

REQUEST FOR PROPOSAL

For the Design and Construction of the

Truman Annex / NOAA Seawall

City of Key West

RFP No. 004-17



FEBRUARY 2017

Prepared in conjunction by:



759 South Federal Highway
Suite 314, Stuart, FL 34994
Phone: (772) 781-3404
CA No: 2429

and
City of Key West
Engineering Services Department

INFORMATION TO PROPOSERS

SUBJECT: REQUEST FOR PROPOSALS RFP NO. 004-17
TRUMAN ANNEX NOAA SEAWALL

ISSUE DATE: SUNDAY, FEBRUARY 5, 2017

MAIL OR SPECIAL
DELIVERY REPOSSES TO: CITY CLERK
CITY OF KEY WEST
1300 WHITE STREET
KEY WEST, FL 33040

DELIVER PROPOSALS TO: SAME AS

ABOVE PROPOSALS MUST BE
RECEIVED: THURSDAY, MARCH 2, 2017

NOT LATER THAN: 3:00 P.M. LOCAL TIME

SUE SNIDER
PURCHASING AGENT
CITY OF KEY WEST

ses

Enclosures

REQUEST FOR PROPOSAL

Sealed Proposals for the City of Key West RFP No. 004-17 Truman Annex NOAA Seawall, addressed to the City of Key West, will be received at the Office of the City Clerk, 1300 White St., Key West Florida, 33040 until 3:00 pm on Thursday, March 2, 2017 and then will be publicly opened and read. Any bids received after the time and date specified will not be considered.

Please submit two (2) originals and (2) two flash drives with one single PDF file of the entire proposal package on each flash drive. Proposal packages are to be enclosed in sealed envelopes, clearly marked on the outside either "TECHNICAL PROPOSAL OR COST PROPOSAL FOR TRUMAN ANNEX NOAA SEAWALL" addressed and delivered to the City Clerk at the address noted above.

The project consists of the design and construction of a steel sheet pile seawall with concrete cap and tie back anchors and utilities relocation.

Request for Proposal package may be obtained from Demand Star by Onvia or City of Key West website

<http://www.cityofkeywest-fl.gov/egov/apps/document/center.egov?view=item;id=5100>.

Bid package access on Demand Star, please contact Onvia at www.demandstar.com or call 1-800-711-1712.

A **pre-proposal meeting** will be held in conference room 113 at 1300 White Street, Key West, Florida on **Wednesday, February 15, 2017 at 9:30 a.m.**

The successful Proposer will be required furnishing necessary additional bonds for the faithful performance of the Contract, as prescribed in the Request for Proposal. The Bidder will be required to furnish documentation showing that he/she is in compliance with the licensing requirements of the State and the provisions of Chapter 66 section 87 of the Code of Ordinances of the City of Key West. Compliance with these provisions is required before the Contractor can enter into the agreement contained in the Contract Documents. Specifically, Proposer shall demonstrate that he/she holds, as a minimum, the following licenses and certificates required by State Statute and local codes.

PROPOSAL MUST BE SUBMITTED ON THE PRESCRIBED FORMS AND ACCOMPANIED BY BID SECURITY AS PRESCRIBED IN THE INSTRUCTIONS TO PROPOSERS, PAYABLE TO THE CITY OF KEY WEST, FLORIDA, IN AN AMOUNT NOT LESS THAN FIVE (5) PERCENT OF THE AMOUNT BID.

THE BIDDER MUST BE A LICENSED CONTRACTOR BY THE STATE OF FLORIDA AND SUBMIT PROOF OF SUCH WITH THE BID.

All bid bonds, contract bonds, insurance contracts, and certificates of insurance shall be either executed by or countersigned by a licensed resident agent of the Surety or Insurance Company having his place of business in the State of Florida, and in all ways complying with the insurance laws of the State of Florida. Further, the said Surety or Insurance Company shall be duly licensed and qualified to do business in the State of Florida.

Before a Contract will be awarded for the work contemplated herein, the CITY will conduct such investigation as is necessary to determine the performance record and ability of the apparent low Proposer to perform the size and type of work specified under this Contract. Upon request, the Proposer shall submit such information as deemed necessary by the CITY to evaluate the Proposer's qualifications.

For information concerning the proposed work, please contact Devon Steckly, Project Manager, Engineering Services by email at dsteckly@cityofkeywest-fl.gov. The City's "Cone of Silence" Ordinance 2-773 does not allow verbal communications.

As stated above at the time of the Proposal submittal the Proposer must provide satisfactory documentation of State Licenses. The Bidder shall furnish documentation showing that he is in compliance with the licensing requirements of County, and City licenses as would be required within ten days of the award. The successful Proposer must also be able to satisfy the City Attorney as to such insurance coverage and legal requirements as may be demanded by the Proposal in question. The City may reject bids for any of the following reasons: (1) for budgetary reasons, (2) if the bidder misstates or conceals a material fact in its bid, (3) if the bid does not strictly conform to the law or is non-responsive to the bid requirements, (4) if the bid is conditional, (5) if a change of circumstances occurs making the purpose of the bid unnecessary to the City, or (6) if such rejection is in the best interest of the City. The City may also waive any minor informalities or irregularities in any bid.

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Table of Contents

1.	Project Description	1
1.1	Project Description	1
1.1.1	Demolition	1
1.1.2	Basin Wall	2
1.1.3	Mooring Piles.....	2
1.1.4	Docks	2
1.1.5	Electrical and Water	3
1.1.6	Summary of Work Items.....	3
1.2	Information and Instructions to Proposers	4
1.2.1	Definitions	4
1.2.2	Invitation.....	4
1.2.3	Reservation of Rights.....	5
1.2.4	Pre-Proposal Conference	5
1.2.5	Questions, Interpretational Addenda	5
1.2.6	Availability of Lands for Work.....	5
1.2.7	Access to Site.....	6
1.2.8	RFP Documents.....	6
1.2.9	Examination of Contract Documents and Site	6
1.2.10	Interpretations and Addenda	7
1.2.11	Preparation and Submission of Proposals	8
1.2.12	Withdrawal of Proposal	9
1.2.13	Modifications of Proposals	9
1.2.14	Unauthorized Deviations and Alternative Proposals	9
1.2.15	Acceptance/Rejection of Proposals	10
1.2.16	Development Costs.....	11
1.2.17	Disclosure	11
1.2.18	Award and Execution of Contract.....	11
1.2.19	Tax Exempt Status/Owner Direct Purchase Program.....	12
1.2.20	Laws, Codes, and Regulations.....	12
1.2.21	Conflict of Interest.....	13
1.2.22	Certifications, Licensing, and Permit Requirements	13
1.2.23	Qualifications of Surety Companies.....	14
1.2.24	Proposal Security	14
1.2.25	Performance Bond and Payment Bond	15
1.2.26	Trench Safety Act.....	15
1.2.27	Occupational Safety and Health Act (OSHA).....	15
1.2.28	Compliance with the Florida Toxic Substance Statute.....	15
1.2.29	Public Entity Crimes Statement (F.S. 287.133).....	16
1.2.30	Subcontractor and Supplier Information	17
1.2.31	Contract Time	17
1.2.32	Liquidated Damages	17
1.2.33	Insurance	17
1.2.34	Non-discrimination Clause.....	18
1.2.35	Limitation of Liability	18

1.2.36	Contract with Third-Parties.....	18
1.2.37	Assignment	19
1.2.38	Minority, Service-Disabled Veteran Businesses, Women Business Enterprises or Disadvantaged Business Enterprises	19
1.2.39	Local Vendor Preference	19
1.2.40	Equal Benefits for Domestic Partners.....	19
1.2.41	E-Verify.....	19
1.3	Proposal Checklist (Attachment A)	20
1.4	Technical Proposal (Attachment B)	20
1.5	Cost Proposal (Attachment C)	20
1.6	Evaluation Criteria	20
1.6.1	Technical Presentation and Cost Proposal Presentation	21
1.6.2	Evaluation Panel Process	21
1.6.3	Basis of Scoring.....	22
1.7	Bid Bond (Attachment D)	23
2.	Contract	24
2.1	Contract package (Attachment E).....	24
2.2	Performance Bond (Attachment F).....	24
2.3	Payment Bond (Attachment G).....	24
2.4	General Conditions of the Contract (EJCDC) (Attachment H)	24
2.5	Supplementary Conditions of the Contract (Attachment I).....	24
3.	Scope of Services	25
3.1	Project Management Services	25
3.2	Permitting Services	26
3.3	Design Services.....	26
3.4	Construction Services.....	27
3.5	Deliverables	29
4.	Engineering Design Standards	30-17

List of Attachments and Appendices

Attachments

- A Proposal Checklist
- B Technical Proposal
- C Cost Proposal
- D Bid Bond
- E Contract
- F Performance Bond
- G Payment Bond
- H General Conditions of the Contract (EJCDC)
- I Supplementary Conditions of the Contract
- J Local Vendor Cert. Pursuant to CKW Ord. 09-22 Sect. 2-798
- K Indemnification Affidavit
- L Anti-Kickback Affidavit
- M Public Entity Crimes Affidavit
- N Non-Collusion Declaration and Compliance Affidavit
- O Florida Trench Safety Act Compliance Affidavit
- P Cone of Silence Affidavit
- Q Equal Benefits for Domestic Partners Affidavit
- R Owner Direct Purchase (ODP) Program

Appendices

- i Geotechnical Report
- ii FDEP Permit: 44-0341846-001-EE
- iii ACOE Permit: SAJ-2016-00621 (NW-CGM)
- iv Conceptual Drawings with Survey

1. Project Description

The City of Key West (herein referred to as the CITY) is planning the construction of a replacement steel sheet pile wall with concrete cap and tie-back system, and the incidental work needed to remove, store and replace the existing mooring piles and portions of the five dock platforms that are presently fixed to the existing seawall cap. The approximate wall length is 370 linear feet including 10-foot returns on either end. The proposed wall should be designed to be installed immediately in front of the existing wall. The existing concrete panel seawall and tieback system will remain in place with the exception of the concrete cap which will be removed and disposed of in an appropriate landfill. The existing electrical and water service connections along the wall that tie into the docks will need to be temporarily disconnected, protected and reinstalled upland of the proposed wall construction.

Limits of Construction



Figure 1-1 – Limits of Construction

1.1 Design

1.1.1 Demolition

The existing concrete cap and portions of the existing five docks will need to be removed prior to the installation of the new sheet pile wall. The existing mooring piles will need to be removed, stored and replaced after the installation of the new wall. A small portion of the existing chain link fence will need to be removed and replaced. The existing water and electrical service conduits on the face of the wall will need to be disconnected and reinstalled upland of the existing wall as depicted in the conceptual plans. All of the existing cleats and bollards on the existing wall shall be removed, stored and reinstalled using stainless steel hardware.

1.1.2 Basin Wall

The Truman Annex basin bottom elevation near the mudline of the proposed wall varies in depth from approximately -5 to -15 NAVD. The bottom of the basin is approximately -35 NAVD. The top of the existing concrete seawall cap elevation is approximately +6 NAVD. The steepest dropoff along the face of the wall occurs near the existing boat ramp.

Contractor shall provide calculations to support the design of the replacement wall based on the projects geotechnical information. For bidding purposes the proposed sheet length shall be a minimum of 35-feet.

Contractor should propose using the cold rolled, A690 steel sheets with a line item alternative for applying Targuard coal tar epoxy coating to both sides of the sheet for the top 25 feet. It will be up to the contractor to review the geotechnical engineering report and site conditions and perform the final sheet selection. Contractor shall provide engineered shop drawings signed and sealed by a Florida licensed Professional Engineer, and that engineer shall serve as the projects engineer of record. Contractor selected will be required to make shop drawing submittals signed and sealed by a Florida registered professional engineer, for the sheet selection, concrete cap mix design, tie-back anchor size and spacing, size of deadman anchors that are proposed, final embedment depth of the mooring piles, repairs/reconnection to the five dock structures and any other ancillary items that may be required.

The existing concrete wall and tie-back system consists of concrete panels and a concrete encapsulated wale beam located just above the water line, approximately 48-60 inches from the top of the concrete cap. During the project survey, ground penetrating radar was used to try and determine the depth and length of the tie-backs but the results were not definitive. If possible the existing tie-backs will remain undisturbed and the new tiebacks will be installed above the existing wall tie-back with minimal excavation. The proposed tie-backs should be angled at a minimum of 10 degrees and extend to a point beyond the existing tie-backs. It will be necessary for the contractor to field verify the location and depth of the existing tie-backs during construction and provide shop drawings for the final configuration of the proposed tie-backs. For the sake of this RFP, the contractor shall assume the bid length for tie-backs to be 20 feet. Contractor shall provide at least two load tests on the tie-back system and provide the results to the Engineer of Record (EOR) and the City for verification.

The space between the existing wall and the proposed steel sheet pile wall shall be filled with 57-stone, pea-gravel or other suitable stone.

