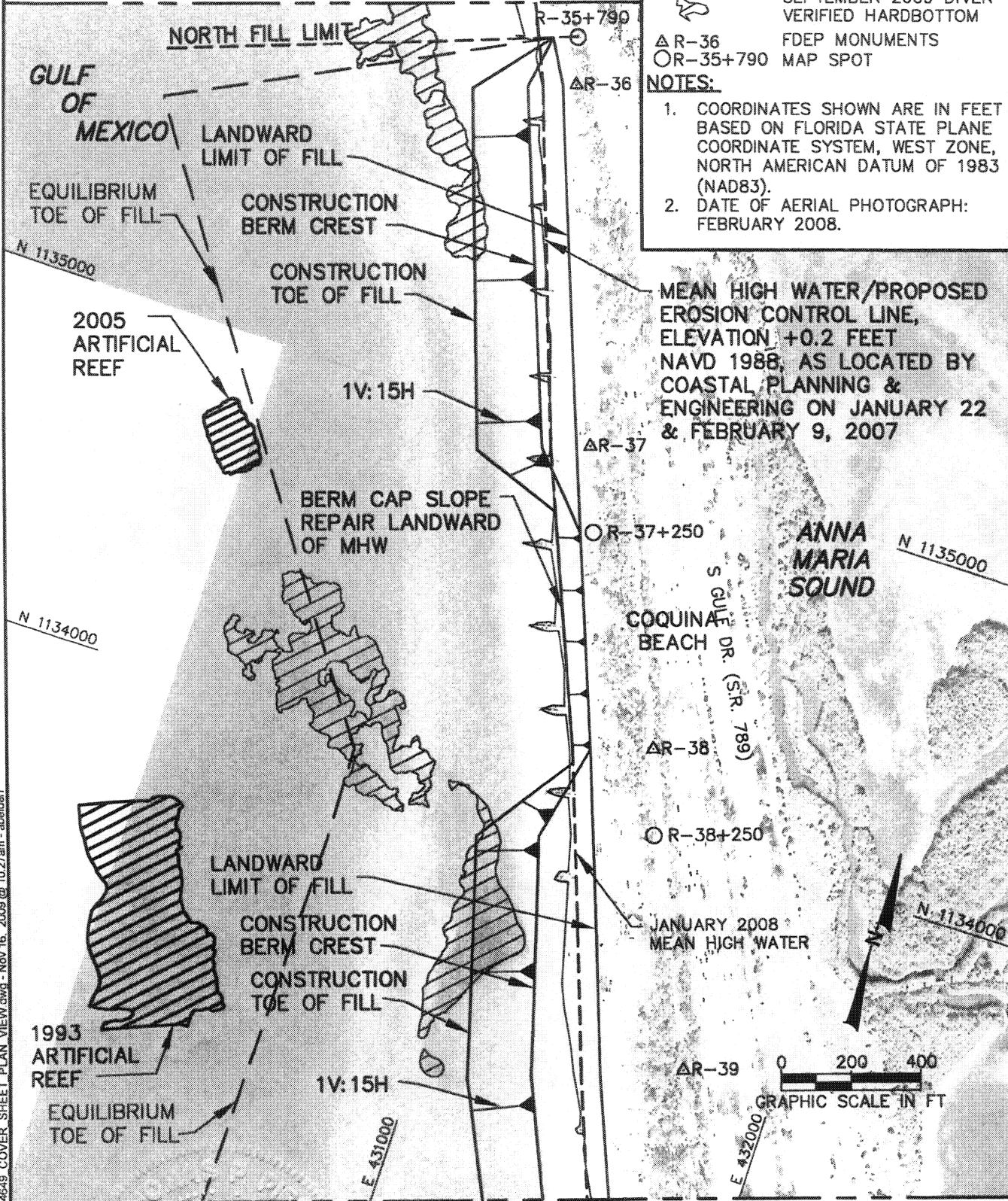
FDEP MONUMENTS

○ R-35+790

MAP SPOT

NOTES:

1. COORDINATES SHOWN ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).
2. DATE OF AERIAL PHOTOGRAPH: FEBRUARY 2008.



ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
COQUINA BEACH SEGMENT
PLAN VIEW

COASTAL PLANNING & ENGINEERING, INC.
 2681 N.W. BOCA RATON BOULEVARD
 BOCA RATON, FLORIDA 33431
 PH. (561) 384-4100
 FAX (561) 384-1115
 C.O.A. FL. #4028
 C.O.A. LA. #231
 www.CoastalPlanning.net



DATE: 4/12/07
BY: JRC

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

THOMAS P. PIERRO

THOMAS P PIERRO P.E. NO. 64683

11/20/09
DATE

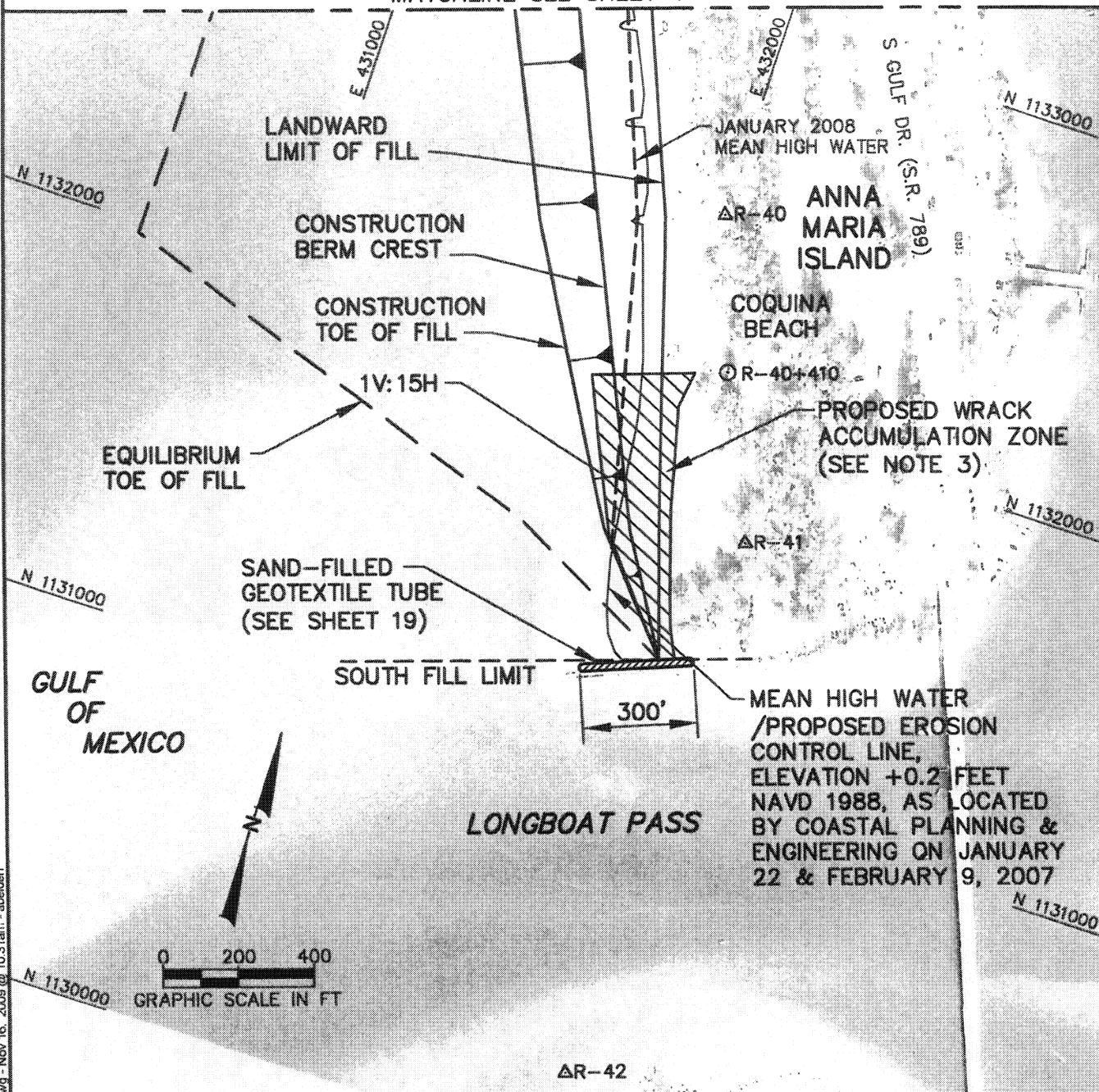
REVISIONS			
DATE	BY	RAI #	DESCRIPTION
2/4/09	JRC	RAI #1	
5/6/09	RWM	RAI #2	
10/23/09	TP		ADD 2009 HARDBOTTOM EDGE

COMM NO.: 8446.49
SHEET: 4

PERMIT # 281452001

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MATCHLINE SEE SHEET 4



ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
COQUINA BEACH SEGMENT
PLAN VIEW

COASTAL PLANNING & ENGINEERING, INC.
 P.O. BOX 18449
 BOCA RATON, FLORIDA 33431
 www.CoastalPlanning.net



DATE: 4/12/07
BY: JRC

COMM NO.: 8446.49
SHEET: 5

LEGEND:

ΔR-36 FDEP MONUMENTS ○ R-40+410 MAP SPOT

NOTES:

- COORDINATES SHOWN ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).
- DATE OF AERIAL PHOTOGRAPH: FEBRUARY 2008.
- A WRACK ACCUMULATION ZONE WILL BE DESIGNATED SOUTH OF R-40+410 WHERE BEACH RAKING AFTER CONSTRUCTION WILL BE LIMITED IN COOPERATION WITH USFWS AND FFWCC.

LONGBOAT KEY

NOT FOR CONSTRUCTION FOR REGULATORY REVIEW ONLY

Thomas P. Pierro
 THOMAS P PIERRO P.E. NO. 64683

11/20/09
 DATE

REVISIONS			
DATE	BY	RAI #	DESCRIPTION
2/4/09	JRC	RAI #1	
5/6/09	RWM	RAI #2	
5/1/09	RS	RAI #2 - GEOTEXTILE TUBE	
6/23/09	TP	ADD WRACK ZONE	