1.1.3 Mooring Piles

There are twenty five (25) existing timber mooring piles that run along the face of the seawall that are in good condition and will need to be removed, stored and replaced. The mooring piles are assumed to be 45-feet long with 25-feet of embedment. The contractor shall assume the piles will need to be embedment depth a minimum of 25-feet in the RFP response and assume it will be necessary to use a pile guide template and/or provide predrilling or punching to set the piles.

1.1.4 Docks

The existing five (5) dock platforms are fixed to the existing seawall cap and will need to be partially demolished and/or deconstructed, stored and reattached. This will require portions of the decking and stringers to be replaced as necessary. The five existing aluminum access gates shall be carefully removed, stored, modified so they can be remounted to the new cap, and reused. The contractor shall assume that the docks will need to be constructed in like kind and reattached to the proposed seawall cap as required.

1.1.5 Electrical and Water

Electrical and Water Services that are mounted to the waterward face of the existing wall will need to be removed and reinstalled upland of the proposed/existing walls as described in the conceptual plans using the as-built utility information to replace in like kind.

1.1.6 Summary of Work Items

- a) Design for a complete project
- b) Securing site: Includes the installation of barriers/signs to keep pedestrians safely out of the construction site, and the installation of turbidity and sediment barriers to keep construction debris within the construction zone.
- c) Removing existing timber mooring piles and storing for reuse
- d) Removing existing portions of dock and storing for reuse
- e) Disconnecting all existing utilities at the seawall
- f) Demolition of existing seawall cap and portions of seawall that might interfere with sheet pile driving operations
- g) Driving of steel sheet pile in front of existing wall
- h) Excavation of upland gravel for installation of tiebacks and deadman anchors
- i) Filling void between new and existing seawall
- j) Forming, placing reinforcement and casting new concrete seawall cap
- k) Backfilling the gravel above the tiebacks
- l) Reinstalling timber piles in front of new seawall
- m) Reinstalling removed portions of dock affixed to new seawall cap
- n) Installation of a portion of the project site fence
- o) Demolition of utilities along the waterward face of the existing wall and reconstructing these utilities on the upland side of existing seawall.

1.2 Information and Instructions to Proposers

Project: City of Key West **Truman Annex / NOAA Seawall**
City Project No. **RFP No. 004-17**

This RFP is issued to provide prospective Proposers with information, guidelines, and rules to prepare and submit a Technical Proposal and Cost Proposal. The submittal must satisfy all criteria established in this RFP to qualify for an award, unless it is waived by the CITY as an informality, technicality, or irregularity, at CITY's sole discretion.

1.2.1 Definitions

"Codes" - Federal, state; county and city regulations governing all building, site and construction practices.

"DESIGN/BUILDER" - A partnership, corporation, or other legal entity that is:

1. Certified under Chapter 61G4-15.033 F.A.C., to engage in contracting through a certified or registered marine contractor as the qualifying agent; and,
2. Certified under Chapter 471.023 F.S., to practice or to offer to practice engineering;

"Design/Build Contract" - A contract with a design/build firm for the design and construction of a public construction project.

"Evaluation Panel" - The CITY will create an Evaluation Panel (EP) consisting of professional members, its staff, and other agencies, as necessary, to evaluate technical and cost proposals.

"CITY" or "OWNER" - City of Key West, Florida.

"Proposer" - The official entity submitting a proposal in response to this RFP (e.g. contractors, consultants, business organizations, firms, or other entities).

"Proposal" - The Proposer's written response to this RFP offering to provide the specified architecture, engineering, design, permitting, construction and/or services. It shall be considered as a formal offer and shall be valid for a period of 90 calendar days from the date that Technical and Cost Proposals are opened. This includes renderings, drawings, project schedules, reports, and any other documents required for submission by the RFP herein.

"RPR" – Resident Project Representative.

"Request For Proposals (RFP)" - A formal written solicitation for sealed proposals to Design/Build the project stated herein, in which technical presentations, qualifications, experience, and cost are among the main selection criteria.

1.2.2 Invitation

This invitation is extended to all qualified individuals or firms, including joint ventures and partnerships that can provide the requirements specified herein. Proposals should be prepared simply and economically, addressing the requirements in a straightforward and concise manner. The requirements presented in this solicitation represent the CITY's anticipated needs.

1.2.3 Reservation of Rights

The issuance of this RFP constitutes only an invitation to present technical and cost proposals. The CITY reserves, holds and may in its sole discretion exercise any or all of the following rights and options with respect to this RFP:

1. Determine if Proposer's Statement of Qualifications satisfactorily meets the criteria established in this RFP;
2. Seek clarification from any DESIGN/BUILDER submitting a proposal;
3. Reject any and all proposal in accordance with Section 1.2.15;
4. Re-advertise, issue, and solicit for other proposals;
5. Cancel this solicitation at any time with or without the substitution of another proposal;
6. Supplement, amend or otherwise modify this proposal; and,
7. Waive any minor irregularity or informality on any matter to the extent not prohibited by law.

The CITY reserves the right to modify the Scope of Work to be considered for this project. The CITY shall have no liability to any Design/Builder Proposer for any costs or expenses incurred in connection with the preparation and submittal of a Proposal in response to this RFP or otherwise.

1.2.4 Pre-Proposal Conference

A pre-proposal meeting will be held in conference room 113 at 1300 White Street, Key West, Florida on Wednesday, February 15, 2017 at 9:30 am. Proposers shall submit written questions in accordance with the section 1.2.5.

1.2.5 Questions, Interpretational Addenda

Prospective Proposers shall promptly notify the CITY in writing of all conflicts, errors, ambiguities, inconsistencies, or discrepancies that Proposers find in the Proposal Documents.

No verbal inquiries shall be received or responded to. All questions and clarification inquiries from Proposers concerning the proposals must be submitted in writing either through email, or mail. Any written inquiries must be received by CITY no later than ten (10) calendar days prior to the scheduled date for receipt of proposals. Questions will be answered in writing by the CITY and made available to all registered RFP holders. See also Section 1.2.18.

Questions should be sent to:

City of Key West

1300 White Street, Key West, FL 33040

Attn.: Devon Steckly

Email: dsteckly@cityofkeywest-fl.gov

1.2.6 Availability of Lands for Work

The land is available, and is owned by the National Oceanic and Atmospheric Administration (NOAA), Florida Keys National Marine Sanctuary (FKNMS) and the CITY, at 33 E. Quay Road, Key West, Monroe County, Florida.

NOAA, FKNMS, and EcoDiscovery Center will be occupied/operating and access to/parking for these facilities shall be maintained at all times. Design/Builder will coordinate with ongoing construction projects in the area including Truman Waterfront Park Phase IA and the Truman Amphitheater.

1.2.7 Access to Site

On request, the CITY will provide access to the site to allow prospective Proposers to conduct such investigations and tests as may be deemed necessary to submit proposals. Proposers shall schedule such access in advance by contacting:

City of Key West

1300 White Street, Key West, FL 33040

Attn.: Devon Steckly

Email: dsteckly@cityofkeywest-fl.gov

1.2.8 RFP Documents

This RFP contains the Design/Build Contract, Scope of Services, Demolition, Design/Build Criteria, Geotechnical Report, FDEP Permit, and ACOE Permit. No information obtained from any officer, agent or employee of the CITY on any such matter, shall in any way affect the risk or obligation assumed by the successful Proposer, or relieve the Proposer from fulfilling any of the conditions of the Contract.

It is the responsibility of the Proposer to insure that all pages and all addenda are received. All Proposers are advised to closely examine this package. Any questions regarding the completeness of this package and any addenda thereto should be immediately directed to the CITY contact.

The CITY assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of RFP Documentation. CITY, in making copies of the RFP Documentation available on the above term, does so only for the purpose of obtaining Proposals for the Work to be performed and does not confer a license or grant for any other use.

1.2.9 Examination of Contract Documents and Site

Proposers must satisfy themselves by personal examination of the location of the proposed Work and by thorough examination of the Design Criteria and other related information identified in the Proposal Documents, all requirements of the Work to be performed; and shall not at any time after the submission of a proposal dispute or complain of such estimate or the nature or the amount of Work to be completed. Proposers shall be familiar with, and all work shall comply with, all federal, state and local laws, ordinances, codes, rules and regulations that in any way affect the cost, progress or performance of the Work. Failure on the part of Proposers to thoroughly familiarize themselves with applicable laws, ordinances, codes, rules and regulations will in no way relieve them from the responsibility included in the applicable laws, ordinances, codes, rules and regulations.

Proposers shall be responsible for having investigated to their satisfaction, prior to the submission of proposals, the conformation of the ground, the character and quality of the substrata, the types and quantities of materials to be encountered, the nature of the groundwater and subsurface conditions, the character of equipment and facilities needed preliminary to and during the execution of the Work, the general and local site conditions, any ongoing activities in the project area, and all other matters that can in any way affect the cost, progress, performance, or furnishing of any part of

the Work. The price established for the Work will reflect all costs pertaining thereto.

The CITY has obtained a preliminary geotechnical investigation of the site **for informational purposes only (Appendix i)**. This shall in no way negate the Proposer's responsibility to perform/obtain a detailed geotechnical investigation and have a Geotechnical Report prepared by a licensed professional, which will serve as the basis of seawall design during the design phase of the project.

By submission of a proposal, the Proposer affirms that:

1. He/she has read and understands the RFP Documents, inclusive of the Design/Build Contract and all design criteria, and the Proposals submitted are made in accordance therewith; and,
2. The Proposer has visited the site and familiarized himself/herself with the local conditions under which the work is to be performed; and,
3. At the Proposer's own expense performed all examinations, investigations, explorations, tests, or studies and obtained all additional information and data which pertain to the physical conditions (e.g., surface, subsurface and underground utilities) at or contiguous to the site or otherwise, that may affect the cost, progress or performance of the Work and that the Proposer deems necessary to determine his/her cost to perform the Work in accordance with the terms and conditions of the Contract Documents; and,
4. That Proposer has satisfied himself/herself with respect to such conditions and shall make no claims against the CITY if on carrying out the Work he/she finds that the actual conditions do not conform to those indicated.

The submission of proposals will constitute an incontrovertible representation that the Proposer has complied with every requirement of the Instructions to Proposers, that without exception the proposals are premised upon performing the Work required by the Contract Documents and such means, methods, techniques, sequences, or procedures of design and construction as may be indicated in or required by the Contract Documents are sufficient; in scope and detail to indicate and convey an understanding of all terms and conditions for performance of the Work.

Proposers shall not be entitled to any additional compensation or time extensions based upon alleged differing conditions that in the opinion of the CITY shall have been reasonably anticipated at the time of preparation of the proposals.

1.2.10 Interpretations and Addenda

Proposers shall carefully examine the Request for Proposal documents. Any ambiguities or inconsistencies shall be brought to the attention of the CITY in writing prior to the submittal deadline as stated in Section 1.2.13. Failure to do so on the part of the Proposer will constitute an acceptance by the Proposer of any subsequent decision.

Any written questions, however, shall not involve the quality or use of products or methods; the CITY will neither approve nor disapprove particular proposed substitute products prior to the receipt of Technical Proposals. Such products may only be considered when offered by the Proposer for incorporation into the Work after award of the Contract.

In general, no answer will be given to prospective Proposers in reply to an oral question if the question involves an interpretation of the intent or meaning of the Contract Documents, or the equality or use of products or methods other than those designated or described in the Contract

documents. Any information given other than by means of the Contract Documents, including Addenda as described below, is given informally for informational purposes and for the convenience of the Proposers only and is not guaranteed. The Proposer agrees that such information, interpretations, corrections, or changes will not be binding and shall not be used as the basis of, nor shall the giving of any such information entitle the Proposer to assert, any claim or demand against the CITY on account thereof.

When solicitation revisions are deemed advisable or become necessary, including changes to the deadline for proposal submission, they shall be answered only in the form of written addenda posted on Demand Star and the City of Key West website (<http://www.cityofkeywest-fl.gov/>). Please contact Demand Star at www.demandstar.com, the City of Key West website (<http://www.cityofkeywest-fl.gov/>), or call 1-800-711-1712 to obtain addenda. All addenda so issued shall become a part of the Contract Documents.

All addenda issued must be acknowledged. Prospective Proposers are advised to contact the CITY prior to the solicitation deadline to ascertain the existence and number of any addenda issued. Failure of any Proposer to receive or to acknowledge receipt of any addenda shall not relieve such Proposer from any terms, conditions and obligations under its proposal as submitted.

Prior to submission of its proposal, the Proposer shall ascertain that it has received all addenda issued. The Proposer shall acknowledge receipt in writing of each individual addendum by completing the acknowledgment included in the Cost Proposal Form.