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PERMIT # 281452001

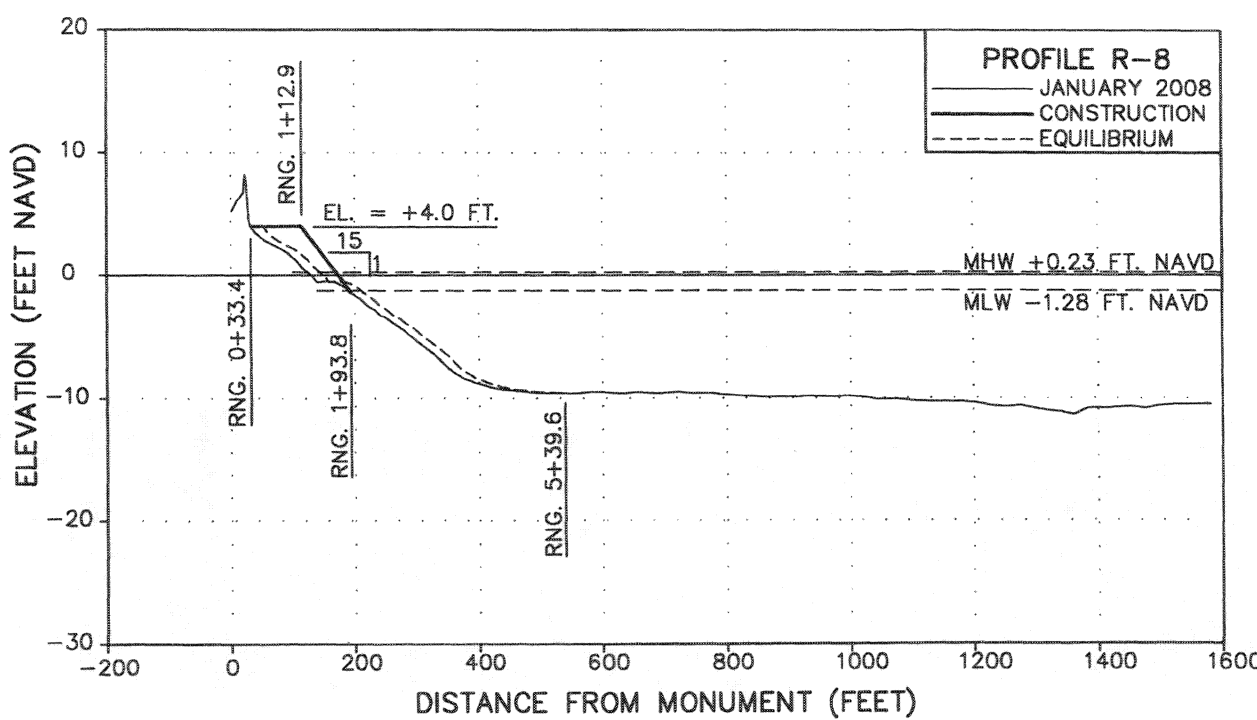
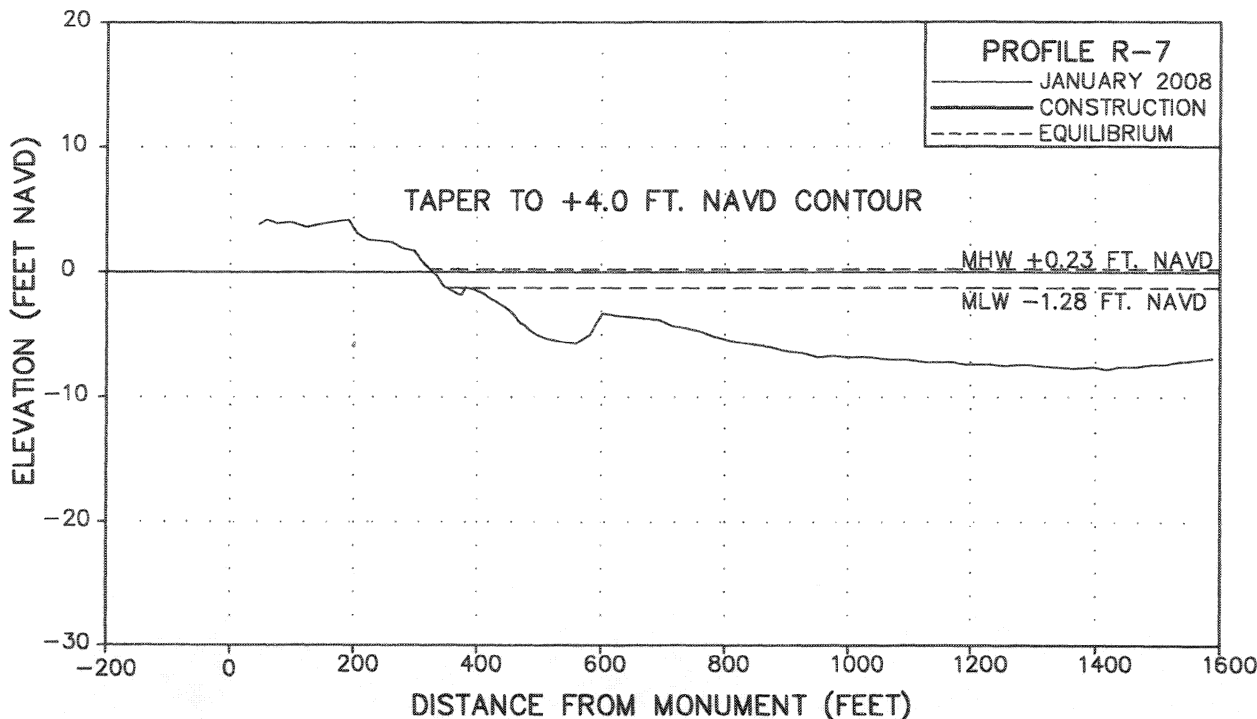
ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
CITY OF ANNA MARIA SEGMENT
FILL PROFILES

COASTAL PLANNING & ENGINEERING, INC.
PH. (850) 281-4102
FAX (850) 281-0118
2485 U.W. BOCA RATON BOULEVARD
BOCA RATON, FLORIDA 33431
www.CoastalPE.com



DATE: 4/12/07
BY: JRC

COMM NO.: 8446.49
SHEET: 6



NOTE:
 MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS PUBLISHED IN NAVD 88, FROM LAND BOUNDARY INFORMATION SYSTEM (LABINS) BASED ON EPOCH 1983-2001 TIDE INTERPOLATION POINT IDENTIFICATION NUMBER 200904.

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THP

THOMAS P PIERRO P.E. NO. 64683

11/20/09
 DATE

REVISIONS		
DATE	BY	DESCRIPTION
/28/09	JRC	RAI #1

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PERMIT # 281452001

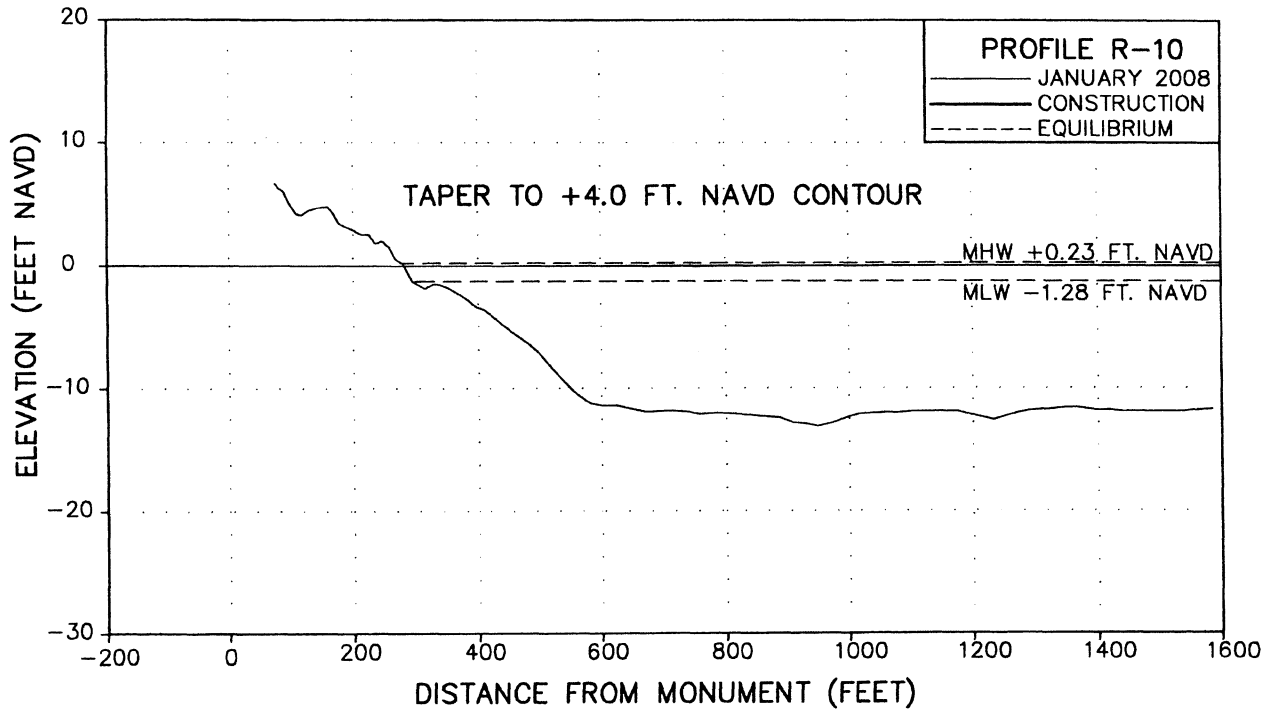
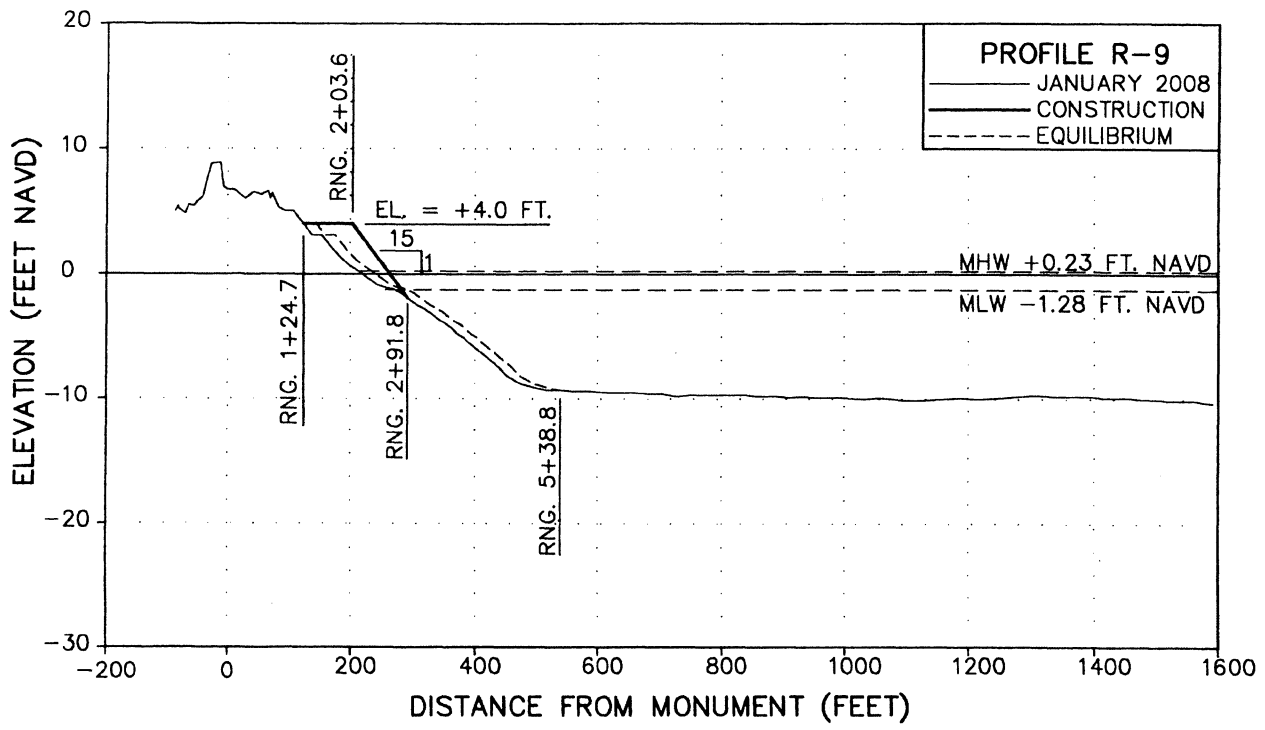
ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
CITY OF ANNA MARIA SEGMENT
FILL PROFILES

COASTAL PLANNING & ENGINEERING, INC.
 PH. (813) 361-1102
 FAX. (813) 361-1116
 2345 N.W. BOCA RATON BOULEVARD
 BOCA RATON, FLORIDA 33431
 C.O.A. P.L. #4028
 C.O.A. L.A. #2351
 www.CoastalPlanning.net



DATE: 4/12/07
 BY: JRC

COMM NO.: 8446.49
 SHEET: 7



NOTE:
 MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS PUBLISHED IN NAVD 88, FROM LAND BOUNDARY INFORMATION SYSTEM (LABINS) BASED ON EPOCH 1983-2001 TIDE INTERPOLATION POINT IDENTIFICATION NUMBER 200904.

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

THOMAS P. PIERRO P.E. NO. 64683

11/20/09
 DATE

REVISIONS		
DATE	BY	DESCRIPTION
7/28/09	JRC	RAI #1

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PERMIT # 281452001

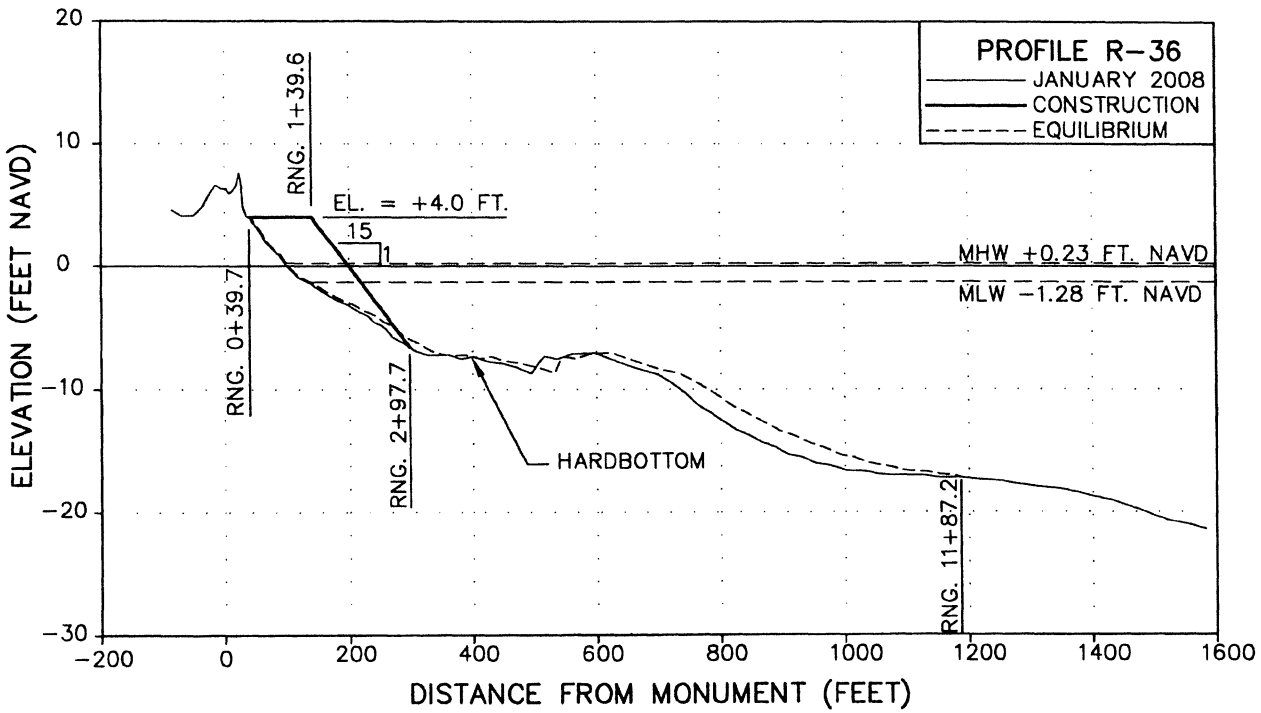
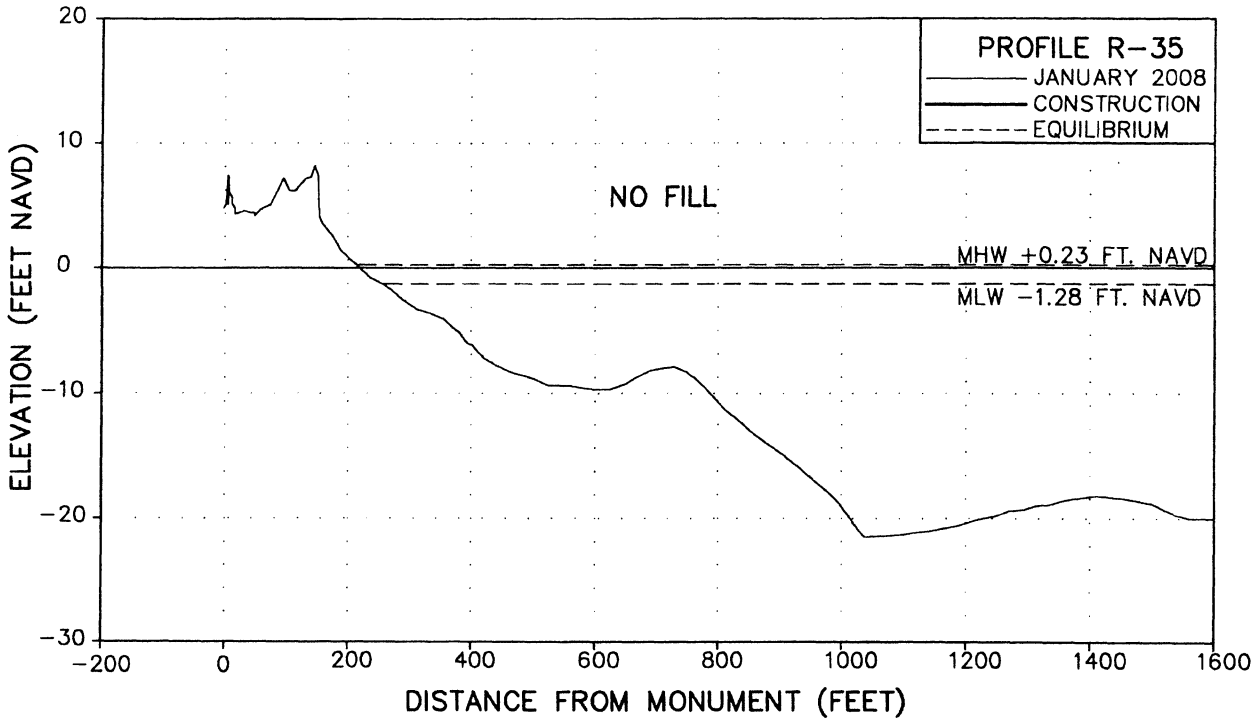
ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
COQUINA BEACH SEGMENT
FILL PROFILES

COASTAL PLANNING & ENGINEERING, INC.
 PH: (813) 281-4112
 FAX: (813) 281-4118
 C.O.A. FL. #4028
 C.O.A. LA. #2311
 2481 N.W. BOCA RATON BOULEVARD
 BOCA RATON, FLORIDA 33431
 www.CoastalPlanning.net



DATE: 4/12/07
 BY: JRC

COMM NO.: 8446.49
 SHEET: 8



NOTE:

MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS PUBLISHED IN NAVD 88, FROM LAND BOUNDARY INFORMATION SYSTEM (LABINS) BASED ON EPOCH 1983-2001 TIDE INTERPOLATION POINT IDENTIFICATION NUMBER 200904.

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 FOR REGULATORY REVIEW ONLY

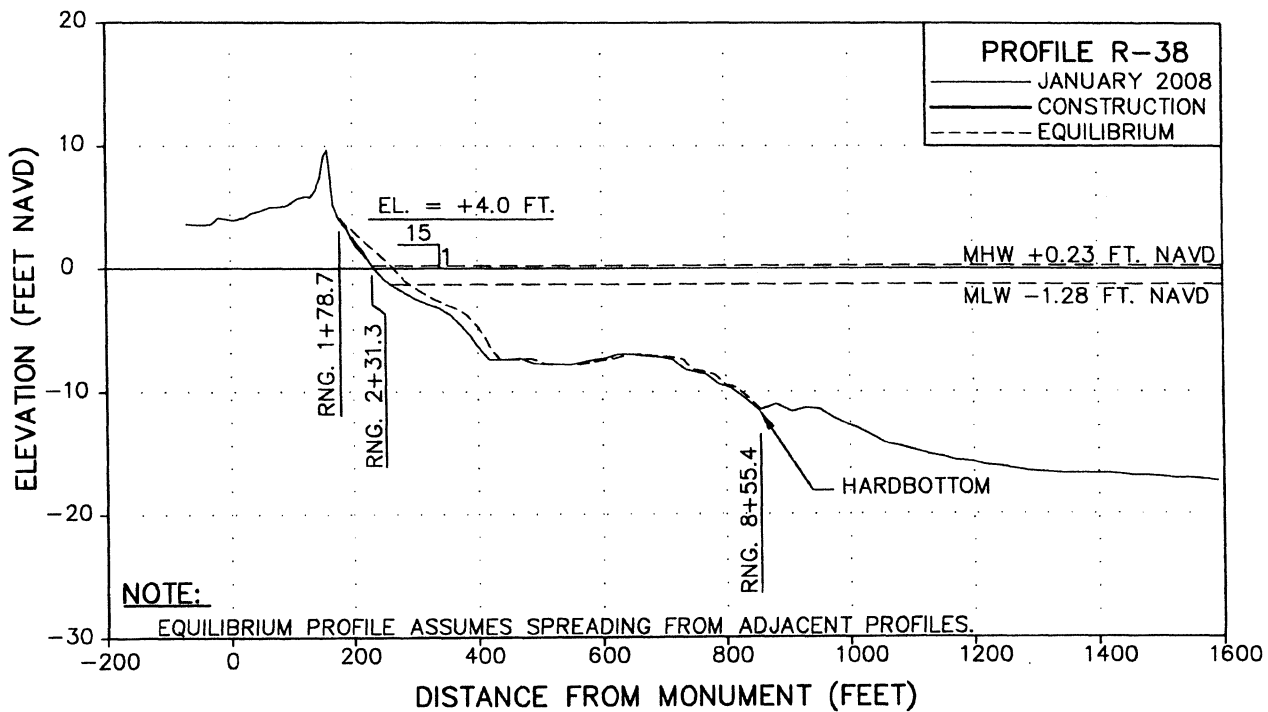
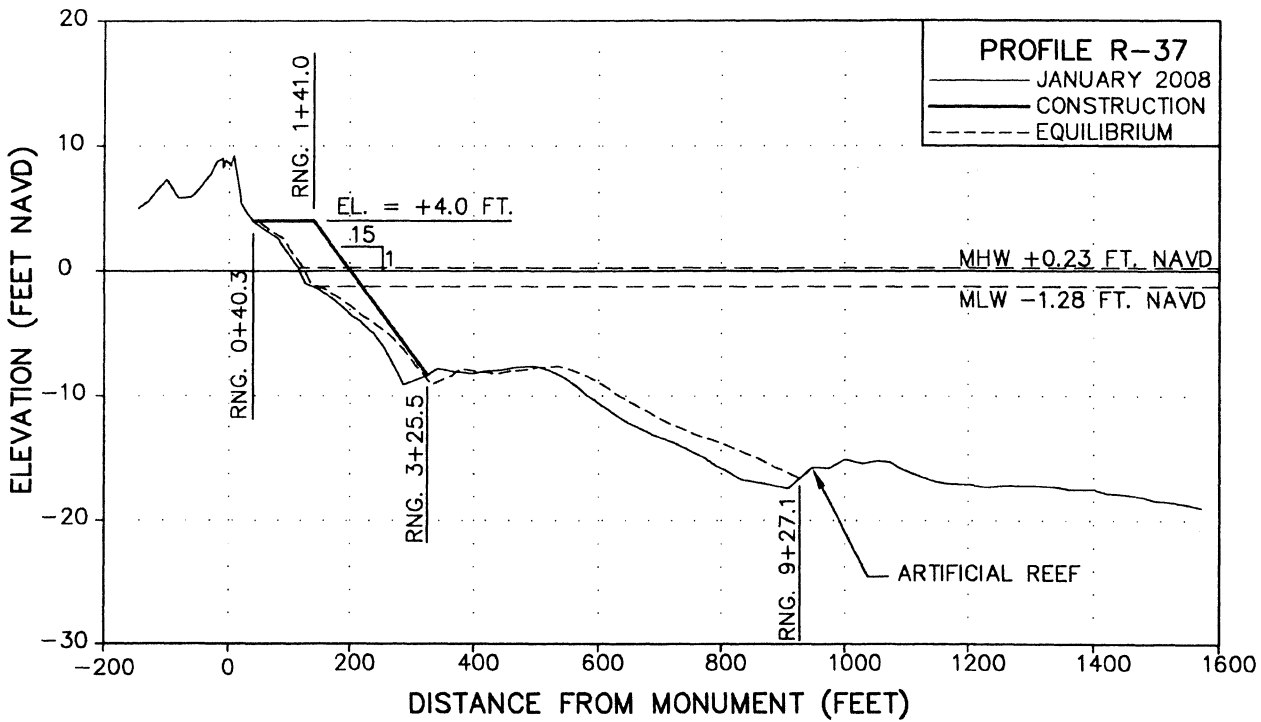
THP

THOMAS P PIERRO P.E. NO. 54683

11/20/09
 DATE

REVISIONS			
DATE	BY	RAI #1	DESCRIPTION
7/28/09	JRC		

PERMIT # 251452001



NOTE:

MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS PUBLISHED IN NAVD 88, FROM LAND BOUNDARY INFORMATION SYSTEM (LABINS) BASED ON EPOCH 1983-2001 TIDE INTERPOLATION POINT IDENTIFICATION NUMBER 200904.