1.2.11 Preparation and Submission of Proposals

Technical Proposals and Cost Proposals must be submitted in separately sealed envelopes or boxes by the deadline indicated in this solicitation. The outside of the sealed envelopes or boxes shall be marked "SEALED PROPOSAL"; identified by the name of the Proposer; project name; RFP number; and the Proposer's return address. One envelope will be labeled "Cost Proposal" and the other envelope shall be labeled "Technical Proposal." The CITY assumes no responsibility for proposals not properly marked.

Two (2) copies of each proposal shall be submitted (one marked "original" and one marked "copy"), and two (2) flash drives, each shall contain one PDF file each of the full response.

Failure to comply with these requirements may be considered grounds for declaring the submittal non responsive.

The Proposer shall provide the information requested in the proposal documents. All proposals must be in legible/readable format in computer form, typewritten or executed in ink. All documents requiring execution by an officer or employee having authority to bind the company or firm must be executed in ink. Signatures shall be required as follows:

1. Proposals by a corporation must be manually executed in the corporate name by the President or Vice President (or other corporate officer, accompanied by written evidence of binding signatory authority). The corporate seal must be affixed and attested by the Corporate Secretary or Assistant Corporate Secretary.
2. Proposals by a partnership must be manually executed in the partnership name and signed by a partner whose title must appear under the signature. The official address of the partnership must be shown below the signature.

3. Attorneys-in-Fact who sign bonds or other surety instruments must attach with each bond or surety instrument a certified and effectively dated copy of their power of attorney.

Please respond concisely to each of the requirements or questions as set forth in the proposal documents. Each requirement or question shall be responded to separately, with the requirement or question preceding each response. Proposals shall be on 8.5" x 11" format included in a loose-leaf binder with section dividers as required further herein. All proposals must include the provided forms. Proposals on Contractor letterhead; or quotation forms will not be accepted. Proposals submitted by facsimile transmission shall not be accepted.

The proper delivery of the proposal to the CITY is solely and strictly the Proposer's responsibility. The CITY cautions Proposers to assure actual delivery of proposals either hand-delivered or mailed via U.S. mail or overnight courier, directly to the CITY prior to the deadline set for opening proposals. The CITY shall not be responsible for delays, caused by the United States Postal Service, other delivery companies or services, or any other occurrence. Proposals submitted by certified or registered mail, not received by CITY at the time of the Proposal Opening will not be honored.

Receipt of a proposal by any CITY office, receptionist, or personnel other than CITY CLERK does not constitute "delivery" as required by this solicitation.

The proposal delivery time will be scrupulously observed. Under no circumstances will proposals delivered after the specified delivery time be considered. Late proposals will be returned to the Proposer unopened with the notation: "This proposal was received after the delivery time designated for the receipt of proposals."

1.2.12 Withdrawal of Proposal

Proposers may withdraw their submitted proposal by notifying the CITY via telegraphic or written communication at any time prior to the proposal submittal deadline. The written request must be signed in a manner identical with the proposal being withdrawn and be worded so as not to reveal the amount of the Cost Proposal.

1.2.13 Modifications of Proposals

Proposers may not modify their proposals after the date(s) and time(s) designated for the receipt of proposals.

Proposers may modify a proposal already submitted by delivering a telegraphic or written communication to the place where proposals are to be submitted at any time prior to the proposal submittal deadline. The written request for modification must be duly executed and signed in a manner identical with the proposal being modified and be worded so as not to reveal the amount of the original Cost Proposal. It shall however, state the addition, subtraction or other modification to the Cost Proposal, such that the Price will not be known until the sealed Cost Proposal is opened. No modifications will be permitted after the date and time designated for the receipt of Cost Proposals.

1.2.14 Unauthorized Deviations and Alternative Proposals

Proposers are hereby advised that the CITY will only consider proposals that fulfill the obligations and requirements imposed upon them by this RFP. Unauthorized conditions, exceptions, limitations or provisions attached to a Cost Proposal may cause its rejection as being non-responsive. The

completed forms provided herein shall be without interlineations, alterations or erasures in the printed text. Alternative proposals will not be considered unless requested. Oral or telephonic proposals or such modifications to proposals submitted will not be considered.

Nothing contained herein shall place a duty upon the CITY to reject proposals or award a contract based upon anything other than its sole discretion as described herein.

1.2.15 Acceptance/Rejection of Proposals

Selection shall be in accordance with F.S. 287.055. The CITY may reject bids for any and/or all of the following reasons:

1. For budgetary reasons,
2. If the bidder misstates or conceals a material fact in its bid,
3. If the bid does not strictly conform to the law or is non-responsive to the bid requirements,
4. If the bid is conditional, or
5. If a change of circumstances occurs making the purpose of the bid unnecessary to the CITY.

The CITY further reserves the right to reject the proposal of any Proposer that previously failed in the proper performance of an award, or to deliver on time a contract of a similar nature, or who has been suspended or debarred from doing business with the CITY, or who is not in a position to perform properly under this award. The CITY reserves the right to inspect all facilities of Proposers in order to make a determination as to the foregoing.

Reasonable efforts will be made to either award the Contract or reject all bids within one- hundred twenty (120) calendar days after bid opening date. A Bidder may not withdraw its bid unilaterally nor change the Contract Price before the expiration of one-hundred twenty (120) calendar days from the date of bid opening. A Bidder may withdraw its bid after the expiration of one-hundred twenty (120) calendar days from the date of bid opening by delivering written notice of withdrawal to the City Clerk prior to award of the Contract by the City Commission.

More than one proposal from an individual, firm, partnership, joint venture, corporation, or association under the same or different names will not be considered. If the CITY believes that any Proposer is included in more than one proposal, all proposals in which such Proposer has an interest will be rejected. If the CITY believes that collusion exists amongst the Proposers, all such collusive proposals will be rejected.

Any blank spaces on the Cost Proposal form, qualifying notes, exceptions, counter offers, lack of required submittals, signatures, or failure to submit on the CITY Cost Proposal form may cause the proposal to be declared non-responsive.

The CITY reserves the right to award to that Proposer which, in the opinion of the CITY, will be in the best interest of and/or the most advantageous to the CITY. Minor irregularities, informalities and technicalities in a proposal may be waived by the CITY. A minor irregularity or informality is a variation from the solicitation that does not affect the Cost Proposal or does not give a Proposer an advantage or benefit not enjoyed by other Proposers, and does not adversely impact the interests of the CITY.

1.2.16 Development Costs

Neither the CITY nor its representatives shall be liable for any expenses incurred in connection with the preparation, submission, or presentation of a proposal to this solicitation. All information in the proposal shall be provided at no cost to the CITY.

1.2.17 Disclosure

Upon receipt, sealed bids or proposals are exempt from public disclosure until such time as the CITY provides notice of a decision or intended decision or within 30 days after bid or proposal opening, whichever is earlier. Thereafter, all proposals become "public records" and shall be subject to public disclosure consistent with Chapter 119, Florida Statutes. Proposers claiming exemptions to disclosure provided by law must provide at the time of the proposal submittal the specific statutory authority for the claimed exemption, identifying the specific data or other materials to be protected, and stating the reasons why such exclusion from public disclosure is necessary. Unless exemption is established, proposals will thereafter be made available for public inspection at the Office of the CITY.

Proposers shall disclose all material facts with its proposal submission pertaining to any felony conviction or any pending felony charges in the last three years anywhere in the United States against:

1. Proposer;
2. Any business entity related to or affiliated with Proposer; or,
3. Any present or former executive employee, officer, director, stockholder, partner or CITY of Proposer or of any such related or affiliated entity.

This disclosure shall not apply to any person or entity that is a stockholder owning less than 20% of the outstanding shares of a Proposer whose stock is publicly owned and traded.

Proposer shall also disclose any civil conviction or pending civil litigation involving contract performance during the last three years anywhere in the United States against the Proposer or any business controlled by or affiliated with Proposer.

The CITY may reject, at its sole discretion, any Proposer it finds to lack honesty, integrity or moral responsibility, or whose present or former executive employees, officers, directors, stockholders, or partners are found to lack honesty, integrity or moral responsibility. The CITY's finding may be based on the disclosure required herein, the CITY's own investigation, public records, or any other reliable source of information. The CITY may also reject any Proposer failing to make the disclosure required herein. By submitting a proposal, Proposer recognizes and accepts that the CITY may reject any proposal at its sole discretion. The Proposer waives any claim it might have for damages or other relief arising from the rejection of its proposal, or resulting directly or indirectly from the rejection of its proposal based on these grounds, or from the disclosure of any pertinent information relating to the reasons for rejection of its proposal. Please also see F.S. Section 287.133 referenced in Section 1.2.29 of this document.

1.2.18 Award and Execution of Contract

Proposers acknowledge that this solicitation or the proposal does not constitute a contract with the CITY. No contract is binding or official until the CITY and its funding agents approve a contract. The CITY intends to enter into contract agreements with one Proposer, based on the

selected proposal and the agreements attached to the RFP.

Where applicable, discrepancies shall be resolved as follows:

1. Discrepancies between prices written in words and prices written in numbers will be resolved in favor of prices written in words.
2. Where proposals have erasures or corrections, each erasure or correction must be in ink and initialed in ink by the Proposer.

The CITY may conduct such investigations as it deems necessary to assist in the evaluation of any proposal and to establish the responsibility, qualifications and financial ability of the Proposers, and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents.

The Proposer to whom the award is made shall, within fifteen (15) calendar days, not including Sundays, and legal holidays, after receiving notice of award, provide evidence of any required insurance, performance bonds, payment bonds and guarantee, and schedule of subcontractors (if applicable) and if determined applicable by the CITY negotiate any remaining items for consideration in the contract documents. Failure to execute the contract and/or to provide evidence of any required insurance or bonding coverage shall be just cause for annulment of the award. Award may then be made to the next highest ranked Proposer, or the Work may be re-advertised, at the CITY's discretion.

If within fifteen (15) calendar days, not including Sundays and legal holidays, after issuance of Notice of Contract Award, the successful Proposer refuses or otherwise neglects to execute the required written contract and fails to furnish the required Performance Bond and Payment Bond, the amount of the Proposer's Proposal Security shall be forfeited and the same shall be retained by the CITY.

No plea of mistake in the proposal or misunderstanding of the conditions of forfeiture shall be available to the Proposer for the recovery of its proposal security or as a defense to any action.

The ability of a Proposer to obtain a Performance Bond and a Payment Bond shall not be regarded as the sole test of such Proposer's competency or responsibility.

1.2.19 Tax Exempt Status

The CITY is a political subdivision of the state of Florida. The CITY is the governing authority and, as such, is exempt from paying sales and use taxes imposed by the state, and federal and state taxes for tangible personal property. Proposers must note that they will be responsible for the payment of all taxes and that the costs thereof are included in the prices stated in the Cost Proposal.

At the City's option, the City may directly purchase materials from Design/Builder selected vendors under a tax exempt status through an Owner Direct Purchase Program. Additional Owner Direct Purchase Program information is available as an Attachment in this RFP.

1.2.20 Laws, Codes, and Regulations

Proposers are notified that all applicable federal and state laws, municipal and County ordinances, and the rules, regulations, resolutions, policies, and procedures of the CITY, and any other authority having jurisdiction over any part of the project shall apply to the solicitation and the contract throughout, and are deemed to be included in this solicitation/contract the same as though herein

written.

If any discrepancy or inconsistency shall be discovered between the Request for Proposal and any law, code, ordinance, regulation, order of decree, Proposer shall immediately report the same in writing to the CITY who will issue such instructions as may be necessary. However, it shall not be grounds for a Change Order that the Proposer was unaware of or failed to investigate the rules, codes, regulations, statutes, and ordinances of all applicable governmental agencies having jurisdiction over the Project or the work.

Whenever references are made to standards or codes in accordance with which work is to be performed or tested, the edition or revision of the standards or codes current on the effective date of this solicitation shall apply, unless otherwise expressly set forth. Unless otherwise specified, reference to such standards or codes is solely for implementation of the technical portions of such standards and codes. In case of conflict among or between any referenced standards and codes the CITY will determine which shall govern. Proposer acknowledges that compliance with code requirements represents minimum standards for construction and is not evidence that the work has been completed-in accordance with the Contract Documents.

The contractor must strictly comply with federal, state, and local building and safety codes, Americans with Disabilities Act, and Florida Accessibility Code. All Florida Accessibility Code requirements are not expressed in the text of specific design criteria. The Design/Builder is responsible for design of spaces and appurtenances, including, but not limited to, shelves, handles, counters, sinks, cabinets and toilet facilities, per the Florida Accessibility Code.

Proposer certifies that all material, equipment, processes, etc., contained in its proposal meet all OSHA, ANSI, NFPA and all other federal and state requirements. Equipment must meet state and federal safety regulations for grounding of electrical equipment and for lock-out/tag-out procedures. Proposer further certifies that if it is the successful Proposer and the materials, equipment, etc., delivered are subsequently found to be deficient in any of the aforementioned requirements in effect on the date of delivery, all costs necessary to bring the materials, equipment, processes, etc., into compliance shall be borne by the Proposer.

1.2.21 Conflict of Interest

All Proposers must disclose with their Technical Proposal the name of any officer, director, or agent who is also an employee of the CITY. Further, all Proposers must disclose the name of any CITY employee who owns, directly or indirectly, an interest in the Proposer's firm or any of its branches.

1.2.22 Certifications, Licensing, and Permit Requirements

To be considered for contract award, Proposers and their subcontractors shall be licensed, certified and registered by all applicable federal, state, regional, county or municipal agencies having jurisdiction over the specified work. Proposers shall supply license numbers, with expiration dates, as part of their proposal. Failure to hold and provide proof of proper licensing, certification, and registration may be considered grounds for rejection of the proposal. The Proposer must include a copy of all applicable Certificates of Competency issued by the state of Florida, Monroe County and City of Key West.

The Proposer shall secure all permits required to complete the work at no additional cost to the CITY. Failure to secure permits prior to commencement of work will be considered a default under the Contract. Non-residents regulated by the Florida Department of Professional Regulation may

submit a copy of their Florida Department of Professional Regulation License and a current Occupational License issued by the County or City where their business is located.

Subcontractors shall be licensed in their respective fields to obtain permits. Said license must be in the name of the subcontractor.

1.2.23 Qualifications of Surety Companies

In order to be acceptable to the CITY, the surety company issuing the Performance Bond and Payment Bond shall meet and comply with the following minimum standards:

1. Surety must be authorized to do business in Florida and shall comply with the provisions of Florida Statute 255.05.
2. During all construction, guarantee and warranty periods the Surety must be listed on the U.S. Department of Treasury Fiscal Service, Bureau of Government Financial Operations, Federal Register, Part V, latest revision, entitled: "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies."
3. All bonds shall be originals and issued or countersigned by a local producing agent who is a resident of the state of Florida with satisfactory evidence of the authority of the person or persons executing such bond shall be submitted with the bond. Attorneys-in-Fact who sign bonds or other surety instruments must attach with each bond or surety instrument a certified and effectively dated copy of their power of attorney. Agents of surety companies must list their name, address and telephone number on all bonds.
4. The life of the bonds shall extend twelve (12) months beyond the date of Final Completion and shall contain a waiver of alteration to the terms of the Contract, extensions of time and/or forbearance on the part of the CITY.

1.2.24 Proposal Security

The Cost Proposal shall be accompanied by a certified check, cashier's check or Proposal Bond (i.e., Bid Bond) in an amount not less than five percent (5%) of the Total Proposed Price. Said check or bond shall be made payable to the City of Key West and shall be given as a guarantee that the successful Proposer, upon receipt of notification of award, will enter into an Agreement and furnish the required Payment and Performance Bonds. In case of refusal or failure to enter into said Agreement, the check or Proposal Bond, as the case may be, shall be forfeited to the CITY as liquidated damages. Failure to submit the Proposal Security with the Cost Proposal may be grounds for rejection of the proposal. All bonds shall be written by a Surety Company of recognized standing, authorized to conduct business in the state of Florida; and shall have a registered agent in the state of Florida.

The CITY shall have the right to retain the Proposal Security of Proposers to whom an award is being considered until either:

1. The Contract has been executed and bonds have been furnished; or,
2. The selected Proposer withdraws its proposals without the consent or approval of the CITY or,
3. All proposals have been rejected.

The successful Proposer must provide a Letter of Commitment from a state of Florida licensed bonding company to provide a Performance Bond and a Payment Bond. The Letter of Commitment must specifically accept the Performance Bond and Payment Bond language stipulated in this proposal. In addition, it must acknowledge that the Performance Bond and Payment Bond each will be supplied for the dollar amount stated herein.

1.2.25 Performance Bond and Payment Bond

A Performance Bond and a Payment Bond issued in a sum equal to one hundred percent (100%) of the total awarded contract amount (including design and construction) will be required from the successful Proposer for purposes of protecting the CITY from lawsuits for:

1. Non-payment of debts as might be incurred during the Proposer's performance under the contract; and,
2. Ensuring the faithful performance of the obligations imposed by the contract.

The Performance Bond and a Payment Bond forms are included in the Contract Documents and these forms must be properly executed by the Surety and the successful Proposer within fifteen (15) calendar days, not including Sundays and legal holidays, after receipt of notification from the CITY of its award of the contract.

1.2.26 Trench Safety Act

Pursuant to Chapter 90-96 (CS/SB 2626), Laws of Florida, "Trench Safety Act", any person submitting a proposal is required to complete the form entitled: COMPLIANCE WITH FLORIDA TRENCH SAFETY ACT (90-96 LAWS OF FLORIDA) and return the form with the Cost Proposal Form (Attachment O).

This is not a pay item. The purpose of the form is to gather information on the costs associated, with trench safety measures and to insure that the Proposer has considered these costs and included them in the proposal. Failure to complete this form may result in the proposal being declared non-responsive.

1.2.27 Occupational Safety and Health Act (OSHA)

Proposer must comply with the Department of Labor Safety and Health Regulations for construction promulgated under the Occupational Safety and Health Act of 1970 (PL 91956), under Section 107 of the Contract Work Hours and Safety Standards Act (PL 9154), and otherwise as required by law. In instances where such is applicable due to the nature of the proposal matter with which this proposal package is concerned, all material, equipment, etc., as proposed and offered by Proposer must meet and conform to all OSHA requirements. The Proposer's signature upon the Cost Proposal form, being by this reference considered a certification of such fact.

1.2.28 Compliance with the Florida Toxic Substance Statute

In compliance with Chapter 442, Florida Statutes, any toxic substance required by this solicitation and delivered to the project must be accompanied by a Material Safety Data Sheet (MSDS). The MSDS must include the following information:

1. The identity used on the chemical product's label.

2. The chemical and the common names of all ingredients that have been determined to be a health hazard.
3. Physical and chemical characteristics of the hazardous chemicals (i.e., vapor pressure, flash point).
4. The physical hazards of the hazardous chemical including the potential for fire, explosion and reactivity.
5. The health hazards of the hazardous chemical, including signs and symptom of exposure.
6. Primary routes of entry.
7. The Occupational Safety and Health Administration (OSHA) permissible exposure limit, American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value, and any other exposure limit used or recommended.
8. Whether the hazardous chemical is listed in the National Toxicology Program (NTP) Annual Report on Carcinogens (latest edition) or has been found to be a potential carcinogen.
9. Any generally applicable precautions for safe handling and use that are known.
10. Any generally applicable control measures that are known (e.g., ventilation point source controls, etc.).
11. Emergency and First Aid procedures.
12. The date of MSDS preparation or the last change to it.
13. The name, address, and telephone number of the chemical manufacturer or importer.
14. Any recommended personal protective equipment (i.e. gloves, goggles, respirators, etc).

1.2.29 Public Entity Crimes Statement (F.S. 287.133)

As provided in Florida Statute 287.132-133, by submitting a proposal, or entering into a contract, or performing any work in furtherance thereof, the Proposer certifies that it, its affiliates, suppliers, subcontractors and consultants who will perform hereunder, have not been placed on the convicted vendor list maintained by the state of Florida Department of Management Services within the 36 months immediately preceding the date hereof. This notice is required by Florida Statute 287.133 (3) (a). This certification shall be included as part of Package No. 1 Technical Proposal. See Attachment M.

A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids 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 \$25,000.00 for a period of 36 months from the date of being placed on the convicted vendor list.

The Proposer further understands and accepts that any contract issued as a result of this solicitation shall be either voided or subject to immediate termination by the CITY, in the event there is any

misrepresentation or lack of compliance with the mandates of Section 287.133, Florida Statutes. The CITY, in the event of such termination, shall not incur any liability to the Proposer for any work or materials furnished.

1.2.30 Subcontractor and Supplier Information

Proposers shall list proposed major subcontractors and suppliers to be used, to include name, mailing address, phone number, fax number, web-site address (if available), e-mail address (if available), type of work subcontracted, and dollar amount of work. The Proposer shall provide an experience statement with pertinent information regarding similar projects and other evidence of qualification for each subcontractor, supplier, person or organization. If after due investigation the CITY has reasonable objection to any proposed subcontractor, supplier, person or organization, the CITY may, before Notice of Award, request the successful Proposer to submit an acceptable substitute. The CITY reserves the right to make a determination as to the foregoing.

If the apparent successful Proposer declines to make any such substitution, the CITY may award the Contract to the next highest ranking Proposer that proposes to use subcontractors, suppliers and other persons and organizations acceptable to the CITY. Failure to make requested substitutions does not constitute grounds for forfeiting the Proposal Security of any Proposer. Any subcontractor, supplier, other person or organization listed and to whom the CITY does not make a written objection prior to issuing the Notice of Award will be deemed acceptable to the CITY, subject to revocation. No acceptance by the CITY of any such subcontractor, supplier or other person or organization shall constitute a waiver of any right of the CITY to reject defective Work, materials or equipment not conforming to the Contract Documents.

Proposer shall not change any subcontractors without just cause and approval by the CITY. No Proposer shall be required to employ any subcontractor supplier, other person or organization against whom the Proposer has a reasonable objection.

1.2.31 Contract Time

The number of successive calendar days within which, or the date by which, the Work is to be substantially completed and also completed and ready for final payment and acceptance by the CITY are set forth in the Design/Build contract.

Time is of the essence for the Contract. The successful Proposer shall commence the work to be performed under the Contract Documents on the date set by the CITY in the written Notice to Proceed, and shall continue the work with due diligence and shall agree to complete the entire work as identified in the Technical Proposal and the Design Criteria Package.

1.2.32 Liquidated Damages

Liquidated damages, in the amount and in accordance with the terms stated in the Agreement, shall be paid by the Proposer for each day from the time specified for the completion of the Contract until final acceptance of the Work in accordance with the Agreement. This is estimated as fixed damages to the CITY for failure to complete the Work in the time specified. This charge shall be made, unless the CITY shall grant an extension of time for the completion of the Work.

1.2.33 Insurance

The successful Proposer shall, at its sole expense, provide and maintain in full force and effect

throughout the term of the Contract, all insurance coverage as set forth in the Supplementary Conditions (Attachment I) and with insurers and under forms of policies acceptable to the CITY. Evidence of appropriate insurance coverage shall be provided as an attachment to the Cost Proposal. Proposers may fulfill this requirement by having their insurance agent either:

1. Complete and sign an insurance certificate which meets all of the requirements as provided in this RFP; or,
2. Issue a letter on the insurance agency's stationery stating the Proposer qualifies for the required insurance coverage levels and that an insurance certificate will be submitted before final execution or issuance of the contract.

All insurers must be qualified to lawfully conduct business in the state of Florida. Failure of the CITY to notify the Proposer that the certificate of insurance provided does not meet the contract requirements shall not constitute a waiver of the Proposer's responsibility to meet the stated requirements. In addition, receipt and acceptance of the certificate of insurance shall not constitute approval of the amounts or types of coverage listed on the certificate. The successful Proposer shall provide evidence certifying that all insurance is in full force and effect; and such evidence shall include provisions that the insurance shall not be canceled, expire or be materially changed without giving the CITY at least thirty (30) days advance notice by registered mail.

Misrepresentation of any material fact, whether intentional or not, regarding the Proposer's insurance coverage, policies or capabilities, may be grounds for rejection of the proposal and rescinding of any ensuing contract.

1.2.34 Non-discrimination Clause

It is the express policy of the CITY that the CITY shall not conduct business with nor appropriate any funds for any organization that practices discrimination on the basis of race, color, national origin, religion, ancestry, gender, age, marital status, sexual orientation or disability.

1.2.35 Limitation of Liability

Any legal action to recover monetary damages in tort for injury or loss of property, personal injury, or death caused by the alleged negligent or wrongful act or omission of any employee of the CITY acting within the scope of his/her office or employment is subject to the limitations specified in Florida Statute 768.28.

No officer, employee or agent of the CITY acting within the scope of his/her employment or function shall be held personally liable in tort or named as a defendant in any action for any damage suffered as a result of any act, event, or failure to act.

The CITY shall not be liable in tort for the acts or omissions of an officer, employee, or agent committed while acting outside the course and scope of his/her employment. This exclusion includes actions committed in bad faith or with malicious purpose, or in a manner exhibiting wanton and willful disregard of human rights, safety, or property.

1.2.36 Contract with Third-Parties

The Proposer shall not enter into any contractual agreement with a third party for performance of any conditions under this RFP without the express written approval of the CITY.

1.2.37 Assignment

The Proposer's proposal, if accepted, resultant contract, and any permits required for performance of the Contract shall not be assigned, conveyed, or otherwise disposed of without permission of the City Commission by Resolution.