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Thomas P. Pierro

THOMAS P PIERRO P.E. NO. 64683

11/20/09
DATE

REVISIONS			
DATE	BY	RAI #1	DESCRIPTION
7/28/09	JRC	RAI #1	
5/1/09	RS	RAI #2	

ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
COQUINA BEACH SEGMENT
FILL PROFILES

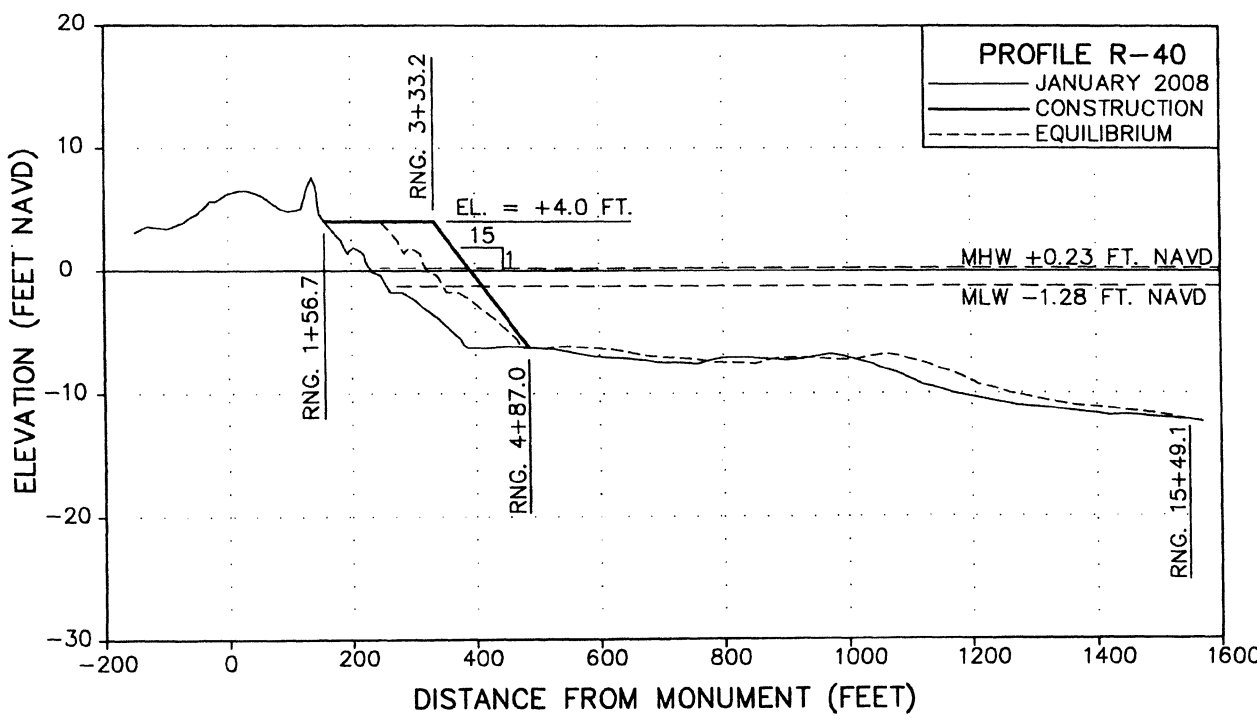
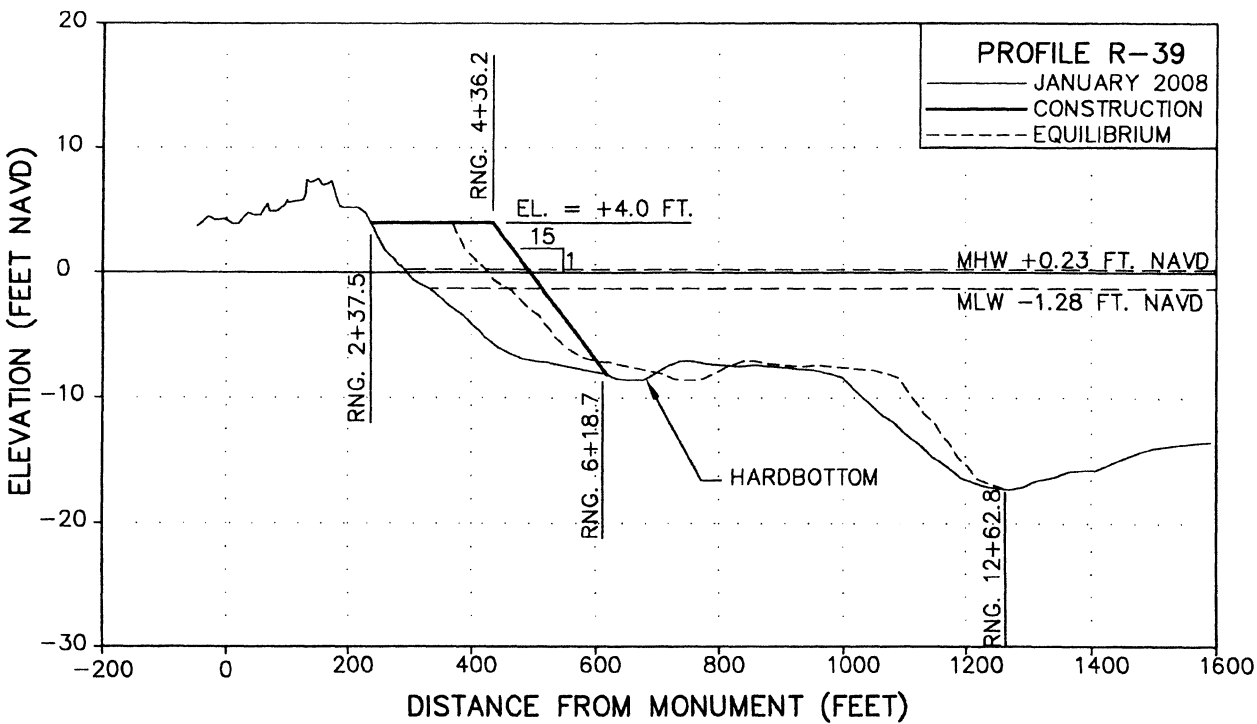
COASTAL PLANNING & ENGINEERING, INC.
2481 N.W. BOCA RATON BOULEVARD
BOCA RATON, FLORIDA 33431
PH: (561) 361-6100
FAX: (561) 361-6116
C.O.G.E. #0028
C.S.C.E. #A-9231
www.CoastalPlanning.net



DATE:
4/12/07
BY:
JRC
COMM NO.:
8446.49
SHEET:
9

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PROJ # 11-02-007



ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
COQUINA BEACH SEGMENT
FILL PROFILES

COASTAL PLANNING & ENGINEERING, INC.
 PH. (851) 361-5102
 FAX (851) 361-4118
 2481 N.W. BOCA RATON BOULEVARD
 BOCA RATON, FLORIDA 33431
 C.O.A. P.L. #028
 C.O.A. LA #281
 www.CoastalPlanning.net



DATE: 4/12/07
 BY: JRC
 COMM NO.: 8446.49
 SHEET: 10

NOTE:

MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS PUBLISHED IN NAVD 88, FROM LAND BOUNDARY INFORMATION SYSTEM (LABINS) BASED ON EPOCH 1983-2001 TIDE INTERPOLATION POINT IDENTIFICATION NUMBER 200904.

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FOR REGULATORY REVIEW ONLY

THOMAS P. PIERRO

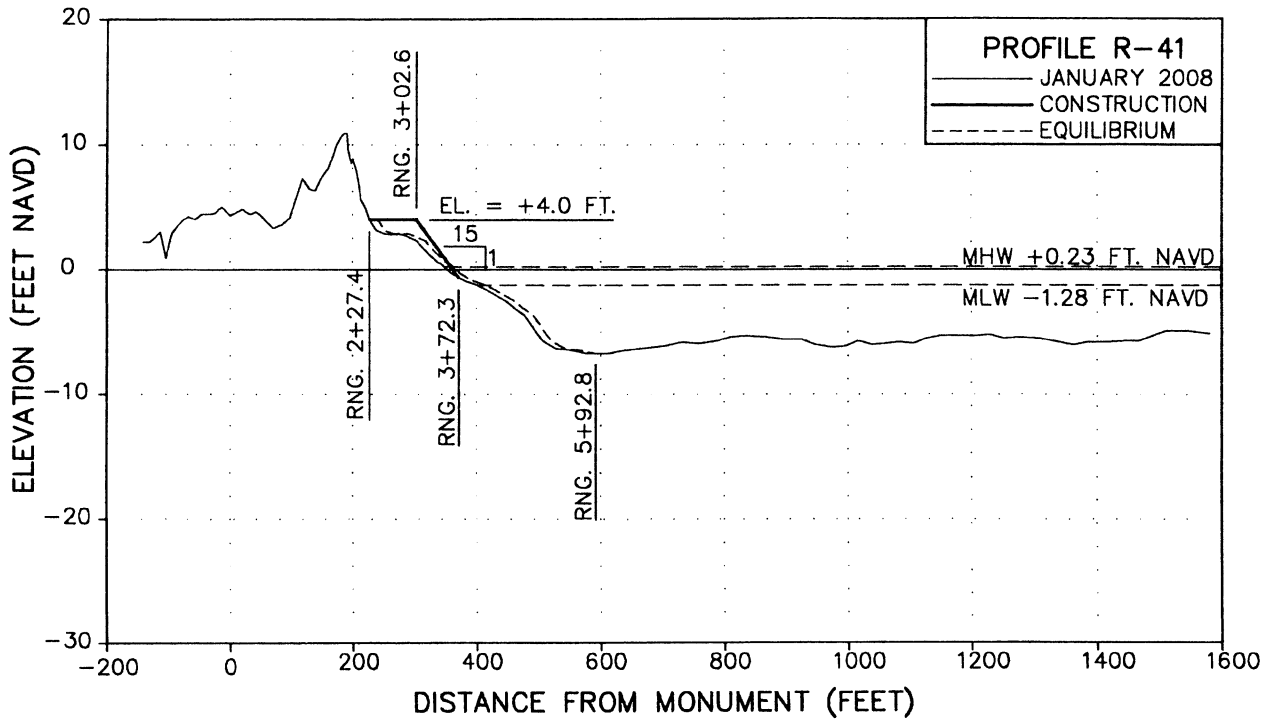
THOMAS P. PIERRO P.E. NO. 64683

11/20/09
 DATE

REVISIONS		
DATE	BY	DESCRIPTION
7/28/09	JRC	RAI #1

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ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
COQUINA BEACH SEGMENT
FILL PROFILES



COASTAL PLANNING & ENGINEERING, INC.
2441 N.W. COCA NATION BOULEVARD
BOCA RATON, FLORIDA 33431
PH: (561) 391-4152
FAX: (561) 391-4116
C.O.A. FL. #0028
C.O.A. LA. #2831
www.CoastalPlanning.com



DATE:
4/12/07

BY:
JRC

COMM NO.:
8446.49

SHEET:
11

NOTE:

MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ELEVATIONS PUBLISHED IN NAVD 88, FROM LAND BOUNDARY INFORMATION SYSTEM (LABINS) BASED ON EPOCH 1983-2001 TIDE INTERPOLATION POINT IDENTIFICATION NUMBER 200904.

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FOR REGULATORY REVIEW ONLY

Thomas P. Pierro

THOMAS P PIERRO P.E. NO. 64683

11/20/09

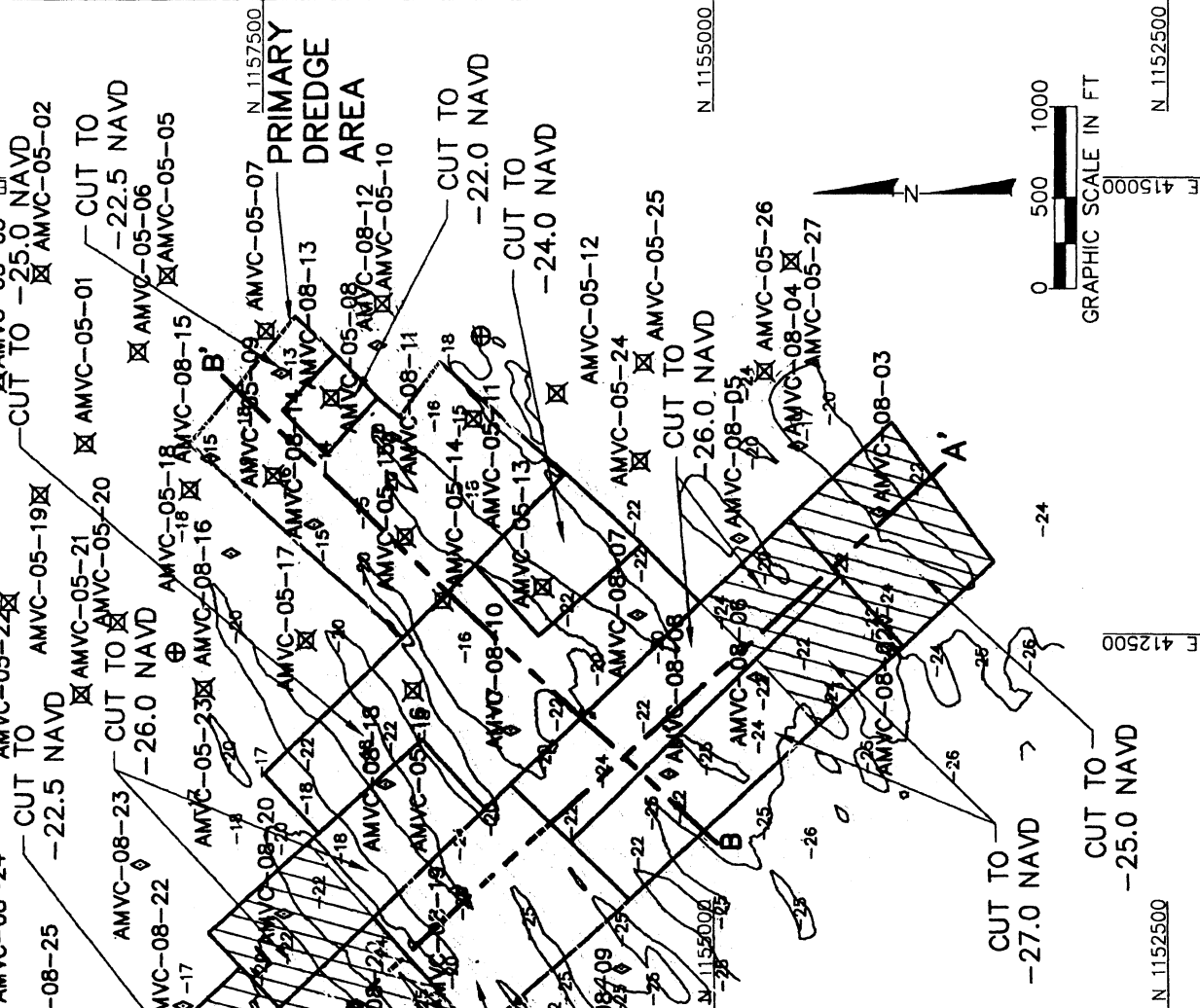
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REVISIONS		
DATE	BY	DESCRIPTION
7/28/09	JRC	RAI #1

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PERMIT # 281452001

PRIMARY DREDGABLE VOLUME = 421,500 C.Y.
SECONDARY DREDGABLE VOLUME = 258,500 C.Y.