1.2.38 Minority, Women Business Enterprises or Disadvantaged Business Enterprises

Design/Build Proposers are hereby informed that the CITY encourages the utilization and participation of Minority, Women Business Enterprises or Disadvantaged Business Enterprises. Proposers are encouraged to seek Minority, Women Business Enterprises or Disadvantaged Business Enterprises for participation in subcontracting opportunities.

The Certified Vendor Directory can be accessed from the Department of Management Services, Office of Supplier Diversity website:

http://www.dms.myflorida.com/agency_administration/office_of_supplier_diversity_osd

1.2.39 Local Vendor Preference

Design/Build Proposers are hereby informed that local vendor preference is given to responsive and responsible bidders meeting the definition of local business pursuant to section 2-798 which permits the award of a bid to a qualified local bidder, if within five percent of the lowest bid submitted.

1.2.40 Domestic Partner Benefits

Except where otherwise exempt or prohibited by law, a contractor awarded a contract pursuant to a bid process shall provide benefits to domestic partners of its employees on the basis as it provides benefits to employee spouses.

Such certification shall be in writing and shall be signed by an authorized officer of the contractor and delivered, along with a description of the contractor's employee benefits plan, to the City's procurement director prior to entering a contract.

If the contractor fails to comply with this section, the City may terminate the contract and all monies due or to become the contract may be retained by the City.

1.2.41 E-Verify

Executive Order 11-116, signed May 27, 2011 by the Governor of Florida, requires Department of Economic Opportunity contracts in excess of nominal value to expressly require Contractors to:

1. Utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the Contractor during the Agreement term; and
2. Include in all subcontracts the requirement that subcontractors performing work or providing services utilize the E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the term of the subcontract.

E-Verify is an Internet-based system that allows an employer, using information reported on an employee's Form I-9. Employment Eligibility Verification, to determine the eligibility of all new employees hired to work in the United States after the effective date of the required Memorandum of Understanding (MOU); the responsibilities and elections of federal contractors, however, may vary, as stated in Article II.D.1.c. of the MOU. There is no charge to employers to use E-Verify. The Department of Homeland Security's E-Verify system can be found at:

<https://www.uscis.gov/e-verify>

If Contractor does not have an E-Verify MOU in effect. Contractor must enroll in the E-Verify system prior to hiring any new employee after the effective date of this Contract.

1.3 Proposal Checklist (see Attachment A)

Attachment A provides a proposal checklist.

1.4 Technical Proposal (see Attachment B)

Attachment B provides the technical proposal forms to be completed by the Proposer.

1.5 Cost Proposal (see Attachment C)

Attachment C provides the cost proposal forms to be completed by the Proposer.

1.6 Evaluation Criteria

The CITY will convene an Evaluation Panel to conduct a review and ranking of Technical Proposals and Cost Proposals submitted in response to the Design/Build Request for Proposal. The Evaluation Panel will consist of designated CITY staff and/or selected representatives of the CITY. The Evaluation Panel may be assisted by the following non-panel individuals:

1. Reference Verifier - contacts and verifies references listed in the Statement of Qualifications and reports to the Evaluation Panel on findings on fact.
2. Financial and Surety Advisor(s) - reports to the Evaluation Panel on the sufficiency and quality of financial information and creditworthiness, as well as bonding and insurance documentation submitted with a Technical Proposal or Cost Proposal.
3. Contact Person - serves as an information conduit between CITY staff, the Proposers and the Evaluation Panel.
4. Legal Consultant - advises the Evaluation Panel on questions of law that may arise and ensures that the Panel, its members, and the actions and decisions of the panel do not

violate existing law or CITY rules, regulations, policies and procedures.

Evaluation of the Technical Proposal which includes qualifications and experience, and the Cost Proposal from each Proposer shall be based on evaluation criteria and procedures established within this document. The Evaluation Panel shall evaluate and score the two parts of the proposal from each Proposer and establish the final ranking of submittals received.

1.6.1 Technical Presentation and Cost Proposal Presentation

The two parts of the Proposal and required attachments shall be submitted to the CITY on or before the due date stated in the RFP solicitation. The Proposer must identify any portions of the submittal that are proprietary. The contact person will review the submittals and make provisions for withholding proprietary documents from public record.

Each member of the Evaluation Panel will receive a packet containing the Technical Proposal of each Proposer. The Evaluation Panel will review and score the Technical Proposals according to the scoring criteria which follows. The Proposer shall ensure that the required elements of the similar project descriptions and personnel experience are adequately explained in the text with emphasis on how the particular element was performed in conjunction with the overall project. The mere listing of elements without specific details in the body of the description will negatively impact the scoring for the project.

1.6.2 Evaluation Panel Process

The Evaluation Panel is subject to the state law and CITY rules and regulations. Florida Statute Section 286-011 ("Government in Sunshine Law") requires that any meeting (including telephone conversations) between two or more members of a public board or commission, for the purpose of discussing any matter on which foreseeable action may be taken by the board or commission, must be publicly noticed and open to attendance by the general public.

Meetings of the Evaluation Panel shall be as follows:

- Initial Orientation Meeting: Panel members will receive a copy of each Technical Proposal. The panel will select a Chairman. The Reference Verifier, Contact Person and Financial/Security Adviser will be introduced and their individual responsibilities reviewed with the Panel.

After the initial meeting, each Panel member will independently review the Technical Proposals for scoring in accordance with the established evaluation criteria. Questions or comments a Panel member has relative to any Proposal shall be directed to the Contact Person. Additional meetings of the Panel may be convened to initiate discussions or to develop and direct requests for information to one or more of the Proposers, the Legal Consultant, the Reference Verifier, the Financial and Security Advisor(s), or CITY staff.

- Ranking Meetings: After the Panel members have completed their individual evaluations, the Panel will reconvene to score and conduct a ranking of the Technical Proposals. The Chairman will total and average the scores of each Panel member and calculate the score for each Proposer. This will establish a numeric ranking for each Proposer based on the Technical

Proposal and attachments. Additional meetings of the Panel may be convened if deemed necessary.

After the initial ranking of the Technical Proposals is finalized, the Chairman will open each Cost Proposal comprised of Cost Proposal, Bid Bond, and Preliminary Schedule of Values.

- **Final Ranking:** The Cost Proposal Score will then be added to the Technical Proposal Evaluation Score and the Evaluation Panel shall recommend contract award to the Proposer with the highest total score. This action will end the duties of the Evaluation Panel.

1.6.3 Basis of Scoring

A ranking of Proposers submitting, with higher point totals being desirable, shall be based on weighted scoring criteria for the Proposals as follows:

Technical Proposal Points (Maximum 300 Points)

Letter of Transmittal No Points

Qualifications/Experience (Maximum 100 Points)

Proposer's experience in providing proposed services, including demonstrating relevant design/build experience	0 – 40
Qualifications and experience of Key Personnel assigned to the Project	0 – 30
Number of other projects that all or some of proposed team and Subcontractors have worked together	0 – 20
Familiarity with local conditions	0 – 10

Project Approach (Maximum 100 Points)

Documentation of understanding of Scope of Work and requirements	0 – 40
Proposer's approach to designing and permitting the Project	0 – 20
Proposer's approach to constructing the Project	0 – 20
Project Schedule and proposed Milestones	0 – 20

Financial Stability (Maximum 50 Points)

Years Proposer's company has been in business	0 – 25
Size of projects successfully completed in the past 5 years	0 – 25

Past Performance (Reference Verification) (Maximum 50 Points)

Quality of project	0 – 25
Overall satisfaction of Owner	0 – 25

Cost Proposal Points (Maximum 200 Points)

Lowest Lump Sum	200 points
Between 100.1% and 102% of Lowest Lump Sum	190 points
Between 102.1% and 104% of Lowest Lump Sum	180 points
Between 104.1% and 106% of Lowest Lump Sum	170 points
Between 106.1% and 108% of Lowest Lump Sum	160 points
Between 108.1% and 110% of Lowest Lump Sum	150 points
Between 110.1% and 112% of Lowest Lump Sum	140 points
Between 112.1% and 114% of Lowest Lump Sum	130 points
Between 114.1% and 116% of Lowest Lump Sum	120 points

Between 116.1% and 118% of Lowest Lump Sum	110 points
Greater than 118% of the Lowest Lump Sum	100 points

Total Possible Points ----- 500 Points

1.7 Bid Bond (see Attachment D)

Attachment D provides the bid bond forms to be completed by the Proposer.

2. Contract

2.1 Contract package (see Attachment E)

Attachment E provides the contract.

2.2 Performance Bond (see Attachment F)

Attachment F provides the performance bond forms to be completed by the Proposer.

2.3 Payment Bond (see Attachment G)

Attachment G provides the payment bond forms to be completed by the Proposer.

2.4 General Conditions of the Contract (EJCDC) (see Attachment H)

Attachment H provides the standard general conditions of the contract.

2.5 Supplementary Conditions of the Contract (see Attachment I)

Attachment I provides the supplementary conditions to the contract.

3. Scope of Services

3.1 Project Management Services

The Design/Builder will prepare a Project Management Plan (PMP), which will define the project team, project schedule, list of major deliverables, and lines of communication. A draft copy of the PMP will be submitted to the CITY's Project Manager for review and comment not more than 10 days after Notice to Proceed. The Design/Builder will participate in a kick-off meeting with the CITY not more than 10 days after Notice to Proceed, to review the draft PMP and confirm project objectives. Following the meeting, the PMP will be revised, as appropriate based on CITY comments, and copies of PMP will be mailed to the CITY's Project Manager and project team members.

A project schedule will be developed as part of the PMP using Microsoft Project or approved similar software. Subtasks, duration for each subtask, milestones, and the inter-relationship of subtasks will be identified in the schedule. Overall project design, permitting and construction progress will be monitored against this schedule. Progress will be reviewed and recovery action will be recommended by the Design/Builder at monthly status review meetings. The Design/Builder will perform design reviews, construction inspections and quality control reviews, and prepare monthly updates to the schedule.

The Design/Builder and CITY will conduct monthly status review meetings to discuss project status and matters concerning project accomplishments and scheduling. The Design/Builder will prepare and submit to the CITY's Project Manager an agenda prior to each meeting and meeting minutes following each meeting. The meeting minutes will document activities and decisions occurring during the meeting, describe current project activities, identify activities planned during the next month, indicate issues requiring the CITY's attention, and report the status of the project budget and schedule.

Design/Builder will prepare draft minutes and final minutes for all meetings including, but not limited to, kick-off meeting, monthly status review meetings, pre-construction conference and construction progress meetings. Draft minutes will be distributed to meeting attendees and others as deemed appropriate, for review and comment. Final wording of the minutes will be discussed and approved at the next scheduled meeting or other time agreed upon by the attendees. Design/Builder shall make the revision agreed upon and distribute final minutes to the attendees.

The Design/Builder will monitor costs versus the approved project cost to complete. Beginning with initial contract award, the cumulative amount of committed funds will be carefully monitored by Design/Builder. Data will be continuously compared to the approved budget and updated by means of the following reports:

- *Cost/Budget Report:* A contract cost report, summarizing the current financial status of the project, will be developed by Design/Builder and issued monthly to the CITY. The report includes the approved cost, and notes all variances from that cost due to changes initiated by the Design/Builder.
- *Budget & Contract Status Report (BCS):* The BCS report is a combined cost and accounting report providing cost and billing information by major work division. The original cost is updated to reflect any scope development changes. Work in place, off-site materials storage, reserves withheld, previous billing and current payments per trade division are represented in the

summary analysis. This report is issued monthly with the Design/Builder’s application for payment, and represents a one-page summary of the total cost and payment position on the project.

3.2 Permitting Services

Under this Task, the Design/Builder will identify, prepare, and obtain all federal, state, local and water management district permit applications or permit modifications required for the construction of the seawall. Activities including contacting regulatory authorities, preparing permit applications, preparing written responses to review comments from regulatory authorities, and attendance at meetings to resolve outstanding issues. This may include, but is not limited to the following permits:

Permit	Issuing Agency
Environmental Resources Permit (ERP)	FDEP / ACOE
FDEP NOI NPDES Permit	FDEP
Building Permit	City of Key West

The Design/Builder shall prepare and provide the CITY with signed and sealed copies of all permit applications or permit modifications and attachments that are submitted to regulatory agencies for the Project. Design/Builder will pay all permit application fees. The Design/Builder shall address and resolve all comments and questions, and provide additional information to the regulatory agencies as needed. The Design/Builder has sole responsibility for obtaining all permits for the project. CITY will coordinate publications of the Notice of Intent from the permitting agencies, when required. The CITY will be named as Permittee on all permits.

The CITY has received Permits from:

- Appendix C: FDEP Permit: 44-0341846-001-EE
- Appendix D: ACOE Permit: SAJ-2016-00621 (NW-CGM) / SER-2016-18029

The Design/Builder shall apply for a building permit and substantially comply with all permit approvals and/or modify these permits, as necessary, to incorporate any changes in design concepts or operational procedures incorporated during the design.

3.3 Design Services

The Design/Builder will conduct a project initiation conference with the CITY, and the Design/Builder’s design engineer to discuss and confirm the project approach.

Design/Builder will provide engineering services to the CITY to finalize current design concepts, steel sheetpile wall and concrete cap specifications, and installation methodologies. The Design/Builder will prepare Drawings, Shop Drawings and Specifications as necessary. The design concepts presented in the RFP will be modified as necessary to comply with regulatory permit conditions and as necessary to obtain CITY acceptance prior to incorporation into the final Construction Documents. The Drawings, Shop Drawings and/or Specifications will address structural, civil, geotechnical, and basic mechanical and electrical systems. The Design/Builder will prepare and submit copies of the draft drawings and technical specifications for CITY review and comment at the 60% and 90% completion level.

Design/Builder will provide a value engineering/constructability review during the 60% design phase of the project utilizing both engineers and construction personnel. The purpose of this review is to evaluate existing drawings and preliminary construction specifications, to determine whether proposed project details will create construction problems in the field and to determine whether the owner's functional objectives can be met more cost effectively through a different design approach. A value engineering/constructability review, investigating the details of the various infrastructure/building systems can help prevent major delays and expenses due to faulty construction sequencing, incomplete purchasing procedures, and design problems. A formal report will be prepared and submitted to the CITY. Specifically, the review includes:

- The identification of the best functional balance between cost, reliability, and performance of the project, while meeting the objectives of the owner;
- The evaluation of specific infrastructure/building details for practicality and efficiency of design;
- The technical review of details and infrastructure/building systems to clarify the sequence of construction and the impact of design tolerances.

Cost saving derived through the value engineering/constructability review process shall be shared equally between the Design/Builder and the CITY. Any change in Contract Price shall be incorporated into the Agreement by a Change Order or written Amendment in accordance with General Conditions, Article 11.

3.4 Construction Services

The Design/Builder will provide engineering and construction services during construction activities.

- **Pre-Construction Conference:** At least 10 days prior to starting construction, the Design/Builder will schedule, attend and conduct a pre-construction conference with the CITY. The conference will be attended by Design/Builder's Project Manager, lead Design Professional, Construction Manager, and others as appropriate and will be held to discuss such topics as may include, but not be limited to: schedules; procedures for handling operation & maintenance manuals and other submittals, and for processing Applications for Payment; maintenance of traffic; initiation of coordination with affected utilities; LEED process and documentation requirements; and to establish a working understanding among the parties as to the Project. The Design/Builder will provide the CITY with a completed copy of the Design/Builder /Subcontractor/Supplier Information at or prior to the Pre-Construction Conference.
- **Prepare a Revised Project Management Plan:** The Design/Builder will revise the PMP to include construction subcontractors, schedule, and address construction health and safety procedures and requirements.
- **Field Technical Assistance and Issue Clarifications:** The Design/Builder will provide general technical information and additional data or drawings to resolve unforeseen conditions encountered during construction, provide clarifications and interpretations of the Construction Documents, and respond to Subcontractors requests for information.
- **Construction Progress Meetings:** The Design/Builder will conduct periodic (monthly, at minimum) construction progress meetings with construction subcontractors and/or suppliers and CITY representatives, to review Design/Builder's work progress and scheduled activities, coordination

between different contractors on-site, coordination with CITY and NOAA Staff and to discuss and resolve construction related issues.

- **Substantial and Final Inspections:** The Design/Builder, in conjunction with the CITY, will conduct a substantial completion inspection to determine if the Project is substantially complete. The Design/Builder, in conjunction with the CITY, will conduct a comprehensive final inspection at the end of the Project to determine if the Project is complete in accordance with the requirements of the Construction Documents.
- **Acceptance Testing:** The Design/Builder will conduct and document both functional and performance testing on all systems, including water and electrical connections, and pull test on a limited number of tie-backs.
- **Record Drawings:** The Design/Builder will maintain certified as-built drawings during construction and prepare record drawings for submittal to the CITY prior to Final Completion.
- **Inspection Services during Construction:** The Design/Builder will perform inspection and quality assurance/quality control services during construction to document construction and installation procedures, observe the construction subcontractor's activities, and to verify that the construction of the Project is completed in accordance with the Construction Documents. The Design/Builder will provide the services of a materials testing laboratory to perform field and laboratory materials testing and to monitor quality assurance/ quality control, as required by the Agreement and/or Construction Documents.
- **Prepare Certification of Construction Completion:** The Design/Builder will compile construction data, as-built drawings, and the Construction Quality Assurance Report, and prepare Certifications of Construction Completion as required by applicable permits. Design/Builder will respond to agency requests for additional information to obtain the Certifications of Completion.
- **Construction Services:** The Design/Builder shall provide through itself or subcontractors the necessary supervision, labor, inspection, testing, start-up, material, equipment, machinery, temporary utilities and other temporary facilities to permit Design/Builder to complete the construction consistent with the Construction Documents. Design/Builder shall perform all construction activities efficiently and with the requisite expertise, skill and competence to satisfy the requirements of the Construction Documents. Design/Builder shall at all times exercise complete and exclusive control over the means, methods, sequences and techniques of construction.
- **Construction Coordination:** Design/Builder shall coordinate the activities of all subcontractors. If CITY performs other work on the Project or at the Site with separate contractors under CITY's control, Design/Builder agrees to cooperate and coordinate its activities with those of such separate contractors so that the Project can be completed in an orderly and coordinated manner without unreasonable disruption.
- **Scheduling:** During the construction phase, Design/Builder will actively manage field construction activities for the project. The Design/Builder will aggressively monitor progress and performance on site to ensure that the master schedule and project specification developed during the design phase is followed. Listed below are some of the major activities to be performed during the construction phase.
 - *Master Schedule:* Design/Builder will utilize the master schedule developed during pre-construction activities as the roadmap for monitoring performance. The master schedule shall be updated monthly and modified as needed during construction to incorporate any field changes.

- *Resource Allocation Control System Chart*: When the preliminary construction budget and overall project duration is established, a Resource Allocation Control System (RACS) chart will be developed to allocate man power and work in place rate over construction time. Principal construction activities will be outlined in bar chart form and summarized on one sheet of paper showing the duration of all construction efforts, productivity on a major trade basis, projected value of work in dollars per month, cash flow requirements per month, and percentages of overall work completed per month. The RACS shall be updated monthly throughout the pre- construction and construction phases.

3.5 Deliverables

- Five copies of the draft and final Project Management Plan (PMP)
- Five copies of the Value Engineering/Constructability Review Report
- Five copies of the 60% complete design documents (half-sized)
- Five copies of the 90% complete design documents (half-sized)
- Five copies of all local permit documents
- One set of unbound Construction Documents with half-sized Drawings, and four sets of half-sized final Construction Documents at the pre-construction conference
- Five copies of final Certification of Construction Completion including the Construction Quality Assurance Report and half-sized signed and sealed record drawings.
- Meeting minutes of all meetings.
- Monthly progress report including schedule and cost control information

Design/Builder shall provide an electronic copy of all deliverables to the CITY on CD ROM. Acceptable formats include Word, Excel, PDF, and AutoCAD (current version). Other formats may be utilized as mutually agreed by the parties.

4. Engineering Design Standards



ENGINEERING DESIGN STANDARDS

TRUMAN WATERFRONT NOAA SEAWALL REPAIR

PROJECT ID: TR-1503

KEY WEST, FLORIDA

TECHNICAL SPECIFICATIONS

01/30/17



Tetra Tech, Inc.

759 South Federal Highway, Suite 314
Stuart, Florida 34994
Phone: (772) 781-3400
Fax: (772) 781-3411
Cert. of Authorization: 2429



A handwritten signature in black ink, appearing to read "Stuart E. McGahee".

Stuart E. McGahee, PE
FL No. 57536

TABLE OF CONTENTS

SECTION	DESCRIPTION	PAGE
DIVISION 01 – GENERAL REQUIREMENTS		
01 11 00	Summary of Work	32
01 33 00	Submittal Procedures	36
01 33 16	Design Data (Design After Award)	45
01 50 00	Temporary Construction Facilities and Controls	56
01 57 19	Temporary Environmental Controls	62
01 74 19	Construction and Demolition Waste Management	81
01 78 00	Closeout Submittals	85
DIVISION 02 – EXISTING CONDITIONS		
02 41 00	Demolition and Deconstruction	90
02 42 91	Removal and Salvage of Historic Construction Materials	98
DIVISION 03 – CONCRETE		
03 10 00	Concrete Formwork	102
03 30 00	Cast-in-Place Concrete	108
03 35 00	Concrete Finishing	123
DIVISION 05 – METALS		
05 14 00	Aluminum Pier Gates	126
DIVISION 06 – WOOD		
06 13 33	Pier Timberwork	129
DIVISION 26 – ELECTRICAL		
26 00 00	Basic Electrical Materials and Methods	135
DIVISION 31 – EARTHWORK		
31 23 00	Excavation and Fill	139
31 41 16	Steel Sheet Piling	149
31 62 19	Wood Marine Piles	157
DIVISION 33 – UTILITIES		
33 11 00	PVC Piping and Valves	166
33 40 00	Storm Pipe Extensions	171

END OF DIRECTORY

SECTION 01 11 00

SUMMARY OF WORK

PART 1 GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

1.1.1 Project Information and Description of Work

The work includes the installation of a steel sheet pile wall with concrete cap and tie-back system, and the incidental work needed to remove, store and replace the existing mooring piles and portions of the five dock platforms that are presently fixed to the existing seawall cap. The existing concrete panel seawall and tieback system will remain in place with the exception of the concrete cap which will be removed and disposed of in an appropriate landfill. The existing electrical, water and storm sewer connections along the wall will need to be temporarily disconnected, protected and reinstalled/reconnected upland of the proposed wall construction.

Contractor shall provide calculations to support the design of the replacement wall based on the projects geotechnical information. Contractor should propose using cold rolled, A690 steel sheets with a line item alternative for applying Targuard coal tar epoxy coating to both sides of the sheet for the top 25 feet. It will be up to the contractor to review the geotechnical engineering report and site conditions and perform the final sheet selection. Contractor shall provide engineered shop drawings signed and sealed by a Florida licensed Professional Engineer, and that engineer shall serve as the projects engineer of record (EOR). **Contractor selected will be required to make shop drawing submittals signed and sealed by a Florida registered professional engineer, for the sheet selection, concrete cap mix design, tie-back anchor size and spacing, size of deadman anchors, final embedment depth of the mooring piles, repairs to the five dock structures and any other ancillary items (Electrical, Water and Storm Sewer Connections, Etc.) that may be required.** The electrical, water and sewer connections shall be reinstalled in like kind. For the electrical, include adding the pull boxes on the upland side of the wall as shown on the conceptual drawings.

The existing concrete wall and tie-back system consists of concrete panels and a concrete encapsulated wale beam located just above the water line, approximately 48-60 inches from the top of the concrete cap. During the project survey, ground penetrating radar was used to try and determine the depth and length of the tie-backs but the results were not definitive. If possible the existing tie-backs will remain undisturbed and the new tiebacks will be installed above/between the existing wall tie-back with minimal excavation. The proposed tie-backs should be angled at a minimum of 10 degrees and extend to a point beyond the existing tie-backs. It will be necessary for the contractor to field verify the location and depth of the existing tie-backs. Contractor shall assume the bid length for the DYWIDAG rods selected to be 20-feet. Contractor shall provide a minimum of two load tests on the tieback system. The required loading will depend on the EOR's wall design and the spacing of the tie-back systems. Live loads and loading duration shall be prescribed by the EOR. The contractor shall provide the loading requirements and testing dates to the EOR and the City (and its representatives) prior to initiating the tests. The results of the test shall be provided to the City and its representative for verification and approval before proceeding with the remaining installation.

The space between the existing wall and the proposed steel sheet pile wall shall be filled with 57-stone, pea-gravel or other suitable stone. . Contractor shall supply alternate bid item for substituting the pea-gravel or 57-stone between the walls with crushed rock.

There are twenty five (25) existing timber mooring piles that run along the face of the seawall that are in good condition and will need to be removed, stored and replaced. The mooring piles are assumed to be 45-feet long with 25-feet of embedment. The contractor shall assume the piles will need to be embedded to a minimum of 25-feet in the RFP response and assume it will be necessary to use a pile guide template and/or provide predrilling or punching to set the piles.

All of the existing cleats and bollards on the existing wall shall be removed, stored and reinstalled using stainless steel hardware.

The existing five (5) dock platforms are fixed to the existing seawall cap and will need to be partially demolished and/or deconstructed, stored and reattached. This will require portions of the decking and stringers to be replaced as necessary. The five existing aluminum access gates shall be carefully removed, stored, and reused. These gates will need to be modified (new anchor plates will need to be welded to the post) so they can be remounted to the new cap, and reused. The contractor shall assume that the docks will need to be constructed in like kind and reattached to the proposed seawall cap as required.