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 STATE OF FLORIDA
 MELANY LARENA, P.E. 1107500

GULF OF MEXICO
 CUT TO -23.0 NAVD

2008 AMI BORROW AREA
 TOTAL DREDGABLE VOLUME = 680,000 C.Y.

LEGEND:

- 24 ◊ CPE 2008 VIBRACORES
- ⊗ CPE 2005 VIBRACORES
- ⊕ MAGNETIC ANOMALIES
- ▭ PRIMARY DREDGE AREA
- ▨ SECONDARY DREDGE AREA

NOTES:

1. BATHYMETRIC SURVEY PERFORMED BY CPE: MARCH 2007 AND JUNE 2008.
2. ELEVATIONS ARE IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. COORDINATES SHOWN ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).

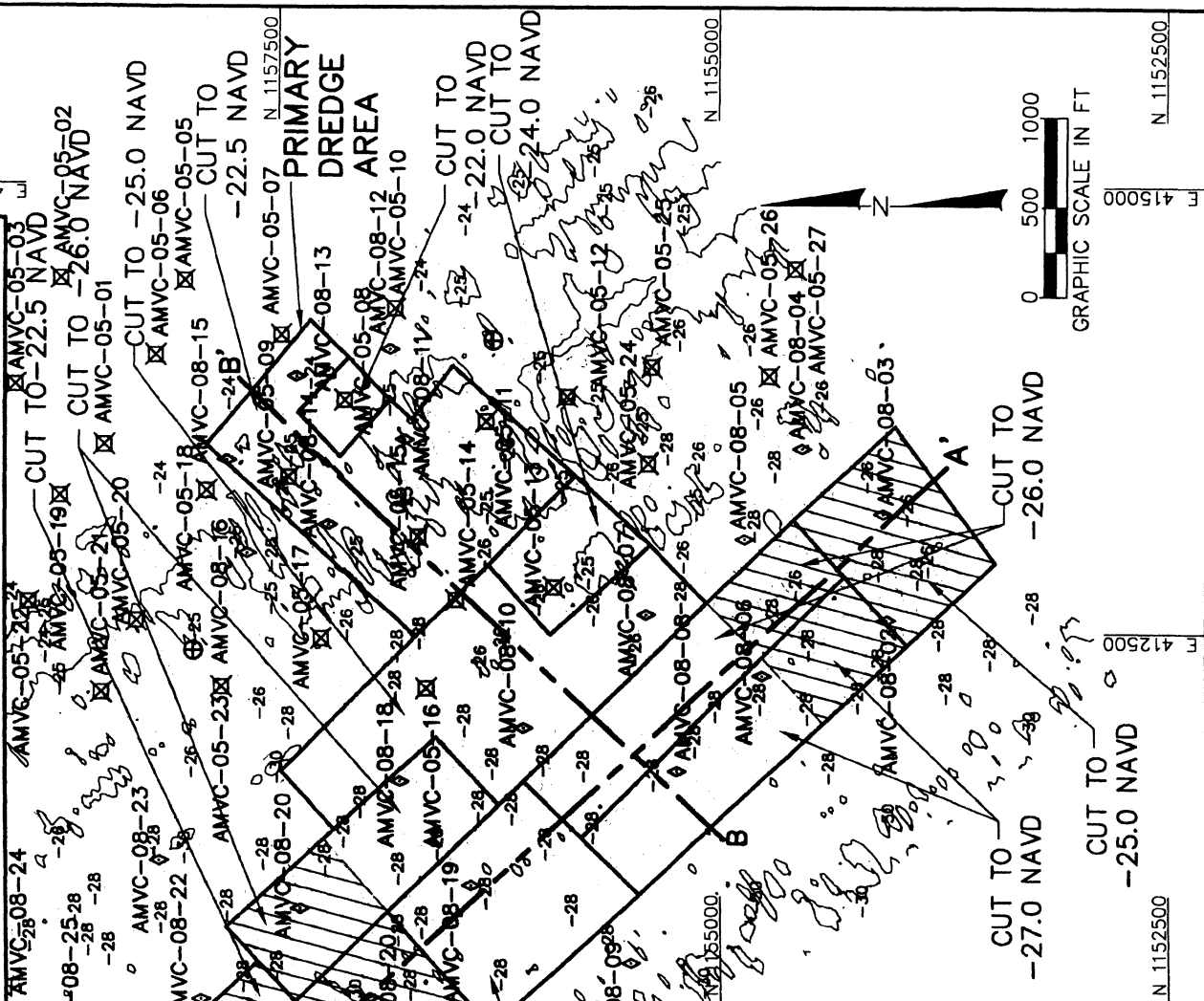
REVISIONS		
DATE	BY	DESCRIPTION
10/30/08	JRC	REV. BORROW AREA
1/4/09	JRC	RAI #1

DATE:	8/9/08
BY:	JRC
COMM NO.:	8446.49
SHEET:	12

ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
2008 BORROW AREA BATHYMETRY

PRIMARY DREDGABLE VOLUME = 421,500 C.Y.
SECONDARY DREDGABLE VOLUME = 258,500 C.Y.

2008 AMI BORROW AREA
 TOTAL DREDGABLE VOLUME = 680,000 C.Y.



LEGEND:

- 24 (Symbol: circle with dot) CPE 2008 VIBRACORES
- (Symbol: circle with cross) CPE 2005 VIBRACORES
- (Symbol: circle with plus) MAGNETIC ANOMALIES
- (Symbol: rectangle with diagonal lines) PRIMARY DREDGE AREA
- (Symbol: rectangle with horizontal lines) SECONDARY DREDGE AREA

NOTES:

- SEISMIC SURVEY PERFORMED BY CPE: JUNE 2008.
- ELEVATIONS ARE IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- COORDINATES SHOWN ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).

REVISIONS		
DATE	BY	DESCRIPTION
10/30/08	JRC	REV. BORROW AREA
1/4/09	JRC	RAI #1

DATE: 8/9/08
 BY: JRC
 COMM NO.: 8446.49
 SHEET: 13

COASTAL PLANNING & ENGINEERING, INC.
 2481 N.W. BOCA RATON BOULEVARD
 BOCA RATON, FLORIDA 33411
 PH: (561) 351-8102
 FAX: (561) 351-3116
 C.O.A. FL #4629
 C.O.A. LA #2531
 www.CoastalPlanning.net

ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
2008 BORROW AREA SEISMIC REFLECTOR CONTOUR MAP

TITLE: _____

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 FOR REGULATORY REVIEW ONLY

STATE OF FLORIDA
 PROFESSIONAL SEAL
 MELANY LARENA, P.E.
 662397

11/18/09
 DATE

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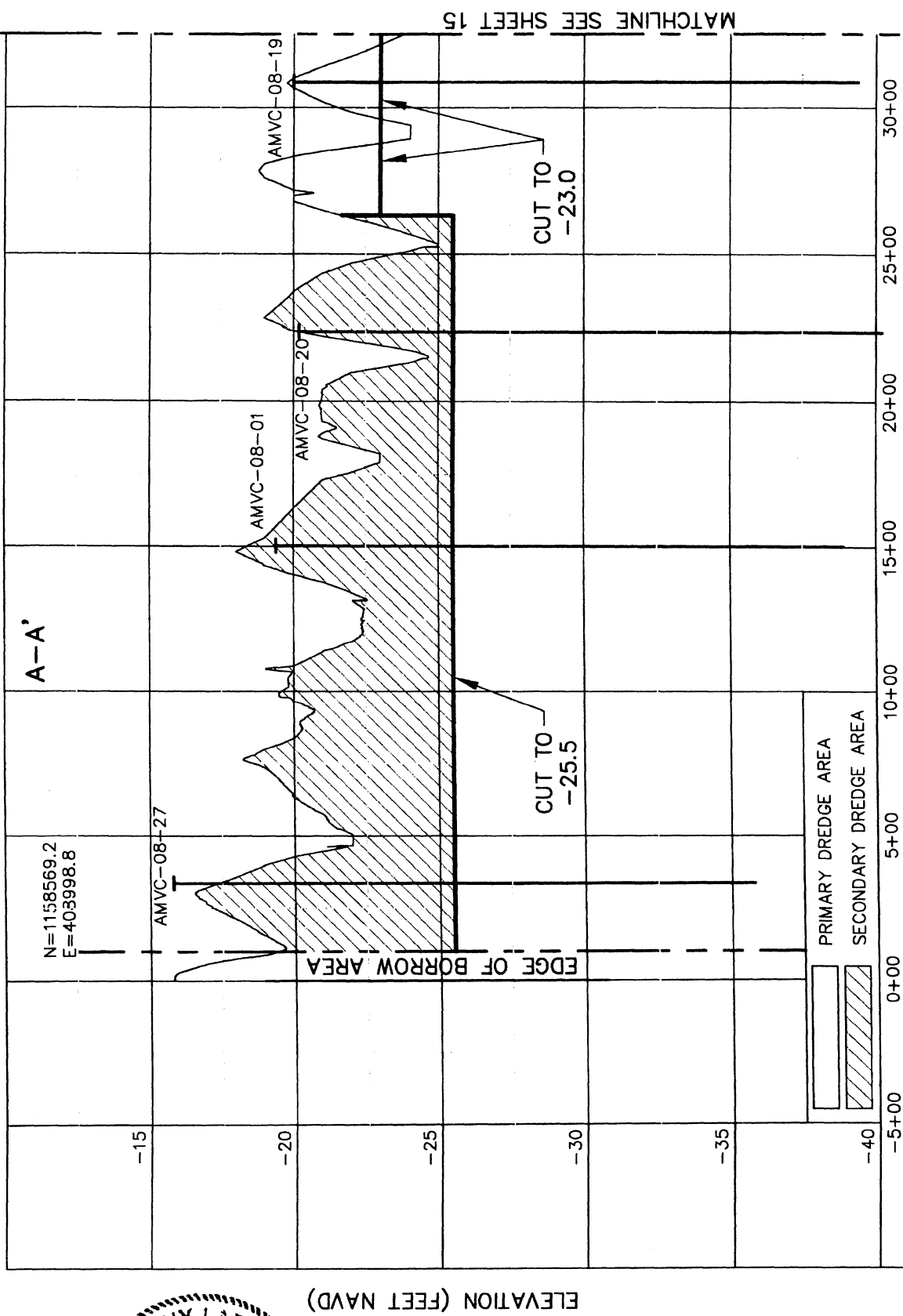
NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

MELANY LARSEN & ASSOCIATES, INC.
STATE OF FLORIDA
PROFESSIONAL GEODESIST
NO. 682397

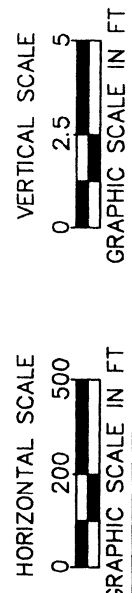
11/18/09
DATE

REVISIONS		
DATE	BY	DESCRIPTION
2/4/09	JRC	RAI #1

BY: JRC
DATE: 8/9/07
COMM NO.: 8446.49
SHEET: 14



NOTES:
 1. CORES MAY NOT FALL DIRECTLY ON CROSS SECTION LINE, BUT ARE LOCATED SUFFICIENTLY CLOSE TO REPRESENT SIMILAR MATERIAL.
 2. SEE SHEET 12 FOR LOCATION OF CROSS SECTION LINE.
 3. ELEVATION BASED ON NAVD 88.