Corals that currently exist on the face of the seawall and on the debris at the mudline have been and/or will be relocated by the owner and are not a part of this contract.

1.2.1.1 Work includes the selection and furnishing of all materials, equipment and labor needed for the construction of TRUMAN WATERFRONT NOAA SEAWALL and all necessary appurtenances, the preparation of record drawings, and the completion of all incidental work needed to provide a complete and serviceable project.

1.2.1.2 In general, work consists of installation of approximately 365 feet of new steel sheet pile seawall. A summary of the activities involved with this project include:

- a. Securing site: Includes the installation of barriers/signs to keep pedestrians safely out of the construction site, and the installation of turbidity and sediment barriers to keep construction debris within the construction zone.
- b. Removing existing timber mooring piles and storing for reuse
- c. Removing existing portions of dock and storing for reuse
- d. Disconnecting all existing utilities at the seawall
- e. Demolition of existing seawall cap and portions of seawall that might interfere with sheet pile driving operations (including the steel railroad tracks running parallel to the boat ramp).
- f. Driving of steel sheet pile in front of existing wall
- g. Excavation of upland gravel for installation of tiebacks and deadman anchors
- h. Filling void between new and existing seawall
- i. Forming, placing reinforcement and casting new concrete seawall cap
- j. Backfilling the gravel above the tiebacks
- k. Reinstalling timber piles in front of new seawall
- l. Reinstalling removed portions of dock affixed to new seawall cap
- m. Installation of a portion of the project site fence

- n. Demolition of utilities along the face of the existing wall and reconstructing these utilities on the upland.

1.1.2 Location

The work is located at the TRUMAN WATERFRONT adjacent to the exiting boat ramp immediately behind the Florida Keys National Marine Sanctuary (FKNMS) Key West Office and the National Oceanic and Atmospheric Administration (NOAA) building, approximately as indicated. The address is 33 East Quay Road, Key West, FL 33040.

1.2 OCCUPANCY OF PREMISES

Building(s) will be occupied during performance of work under this Contract.

Before work is started, arrange with the City of Key West and the FKNMS Superintendent or his delegate to provide a sequence of construction, means of access, space for storage of materials and equipment, and use of roads, parking, and all other facilities that will be impacted by the work and provide this plan at the pre-construction meeting.

1.3 EXISTING WORK

In addition to "FAR 52.236-9, Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements":

- a) Remove or alter existing work in such a manner as to prevent injury or damage to any portions of the existing work which remain.
- b) Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as approved by the CITY. At the completion of operations, existing work must be in a condition equal to or better than that which existed before new work started.

1.4 LOCATION OF UNDERGROUND UTILITIES

Obtain digging permits prior to start of excavation, and comply with Installation requirements for locating and marking underground utilities. Contact local utility locating service a minimum of 48 hours prior to excavating, to mark utilities, and within sufficient time required if work occurs on a Monday or after a Holiday. Verify existing utility locations indicated on contract drawings, within area of work.

Identify and mark all other utilities not managed and located by the local utility companies. The construction zone in the proximity of the existing tie-backs has been scanned with Ground Penetrating Radar (GPR), and the readings observed were identified on the project survey. The location and depth of the existing tie-back systems was not conclusive and it will be up to the contractor to field verify the elevations of existing wall, docks, piping, utilities, and any type of underground obstruction not indicated, or specified to be removed. Verify elevations before installing new work closer than nearest manhole or other structure at which an adjustment in grade can be

made. Existing drains and other services that currently extend through the existing concrete wall shall be maintained, extended through the new wall, and reconnected as necessary.

1.4.1 Notification Prior to Excavation

Notify the CITY at least 48 hours prior to starting excavation work.

1.5 SALVAGE MATERIAL AND EQUIPMENT

CONTRACTOR responsible for collection, storage and disposal of all demolished materials at approved location off-site. No debris shall be buried anywhere on the project site.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01 33 00

**SUBMITTAL PROCEDURES
05/11**

PART 1 GENERAL

1.1 DEFINITIONS

1.1.1 Submittal Descriptions (SD)

Submittals requirements are specified in the technical sections. Submittals are identified by Submittal Description (SD) numbers and titles as follows:

SD-01 Preconstruction Submittals

Submittals which are required prior to construction:

- Certificates of insurance
- Surety bonds
- List of proposed subcontractors
- List of proposed products
- Construction progress schedule
- Submittal register
- Schedule of prices or Earned Value Report
- Health and safety plan
- Work plan
- Quality control(QC) plan
- Environmental protection plan

Plans submitted may be in written (paragraph) or graphical (drawing) form depending on the needs of the City's Representative. Plans written in paragraph form shall be detailed enough to adequately describe the plan of action for the work item. Plans and shop drawings prepared in graphical form shall be clear, concise and drawn to scale if possible. Drawings not drawn to scale shall be clearly identified as such. All drawings shall use the same elevation data provided on the design build (RFP) drawings.

SD-02 Shop Drawings

Shop drawings are defined as drawings, diagrams and schedules specifically prepared to illustrate some portion of the work. The shop drawings for the steel sheet pile selection, the tie-back rod selection, the deadman anchor selection, the concrete cap mix design, timber pile installation, dock reconstruction, and water and electrical reconstruction will all need to be signed and sealed by a Professional Engineer registered in the State of Florida and submitted to the CITY and the City's Representative for approval.

Diagrams and instructions from a manufacturer or fabricator for use in producing the product and as aids to the Contractor for integrating the product or system in the project do not need to be signed and sealed as described above but should be included as a reference.

Drawings prepared by or for the Contractor to show how multiple systems and interdisciplinary work will interact with one another shall be coordinated with the CITY and/or its representatives as necessary.

SD-03 Product Data

Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and other characteristics of materials, systems or equipment for some portion of the work.

Samples of warranty language when the contract requires extended product warranties.

SD-04 Samples

Fabricated or unfabricated physical examples of materials, equipment or workmanship that illustrate functional and aesthetic characteristics of a material or product and establish standards by which the work can be judged.

Color samples from the manufacturer's standard line (or custom color samples if specified) to be used in selecting or approving colors for the project.

Field samples and mock-ups constructed on the project site establish standards by which the ensuing work can be judged. Includes assemblies or portions of assemblies which are to be incorporated into the project and those which will be removed at conclusion of the work.

SD-05 Design Data

Design calculations, mix designs, analyses or other data pertaining to a part of work.

SD-06 Manufacturer's Instructions

Preprinted material describing installation of a product, system or material, including special notices and (MSDS) concerning impedances, hazards and safety precautions.

SD-07 Operation and Maintenance Data

Data that is furnished by the manufacturer, or the system provider, to the equipment operating and maintenance personnel, including manufacturer's help and product line documentation necessary to maintain and install equipment. This data is needed by operating and maintenance personnel for the safe and efficient operation, maintenance and repair of the item.

This data is intended to be incorporated in an operations and maintenance manual or control system.

SD-08 Closeout Submittals

Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism.

Submittals required for Guiding Principle Validation (GPV) or Third Party Certification (TPC).

Special requirements necessary to properly close out a construction contract. For example, Record Drawings and as-built drawings. Also, submittal requirements necessary to properly close out a major phase of construction on a multi-phase contract.

1.1.2 Approving Authority

Office or designated person authorized to approve submittals is the City of Key West Engineering Department and/ or the City's Representative.

1.1.3 Work

As used in this section, on- and off-site construction required by contract documents, including labor necessary to produce submittals, construction, materials, products, equipment, and systems incorporated or to be incorporated in such construction.

1.2 SUBMITTALS

CITY approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. Submit the following in accordance with this section.

SD-01 Preconstruction Submittals

Submittal Register; G

1.3 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.3.1 CITY Approved (G)

Within the terms of the Contract Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, they are considered to be "shop drawings."

1.4 PREPARATION

1.4.1 Source Drawings for Shop Drawings

The entire set of Source Drawing files (DWG) will not be provided to the Contractor. Only those requested by the Contractor to prepare shop drawings may be provided. Request the specific Drawing Number only for the preparation of Shop Drawings. These drawings may only be provided after award.

1.4.1.1 Terms and Conditions

Data contained on these electronic files must not be used for any purpose other than as a convenience in the preparation of construction data for the referenced project. Any other use or reuse shall be at the sole risk of the Contractor and without liability or legal exposure to the CITY. The Contractor must make no claim and waives to the fullest extent permitted by law, any claim or cause of action of any nature against the CITY, its agents or sub consultants that may arise out of or in connection with the use of these electronic files. The Contractor must, to the fullest extent permitted by law, indemnify and hold the CITY harmless against all damages, liabilities or costs, including reasonable attorney's fees and defense costs, arising out of or resulting from the use of these electronic files.

These electronic Source Drawing files are not construction documents. Differences may exist between the Source Drawing files and the corresponding construction documents. The CITY makes no representation regarding the accuracy or completeness of the electronic Source Drawing files, nor does it make representation to the compatibility of these files with the Contractor hardware or software. In the event that a conflict arises between the furnished Source Drawing files provided by the CITY and the signed and sealed construction provided by the EOR, the EORs' documents govern. The Contractor is responsible for determining if any conflict exists. Use of these Source Drawing files does not relieve the Contractor of duty to fully comply with the contract documents, including and without limitation, the need to check, confirm and coordinate the work of all contractors for the project. If the Contractor uses, duplicates or modifies these electronic Source Drawing files for use in producing construction data related to this contract, remove all previous indicia of ownership (seals, logos, signatures, initials and dates).

1.5 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the CITY is not required on information only submittals. The CITY reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the CITY from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the CITY laboratory or for check testing by the CITY in those instances where the technical specifications so prescribe.

1.6 SUBMITTAL REGISTER

Prepare and maintain submittal register, as the work progresses. Do not change data which is output in columns (c), (d), (e), and (f) as delivered by CITY; retain data which is output in columns (a), (g), (h), and (i) as approved. A submittal register showing items of equipment and materials for which submittals are required by the specifications is provided as an attachment. This list may not be all inclusive and additional submittals may be required. The CITY will provide an initial submittal register in electronic format with the following fields completed. The contractor may use this format or may provide his own as long as all of the "columns" described below are included.

Column (c): Lists specification section in which submittal is required.

Column (d): Lists each submittal description (SD No. and type, e.g. SD-02 Shop Drawings) required in each specification section.

Column (e): Lists one principal paragraph in specification section where a material or product is specified. This listing is only to facilitate locating submitted requirements. Do not consider entries in column (e) as limiting project requirements.

Thereafter, the Contractor is to track all submittals by maintaining a complete list, including completion of all data columns, including dates on which submittals are received and returned by the CITY.

1.6.1 Use of Submittal Register

Submit submittal register. Submit with QC plan and project schedule. Verify that all submittals required for project are listed and add missing submittals. Coordinate and complete the following fields on the register submitted with the QC plan and the project schedule:

Column (a) Activity Number: Activity number from the project schedule.

Column (g) Contractor Submit Date: Scheduled date for approving authority to receive submittals.

Column (h) Contractor Approval Date: Date Contractor needs approval of submittal.

Column (i) Contractor Material: Date that Contractor needs material delivered to Contractor control.

1.6.2 Contractor Use of Submittal Register

Update the following fields in the CITY-furnished submittal register program or equivalent fields in program utilized by Contractor with each submittal throughout contract.

Column (b) Transmittal Number: Contractor assigned list of consecutive numbers.

Column (j) Action Code (k): Date of action used to record Contractor's review when forwarding submittals to QC.

Column (l) List date of submittal transmission.

Column (q) List date approval received.

1.6.3 Approving Authority Use of Submittal Register

Update the following fields in the CITY-furnished submittal register program or equivalent fields in program utilized by Contractor.

Column (b) Transmittal Number: Contractor assigned list of consecutive numbers.

Column (l) List date of submittal receipt.

Column (m) through (p) List Date related to review actions.

Column (q) List date returned to Contractor.

1.6.4 Copies Delivered to the CITY

Deliver one copy of submittal register updated by Contractor to CITY with each payment application.

1.7 VARIATIONS

Variations from contract requirements require both Engineer of Record (EOR) and CITY approval and will be considered where advantageous to CITY.

1.7.1 Considering Variations

Discussion with CITY prior to submission, after consulting with the DOR, will help ensure functional and quality requirements are met and minimize rejections and re-submittals. When contemplating a variation which results in lower cost, consider submission of the variation as a Value Engineering Change Proposal (VECP).

Specifically point out variations from contract requirements in transmittal letters. Failure to point out deviations may result in the CITY requiring rejection and removal of such work at no additional cost to the CITY.

1.7.2 Proposing Variations

When proposing variation, deliver written request to the CITY, with documentation of the nature and features of the variation and why the variation is desirable and beneficial to CITY, including the DOR's written analysis and approval. If lower cost is a benefit, also include an estimate of the cost savings. In addition to documentation required for variation, include the submittals required for the item. Clearly mark the proposed variation in all documentation.