MATCHLINE SEE SHEET 15

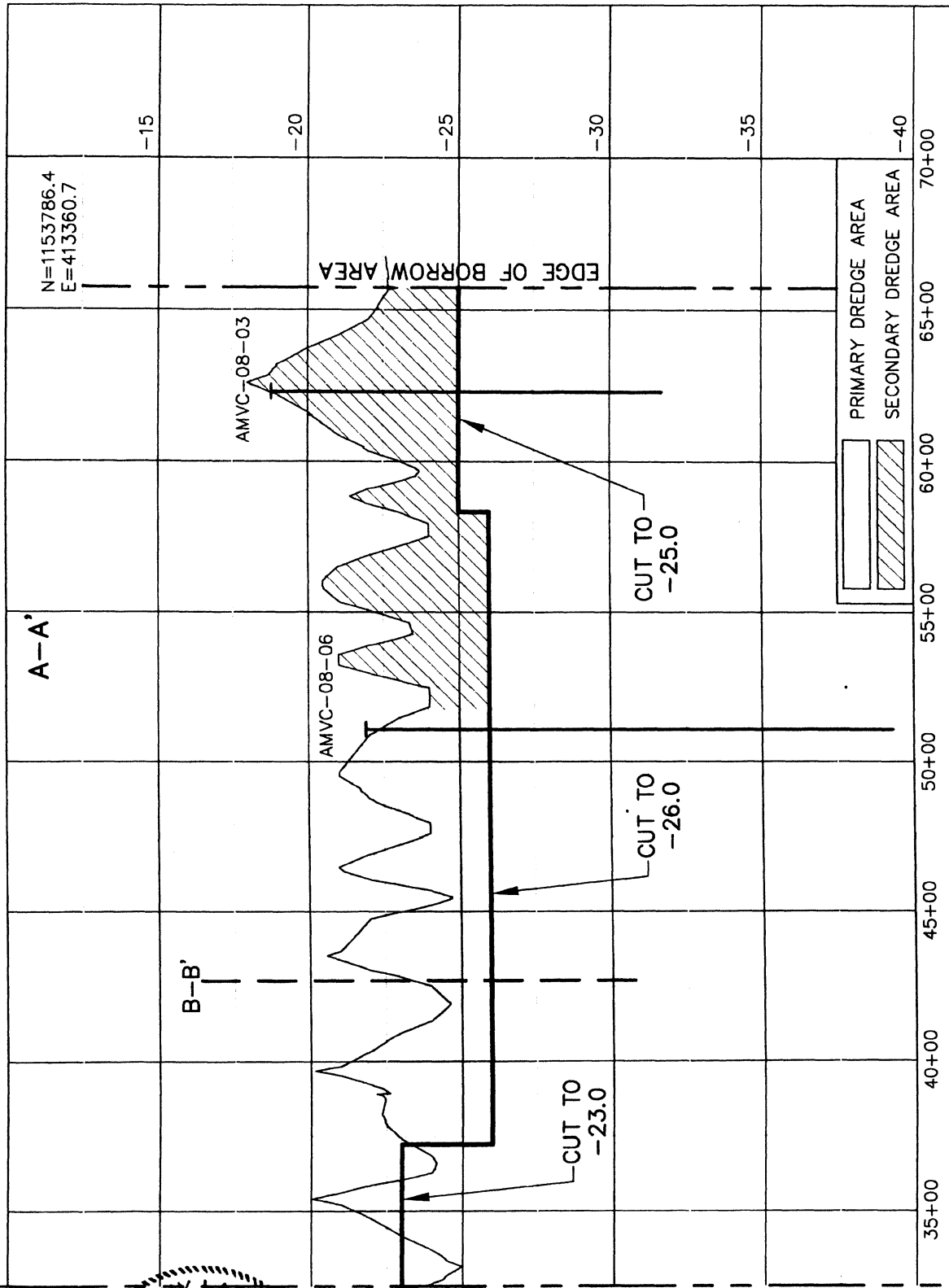
**ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
2008 BORROW AREA CROSS SECTION A-A'**

COASTAL PLANNING & ENGINEERING, INC.
 2481 N.W. BOCA RATON BOULEVARD
 BOCA RATON, FLORIDA 33431
 PH. (561) 351-4702
 FAX (561) 351-9116
 C.O.A. FL. #4028
 C.O.A. LA. #2511
 www.CoastalPlanning.net



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DISTANCE (FEET)

HORIZONTAL SCALE
0 250 500
GRAPHIC SCALE IN FT

VERTICAL SCALE
0 2.5 5
GRAPHIC SCALE IN FT

NOTES:

1. CORES MAY NOT FALL DIRECTLY ON CROSS SECTION LINE, BUT ARE LOCATED SUFFICIENTLY CLOSE TO REPRESENT SIMILAR MATERIAL.
2. SEE SHEET 12 FOR LOCATION OF CROSS SECTION LINE.
3. ELEVATION BASED ON NAVD 88.

ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
2008 BORROW AREA CROSS SECTION A-A'

COASTAL PLANNING & ENGINEERING, INC.
2481 N.W. BOCA RATON BOULEVARD
BOCA RATON, FLORIDA 33431
PH: (561) 351-8102
FAX: (561) 351-4116
C.O.A. FL #4028
C.O.A. LA #2051
www.CoastalPlanning.net

TITLE
8/9/07

DATE:
8/9/07

BY:
JRC
COMM NO.:
8446.49
SHEET:
15

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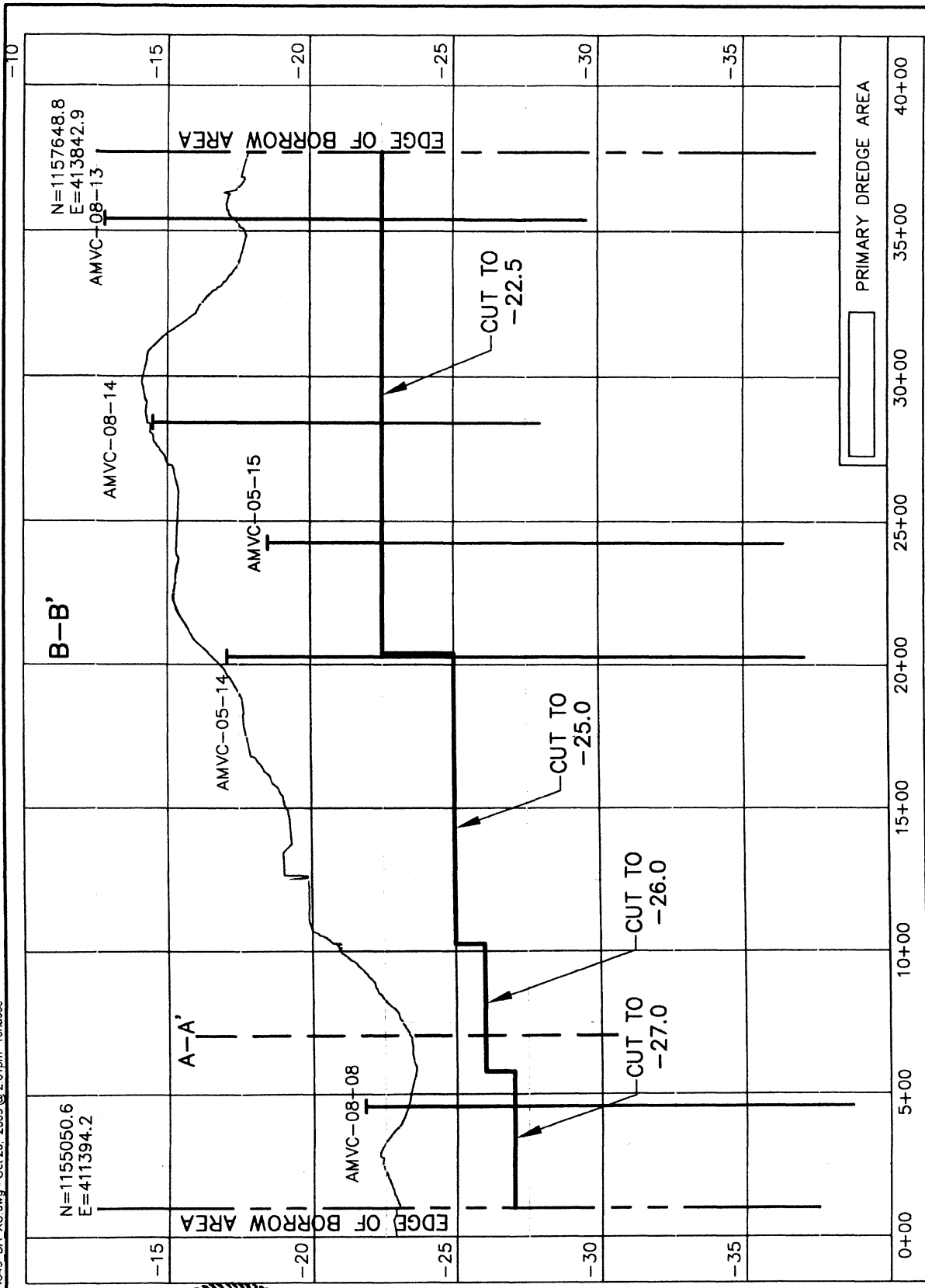
STATE OF FLORIDA
MELANY LARENAS, P.E., NO. 062397
PROFESSIONAL GEOL.

11/18/09
DATE

REVISIONS		
DATE	BY	DESCRIPTION
1/4/09	JRC	RAI #1

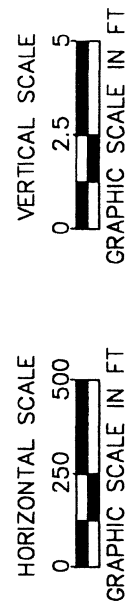
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NOTES:

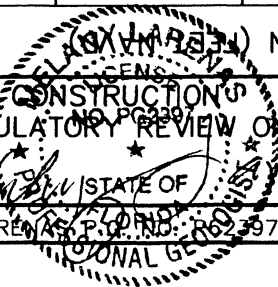
1. CORES MAY NOT FALL DIRECTLY ON CROSS SECTION LINE, BUT ARE LOCATED SUFFICIENTLY CLOSE TO REPRESENT SIMILAR MATERIAL.
2. SEE SHEET 12 FOR LOCATION OF CROSS SECTION LINE.
3. ELEVATION BASED ON NAVD 88.



ELEVATION (FEET)

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MELANY LARENAS
STATE OF FLORIDA
PERSONAL GEOLOGICAL ENGINEER
NO. 15000
DATE: 11/18/09



REVISIONS		
DATE	BY	DESCRIPTION
1/4/09	JRC	RAI #1

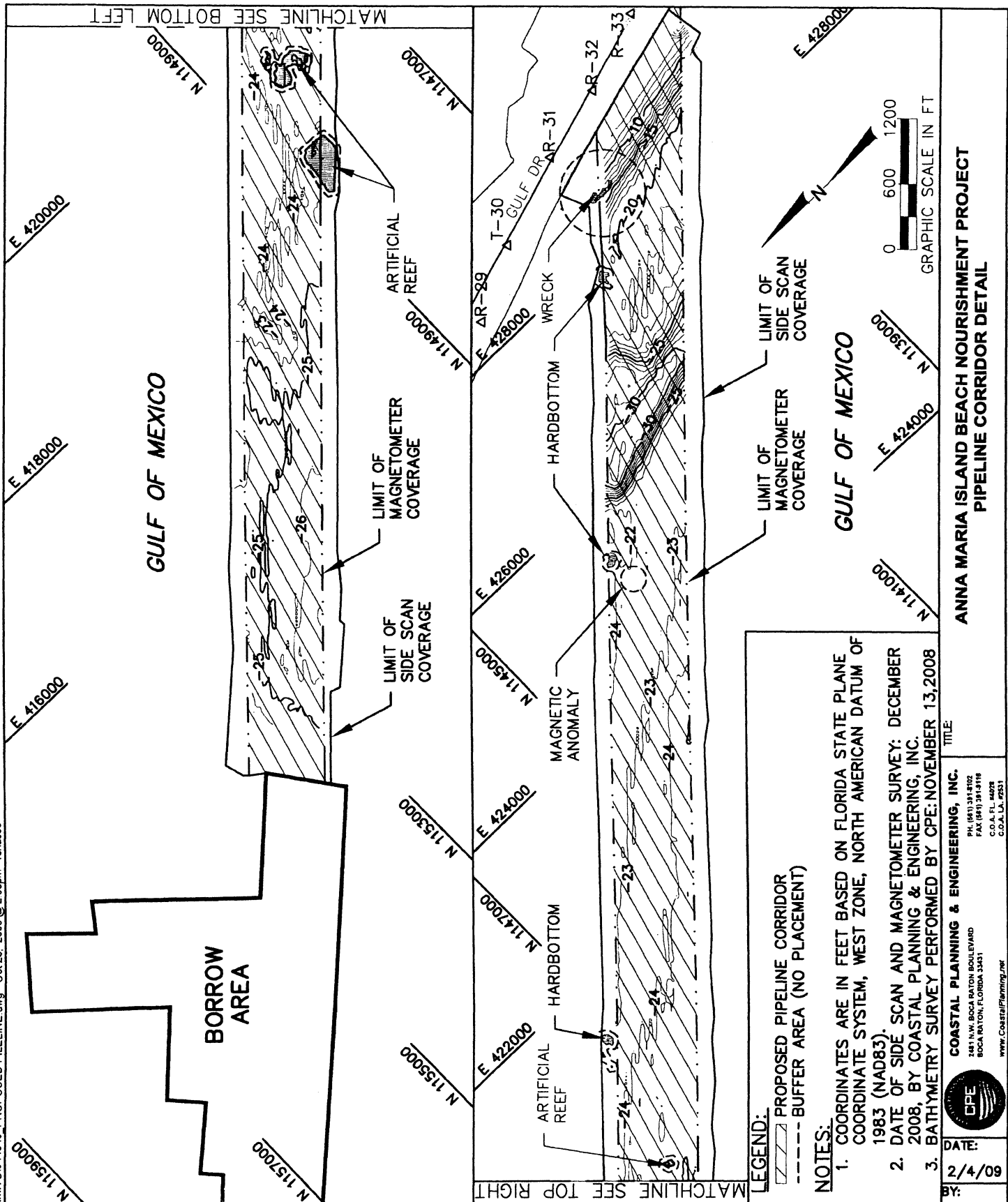
DATE: 8/9/07
BY: JRC
COMM NO.: 8446.49
SHEET: 16

COASTAL PLANNING & ENGINEERING, INC.
2481 N.W. BOCA RATON BOULEVARD
BOCA RATON, FLORIDA 33411
PH: (561) 331-4702
FAX: (561) 331-4716
C.O.A. FL. #4078
C.O.A. LA. #2311
www.CoastalPlanning.com

ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
2008 BORROW AREA CROSS SECTION B-B'

PERMIT # 201432001

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LEGEND:
 [Symbol] PROPOSED PIPELINE CORRIDOR
 [Symbol] BUFFER AREA (NO PLACEMENT)

NOTES:
 1. COORDINATES ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).
 2. DATE OF SIDE SCAN AND MAGNETOMETER SURVEY: DECEMBER 2008, BY COASTAL PLANNING & ENGINEERING, INC.
 3. BATHYMETRY SURVEY PERFORMED BY CPE: NOVEMBER 13, 2008

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 FOR REGULATORY REVIEW ONLY

THP
 THOMAS P PIERRO P.E. NO. 64683

11/20/09
 DATE

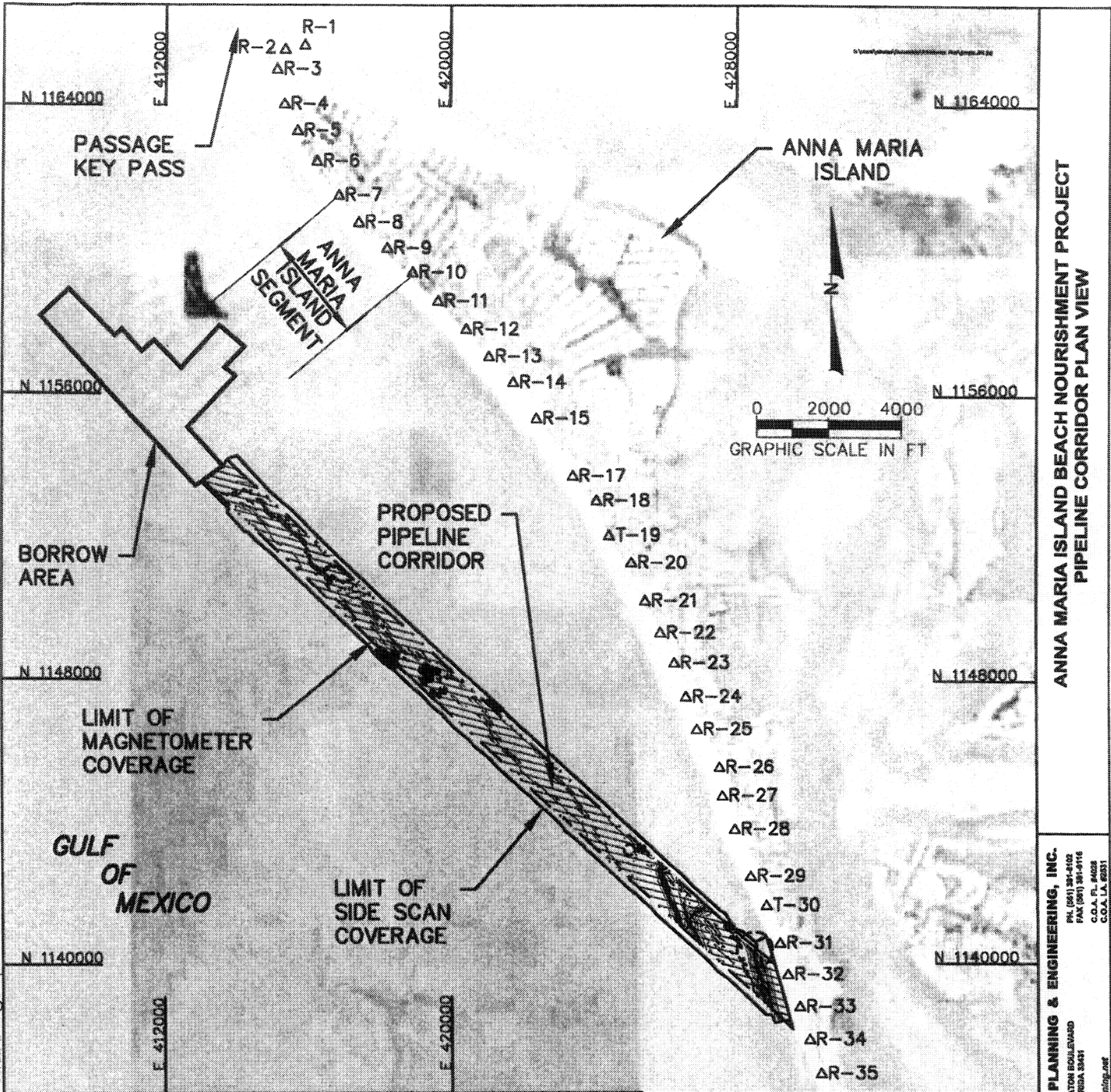
REVISIONS		
DATE	BY	DESCRIPTION

BY: JRC
 DATE: 2/4/09
 COMM NO.: 8446.49
 SHEET: 17

CPE
 COASTAL PLANNING & ENGINEERING, INC.
 854 N.W. 8624 BAYVIEW BOULEVARD
 BOCA RATON, FLORIDA 33431
 PH: (561) 381-8702
 FAX: (561) 391-3118
 C.O.A. FL. #4628
 C.O.A. LA. #2531
 www.CoastalPlanning.net

**ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
 PIPELINE CORRIDOR DETAIL**

PERMIT # 281452001



ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
PIPELINE CORRIDOR PLAN VIEW

COASTAL PLANNING & ENGINEERING, INC.
PH: (951) 381-4102
FAX: (951) 381-4116
C.O.A. FL. #4628
C.O.A. LA. #6551
www.CoastalPlanning.com



DATE:
2/4/09
BY:

JRC
COMM NO.:
8446.49
SHEET:
18

LEGEND:
 PROPOSED PIPELINE CORRIDOR

NOTES:

- COORDINATES ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).
- DATE OF SIDE SCAN AND MAGNETOMETER SURVEY: DECEMBER 2008, BY COASTAL PLANNING & ENGINEERING, INC.
- AERIAL DOWNLOADED FROM GOOGLE EARTH.

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THOMAS P PIERRO P.E. NO. 64683

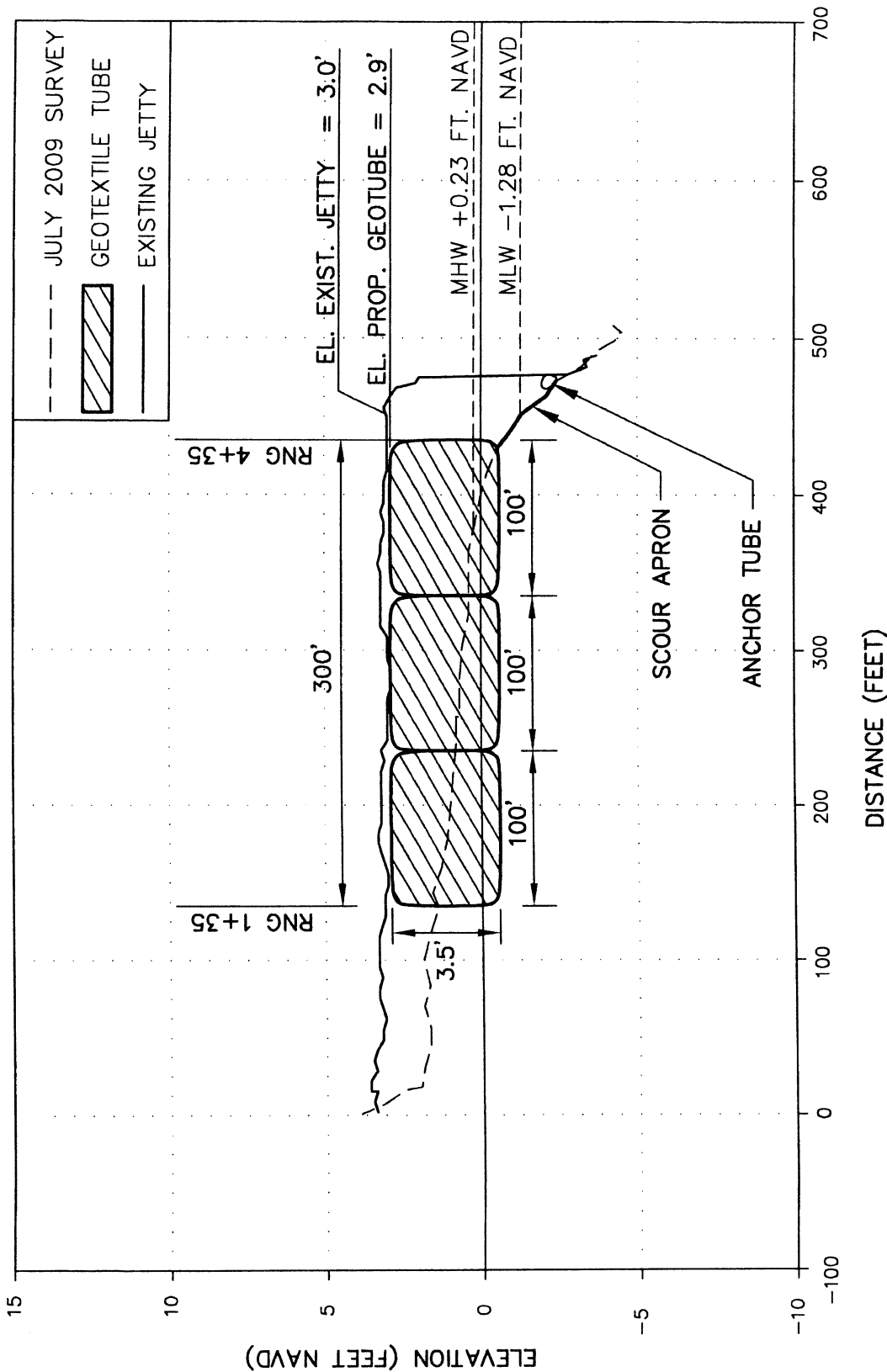
11/20/09
DATE

REVISIONS		
DATE	BY	DESCRIPTION

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PERMIT # 281452001

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FOR REGULATORY REVIEW ONLY

Thomas P. Pierro

THOMAS P. PIERRO P.E. NO. 64683

11/20/09
DATE

REVISIONS		
DATE	BY	DESCRIPTION
9/28/09	TP	PER RAI #3

DATE:
5/1/09

BY:
AMB

COMM NO.:
8446.49

SHEET:
19

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TITLE

ANNA MARIA ISLAND BEACH NOURISHMENT PROJECT
COQUINA BEACH SEGMENT
GEOTEXTILE TUBE CROSS SECTION



PERM # 231452701



Florida Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

In the matter of a
Petition for Variance by:

GRANTEE:
Manatee County
415 10th Street West
Bradenton, FL 34205

c/o

Rick Spadoni
Coastal Planning and Engineering, Inc.
2481 Boca Raton Blvd.
Boca Raton, FL 33431

PROJECT INFORMATION:
Variance No. 0281452-002-BV

Date of Issue: July 23, 2010

Expiration Date: Same as expiration date of Permit
No. 0281452-001-JC

County: Manatee

Project: City of Anna Maria and Coquina Beach
Nourishment

FINAL ORDER BY THE DEPARTMENT:

On February 11, 2009, the Department received from Manatee County a Petition for Variance, pursuant to Section 403.201(1), Florida Statutes (F.S.), and Section 62-110.104, Florida Administrative Code (F.A.C.). The Petitioner requested relief from Rule 62-4.244(5)(c), F.A.C., to establish a temporary mixing zone greater than 150 meters within an area of Class III Waters of the Gulf of Mexico. The grantee shall not exceed the water quality standard of 29 Nephelometric Turbidity Units (NTUs) above background at the edge of the expanded mixing zone, which measures 300 meters offshore and 1000 meters down-current from the point of discharge into the Gulf of Mexico at the beach placement site. This temporary variance shall only be valid during the construction activities authorized in Permit No. 0281452-001-JC and shall expire when the permit expires on July 23, 2015, unless the permit is modified to grant a time extension.

The associated joint coastal permit (Permit No. 0281452-001-JC) is to nourish 3,000 feet of shoreline in the City of Anna Maria, and restore 5,075 feet of shoreline at the Coquina Beach segment, both located on Anna Maria Island. Approximately 194,000 cubic yards of beach quality sand will be utilized to construct the two segments. There will be a 600-foot gap in the Coquina Beach segment, where fill will only be mechanically placed above the Mean High Water Line. The berm elevation for the project will be +4.0 feet NAVD, with a beach slope of 1:15 (vertical:horizontal) from the seaward edge of the berm to the slope intercept with the seabed. The construction berm crest will include the 75-foot design berm width, plus an average of 70 additional feet of berm width for advanced nourishment. A geotube assemblage comprised

of three sand-filled geotextile containers/tubes will be installed north of Longboat Pass (immediately north of the existing terminal groin/jetty) to limit sand from the Coquina Beach segment from passing through the existing jetty into Longboat Pass. The tube will be 100 feet in length with a crest elevation of +2.9 feet NAVD. The borrow area (for both segments of the project) will be the 2008 Anna Maria Island Borrow Area, located on the Passage Key Inlet ebb tidal shoal.

After reviewing the Petition for Variance, the Department staff concluded that it satisfied the requirements and criteria set forth in Section 403.201, F.S., and Rule 62-110, F.A.C.

The Consolidated Notice of Intent to Issue Joint Coastal Permit, Variance and Authorization to Use Sovereign Submerged Lands notified the Petitioner of the Department's proposed agency action and advised it of its right to a hearing pursuant to Sections 120.569 and 120.57, F.S. On **July 2, 2010**, notice was given in the *Bradenton Herald* newspaper and on July 2, 2010, notice was given in the Florida Administrative Weekly informing the public of the Department's intended action and offering an opportunity for hearing pursuant to Sections 120.569 and 120.57, F.S. A copy of the notice is attached as Exhibit A.

The Petitioner and interested parties having been advised of their rights under Chapter 120, F.S., and having failed or declined to file a Petition pursuant to Sections 120.569 and 120.57, F.S., are hereby deemed to have waived those rights. Acceptance of the variance constitutes notice and agreement that the Department will periodically review this variance for compliance, including site inspections where applicable, and may initiate enforcement action for violation of the conditions and requirements thereof. It is therefore:

ORDERED by the State of Florida, Department of Environmental Protection, that the Petition of **Manatee County** requesting a variance be and is hereby granted, subject to the conditions specified by the Department in Permit No. 0281452-001-JC.

The variance shall be subject to the following condition:

1. Best management practices and technology shall be employed to minimize turbidity within areas where nearshore hardbottom is present.

Any Party to this Order has the right to seek judicial review of the Order Pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of the Appellate Procedure, with the clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this Order is filed with the clerk of the Department.

Final Order for Variance
Variance No. 0281452-002-BV
Permit No. 0281452-001-JC
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DONE AND ORDERED this 23rd day of July, 2010, in
Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



Michael R. Barnett, P.E., Chief
Bureau of Beaches and Coastal Systems

Attachment: Exhibit A (Variance Notices)


Copies furnished to:

Charlie Hunsicker, Manatee County
Tom Pierro, CPE
Melany Larenas, CPE
Lauren Floyd, CPE
Jessica Craft, CPE
Bill Vorstadt, DEP, Southwest District
Robbin Trindell, FWC, ISMS
Eric Seckinger, FWC, ISMS
Robert Brantly, DEP BBCS
Subarna Malakar, DEP BBCS
El Kromhout, DEP BBCS
Marty Seeling, DEP BBCS
Vladimir Kosmynin, DEP BBCS
Paden Woodruff, DEP BBCS
Alex Reed, DEP BBCS
Vincent George, DEP BBCS
Roxanne Dow, DEP BBCS
Nancy Douglass, FWCC
Suzi Fox, MTP
Mike Nowicki, U. S. Army Corps of Engineers
Cynthia Wood, U. S. Army Corps of Engineer
JCP Compliance Officer
Steve West, BBCS Field Engineer
BBCS Permit File

Final Order for Variance
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FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section 120.52, Florida Statutes, with the designated
Department Clerk, receipt of which is hereby acknowledged.



Deputy Clerk



Date

Prepared by: Lainie Edwards, Ph.D.

APPENDIX TS-3
CONTRACTOR DAILY REPORT

**MANATEE COUNTY
COQUINA BEACH ARTIFICIAL REEF CONSTRUCTION PROJECT**

**Contractor's Daily Report
(Report is due by 1:00 p.m. of the following day)**

Date: _____ _____	Report	No.
Contract Day: _____		

Site Conditions

Weather Conditions: _____ (i.e., sunny, cloudy)
Air Temp: _____ Degrees F
Wave Height: _____ Feet
Wave Direction: _____
Wind Speed & Direction: _____

Was artificial reef work performed today? Yes or No

For the Work specified above, where were boulders placed?

Summary of Boulders Delivered to Site

Delivered Today: _____ tons _____ number of boulders
Delivered to Date: _____ tons _____ number of boulders
Are weight tickets attached? Yes or No

Summary of Boulders Placed (attach drawing)

Placed Today: _____ tons _____ number of boulders
Placed to Date: _____ tons _____ number of boulders

Summary of Work Performed Today: (include any additional work or testing performed at the staging site or quarry)

Buoy Check:

Were site marker buoys checked today? Yes or No
Did site marker buoys require resetting? Yes or No
Additional Comments:

Turbidity/Environmental Protection: (Explain any violations and corrective actions taken)

Verbal Instructions Received: (List any instructions given by the ENGINEER, construction deficiencies, retesting required, etc., with actions to be taken).

Remarks: (Cover delays and any conflicts in Plans, Specifications, or instructions)

Safety Inspection: (Report violations, corrective instructions given, and corrective actions taken)

Equipment: (Indicate items of construction equipment other than hand tools at the job site and whether or not used and if operable)

Progress Summary:

	This Day	To Date
Worked Hours		
Downtime Hours (Explain Below)		
Percent Complete to Date		

Explanation of Downtime:

Contractor's Verification: The above report is complete and correct and equipment used and Work performed during this reporting period are in compliance with the contract documents except as noted above.

Contractor's Approved Authorized Representative

Insert Placement Report Drawing

APPENDIX TS-4

**ARTIFICIAL REEF MATERIALS
CARGO MANIFEST AND
MATERIALS PLACEMENT REPORT**

EXPLANATION SHEET FOR THE ARTIFICIAL REEF MATERIALS CARGO MANIFEST FORM

The attached artificial reef cargo manifest has been developed in compliance with subsection 379.249(6)(b), Florida Statutes, which states that:

“It is unlawful for any person to: store, possess or transport on or across state waters any materials reasonably suited for artificial reef construction and stored in such a manner providing ready access for use and placement as an artificial reef, unless a valid cargo manifest issued by the commission or a commission-certified inspector is onboard the transporting vessel. The manifest will serve as authorization to use a valid permitted site or land-based staging area, which will validate that the type of artificial reef construction material being transported is permissible for use at the permitted site, and will describe and quantify the artificial reef material being transported. The manifest will also include the latitude and longitude coordinates of the proposed deployment location, the valid permit number, and the copy off the permit conditions for the permitted site. The manifest must be available for inspection by any authorized law enforcement officer or commission employee.”

This requirement for a cargo manifest became part of the statutory revision of the artificial reef program statute Section 379.249 Florida Statutes (F.S.), modified during the 2000 State of Florida Legislature. The statutory language allows a “commission certified inspector” to complete and approve the artificial reef materials cargo manifest. Therefore, we are providing the attached cargo manifest form to all local coastal government artificial reef coordinators and eligible non-profit corporations who may physically construct artificial reefs with the approval of the permit holders.

INSTRUCTIONS

A separate cargo manifest form is to be completed for each load to be transported offshore (i.e., one manifest per voyage). The manifest is to list all, and only, the reef materials onboard.

The top of the form is to be filled out by the reef builder with his/her contact information and the information about the proposed reef materials to be deployed written into the boxes. If several materials are identical but have different tag numbers, please write “SAME” in the box for the other materials. Also put “SAME” under additional coordinates if all materials are going to the same deployment site.

The shaded portion of the form at the bottom is to be filled out by the materials inspector. The cargo manifest must be completed by an entity representing the holder of the applicable artificial reef permit to assure that all materials meet the requirements of the permit.

Completion of the artificial reef materials cargo manifest is required for all construction activities.

The requirement to complete this document is not intended to be an undue burden on entities wishing to legally construct artificial reefs within permitted sites, but is a tool to assist law enforcement personnel in preventing the illegal construction of artificial reefs without the knowledge of the permit holder or in areas outside of legally permitted sites. It is intended to allow law enforcement staff to determine whether or not a load of materials is legal under the permit conditions. Without a properly completed Cargo Manifest Form on board, reef builders will be returned to port pursuant to Chapter 379.249 (6) (b). It is not necessary to send a copy of the Cargo Manifest Form to the FWC artificial reef section in Tallahassee. Documentation of the reef building activity should be maintained by the entity issuing the manifest in the event of any FWC inquiries.

Reminder: the placement of all public artificial reefs in state or adjacent federal waters requires the submittal of a Materials Placement Report to the FWC artificial reef program within 30 days of public reef deployment in accordance with s. 379.249 F.S.



FLORIDA ARTIFICIAL REEF MATERIALS PLACEMENT REPORT AND POST-DEPLOYMENT NOTIFICATION



US Army Corps
of Engineers

To Be Completed For Each Deployment Location or Date of Deployment

County or Municipality: _____

Date of Placement: _____

Grant No. FWC - _____
(if applicable)

U.S. Army Corps
Permit No.: _____

Total project cost: \$ _____ (Funding Source(s) and Amount(s): FWC \$ _____ Local \$ _____ Other \$ _____)

Name of Permitted Reef Site: _____

Location Name for This Deployment: _____

Latitude: _____ ° _____ ' North
Degrees minutes decimal minutes

Longitude: _____ ° _____ ' West
Degrees minutes decimal minutes

GPS Brand: _____ GPS Model number: _____

Geographical Location: _____ at _____ degrees from _____
(nautical miles) (bearing) (reference inlet)

Water Depth: _____ feet (minus) Max. Material Height: _____ feet (equals) Actual Vertical Clearance: _____ feet

TYPE AND AMOUNT OF MATERIAL DEPLOYED AT THE LOCATION DESCRIBED ABOVE:

(ATTACH A PHOTOGRAPH OF THE MATERIAL ON THE BARGE IMMEDIATELY PRIOR TO DEPLOYMENT)

Primary Type of Material: _____ Number of Pieces: _____

Dimensions: _____

Secondary Type of Material: _____ Number of Pieces: _____

Dimensions: _____

How was tonnage calculated? (Check all that apply, attach additional sheets if necessary):
 Before & after barge draft calculation
 Known weight of individual pieces
 Trucking receipts

TOTAL TONNAGE FOR THIS DEPLOYMENT: _____

I DO HEREBY CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE

Observer's Name: _____ (PLEASE PRINT) Title: _____ (PLEASE PRINT)

Observer's Signature: _____ Date: _____

Observer's Remarks: _____

I DO HEREBY CERTIFY THAT THE ABOVE INFORMATION COMPLIES WITH THE ABOVE REFERENCED PERMIT CONDITIONS

Permittee's Staff Name: _____ (PLEASE PRINT) Title: _____ (PLEASE PRINT)

Permittee's Staff Signature: _____ Date: _____

Local Tracking number _____ FWC Tracking number _____ Entered by _____ on _____ date
Rev. 4/23/2007 FWC initials