1.7.3 Warranting that Variations are Compatible

When delivering a variation for approval, Contractor, including its Engineer(s) of Record, warrants that this contract has been reviewed to establish that the variation, if incorporated, will be compatible with other elements of work.

1.7.4 Review Schedule Extension

In addition to normal submittal review period, a period of 10 working days will be allowed for consideration by the CITY of submittals with variations.

1.8 SCHEDULING

Schedule and submit concurrently submittals covering component items forming a system or items that are interrelated. Include certifications to be submitted with the pertinent drawings at the same time. No delay damages or time extensions will be allowed for time lost in late submittals.

- a. Coordinate scheduling, sequencing, preparing and processing of submittals with performance of work so that work will not be delayed by submittal processing. Allow for potential resubmittal of requirements.
- b. Submittals called for by the contract documents will be listed on the register. If a submittal is called for but does not pertain to the contract work, the Contractor is to include the submittal in the register and annotate it "N/A" with a brief explanation. Approval by the CITY does not relieve the Contractor of supplying submittals required by the contract documents but which have been omitted from the register or marked "N/A."
- c. Re-submit register and annotate monthly by the Contractor with actual submission and approval dates. When all items on the register have been fully approved, no further re-submittal is required.
- d. Carefully control procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

1.9 CITY APPROVING AUTHORITY

When approving authority is CITY's Resident Project Representative (RPR), the CITY's RPR will:

- a. Note date on which submittal was received.
- b. Review submittals for approval within scheduling period specified and only for conformance with project design concepts and compliance with contract documents.
- c. Identify returned submittals with one of the actions defined in paragraph REVIEW NOTATIONS and with markings appropriate for action indicated.

Upon completion of review of submittals requiring CITY approval, stamp and date submittals. Two copies of the submittal will be retained by the CITY and two copies of the submittal will be returned to the Contractor.

1.9.1 Review Notations

Submittals will be returned to the Contractor with the following notations:

- a. Submittals marked "approved" or "accepted" authorize the Contractor to proceed with the work covered.
- b. Submittals marked "approved as noted" or "approved, except as noted, resubmittal not required," authorize the Contractor to proceed with the work covered provided he takes no exception to the corrections.

- c. Submittals marked "not approved" or "disapproved," or "revise and resubmit," indicate noncompliance with the contract requirements or design concept, or that submittal is incomplete. Resubmit with appropriate changes. No work shall proceed for this item until resubmittal is approved.
- d. Submittals marked "not reviewed" will indicate submittal has been previously reviewed and approved, is not required, does not have evidence of being reviewed and approved by Contractor, or is not complete. A submittal marked "not reviewed" will be returned with an explanation of the reason it is not reviewed. Resubmit submittals returned for lack of review by Contractor or for being incomplete, with appropriate action, coordination, or change.

1.10 DISAPPROVED OR REJECTED SUBMITTALS

Make corrections required by the CITY's RPR. If the Contractor considers any correction or notation on the returned submittals to constitute a change to the contract drawings or specifications; notice is to be given to the CITY. Contractor is responsible for the dimensions and design of connection details and construction of work. Failure to point out deviations may result in the CITY requiring rejection and removal of such work at the Contractor's expense.

If changes are necessary to submittals, make such revisions and submission of the submittals in accordance with the procedures above. No item of work requiring a submittal change is to be accomplished until the changed submittals are approved.

1.11 APPROVED OR ACCEPTED SUBMITTALS

Approval or acceptance will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Contractor Quality Control (CQC) requirements of this contract is responsible for.

After submittals have been approved or accepted by the CITY's RPR, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.12 APPROVED SAMPLES

Approval of a sample is only for the characteristics or use named in such approval and is not be construed to change or modify any contract requirements. Before submitting samples, the Contractor is to assure that the materials or equipment will be available in quantities required in the project. No change or substitution will be permitted after a sample has been approved.

Match the approved samples for materials and equipment incorporated in the work. If requested, approved samples, including those which may be damaged in testing, will be returned to the Contractor, at his expense, upon completion of the contract. Samples not approved will also be returned to the Contractor at its expense, if so requested.

Failure of any materials to pass the specified tests will be sufficient cause for refusal to consider, under this contract, any further samples of the same brand or make of that material. CITY (and the City's RPR) reserve(s) the right to disapprove any material or equipment which previously has proved unsatisfactory in service.

Samples of various materials or equipment delivered on the site or in place may be taken by the CITY for testing. Samples failing to meet contract requirements will automatically void previous approvals. Contractor to replace such materials or equipment to meet contract requirements.

Approval of the Contractor's samples by the CITY does not relieve the Contractor of his responsibilities under the contract.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

SECTION 01 33 16 (00 10)

DESIGN DATA (DESIGN AFTER AWARD)
05/16

PART 1 GENERAL

1.1 SUMMARY

After award, the contractor shall develop the accepted proposal into the completed design, as described herein. Use a collaborative, integrated design process for all stages of project delivery with comprehensive performance goals for site protection, storage of work items equipment and/or materials, water and electrical supply, material selection, and environmental protection. Ensure incorporation of these goals in project delivery. Consider all stages of the project lifecycle, including environmental protection, demolition or salvage, deconstruction, construction and/or rehabilitation.

1.2 DEFINITIONS

1.2.1 Designer of Record (DOR) / Engineer of Record (EOR)

Professional Engineers registered in the State of Florida and other members of the Contractor's Design-Build (D-B) team that check, approve, sign, date, and certify, prior to submitting the deliverables to the CITY, that the D-B design submittals comply with the contract requirements.

The EOR's stamp, sign, and date each design drawing and other design deliverables under their responsible discipline at each design submittal stage. The EOR(s) are responsible for maintaining the integrity of the design and for compliance with the contract requirements through construction and documentation of the as-built condition by coordination, review and approval of extensions of design, material, equipment and other construction submittals, review and approval or disapproval of requested deviations to the accepted design or to the contract, coordination with the CITY of the above activities, and by performing other typical professional design responsibilities.

1.2.2 CITY Furnished Material (CFM)

Not Applicable.

1.2.3 Facility Data

Non-graphical data attached to surface and subsurface components for both building and site model elements that describe various facility characteristics such as parametric values that drive physical sizes, material definitions (e.g. wood, metal), manufacturer data, industry standards (e.g. AISC steel properties), location, and project identification numbers. Facility data can also define supplementary physical entities that are not shown graphically in the model, such as the system of a duct, hardware on a door, content of conduit, site surface, alignment, levee, channel or transformer properties.

1.3 ORDER OF PRECEDENCE

In the event of a conflict or inconsistency between any of the requirements within the Contract, precedence is applied to:

- a. Any portions of the accepted proposal which both conform to and exceed the requirements of the solicitation.
- b. The provisions of the solicitation.
- c. All other provisions of the accepted proposal.
- d. Any design products including, but not limited to, plans, specifications, engineering studies and analyses, shop drawings, and equipment installation drawings. These are "deliverables" under the contract are not part of the contract itself. Design products must conform to all provisions of the contract, in the order of precedence.

1.4 PRECONSTRUCTION ACTIVITIES

1.4.1 Meetings and Conferences

1.4.1.1 Post Award Conference

The CITY will conduct a post award conference at the project site or office location specified by the CITY, as soon as possible after Contract award, coordinated with issuance of the notice to proceed (NTP). Participation by the Contractor and major subcontractor representatives is mandatory. All designers need not attend this first meeting. The CITY will provide an agenda, meeting goals, meeting place, and meeting time to participants prior to the meeting.

As a minimum the following will be addressed during the conference: determination and introduction of contact person and their authorities; contract administration requirements; discussion of expected project progress processes; and coordination of subsequent meeting.

- a. The CITY will introduce the CITY project delivery team members and representatives, facility users and representatives, and installation representatives.
- b. Introduce key personnel, major subcontractors and other needed staff.
- c. Define expectations and duties of each participant.
- d. Develop a meeting roster with complete contact information including name, office, project role, phone, mailing and physical address, and e-mail address for distribution to all participants. Also, provide minutes of the meeting to all participants.

1.4.1.2 Initial Design Conference

After Contract award, conduct the initial design conference, and provide a record of the meeting. All Designers of Record must participate in the conference. The primary purpose of the meeting is to make sure any needs are assigned and due dates established, as well as points of contact identified.

The initial design conference may be scheduled and conducted at the project installation after the Post Award Conference and prior to initiation of significant preliminary design development, although it is recommended that the partnering process be initiated at the time of or before the initial design conference. Limit any design work conducted after award and prior to this conference to site work.

1.4.1.3 Pre-Construction Conference

Before starting any construction activities, jointly conduct an administrative conference with the CITY’s RPR to discuss any outstanding requirements and to review local installation requirements. It is possible there will be multiple Pre-Construction Conferences based on the configuration of the design packages. Provide minutes of the meeting(s) to all participants.

1.5 SUBMITTALS

Each submittal includes an associated approval level designation as defined in the following table:

Approval Level Designation	Definition
G	CITY (Government) approval
- (none)	For information only
D	Designer (Engineer) of Record approval
C	CITY (Conformance) Review of Design
R	Designer (Engineer) of Record Approval and CITY Conformance Review
A	Designer (Engineer) of Record Approval and CITY Approval

When used, a designation following the approval level designation identifies the office that will review the submittal for the CITY. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

- Initial Design Conference
- Preconstruction Conference
- Submittal Register; G

SD-05 Design Data

- Sheet Pile Section Selection; R
- Tie-back and dead man selection; R
- Concrete mix design; R
- Final Design Submittals; R
- Pile Installation; R
- Water and Electrical Utility; R
- Dock reconstruction; D

1.6 DESIGN QUALITY CONTROL

1.7 DELIVERY, STORAGE, AND HANDLING

1.7.1 Electronic Design Submittal

Provide identical copies of discs for approval, for each submittal required. Provide submittal files on electronic storage media in compliance with the quality requirements identified in this specification.

1.7.1.1 Malicious Content

Scan all electronic files for malicious viruses using commercially available scanning program that is routinely updated to identify and remove current virus threats.

1.7.1.2 Storage Media

Provide project data on disc-based (DVR or R/RW) or zip-drive media. Provide the full submittal on one single disc/drive whenever possible. When separation of the submittal is required separate deliverables onto separate media.

- a. Directly print identification of contents onto storage media. Do not provide adhesive labels. Include the name of the submittal, project, project location, Contract number, Designer of Record firm/Prime Contractor Company's name, and title of submission on the label. If multiple discs are provided, clearly document the contents of each disc on the label.
- b. Include the name and contact information of the individual who produced the final data disc to ensure that any problems with the data or media can be easily resolved.
- c. When browsed on any computer, the disc displays the following folders and their associated content:
 - (1) Submittal files (containing all submittal data)
 - (2) All supporting documents associated with the submittal
 - (3) Readme containing one TXT, PDF, or HTML file with general use information, organizational instructions, and basic preparer contact information.

1.7.2 PDF File Packaging

Utilize PDF file format for submittals. Provide files from original sources, text-searchable, and saved in "Standard" (uncompressed) resolution whenever possible.

1.7.3 Hardcopy Design Submittal

Print hard copy submittals directly from the electronically packaged PDF files. Provide quantities and sizes as indicated in Section 01 33 00 SUBMITTAL REQUIREMENTS.

The Designer(s) of Record stamps and signs the original full size hard copy sheets as Released for Construction. Provide distribution from this set.

PART 2 PRODUCTS

2.1 CITY FURNISHED MATERIALS

The CITY will provide drawing files as CFM for use in design development. Develop and maintain the information and level of detail contained in the CFM in the Project design, as required by this Contract.

The Contractor has the option of preparing their own drawing files in the formats prescribed as a basis for design, design drawings, and interim design submittals. If so, maintain the same level of detail, properties, and functionality in the models that is prescribed in this specification.

2.1.1 Data Loss, Corruption, and Error

Use of CFM files is at the Contractor's risk. Verify data integrity upon receipt and request a replacement if necessary.

Any adjustment of file structure, format, or software version required to make CFM compatible with computer systems and/or software is the responsibility of the Contractor.

2.2 DESIGN DRAWINGS

From advanced model files, produce design drawings that describe the scope of the Contract for all required submittals including all interim and final deliverables.

2.2.1 Electronic Drawing Files

Provide electronic drawing files in PDF format for each project drawing in the design set.

2.2.2 Drawing Index

Provide an index of drawing sheets as part of the drawing set, and an electronic table of all drawings submitted (as required). Include the electronic file name, the sheet reference number, the sheet number, and the sheet title containing the data for each drawing.

2.2.3 Shop Drawings Used as Design Drawings

Design drawings may be prepared similar to shop drawings to minimize construction submittals after the Design Complete Submittals. Prepare and submit with the design drawings, appropriate connection, fabrication, layout, and product specific drawings.

2.2.3.1 Drawing Format for Shop Drawings Used as Design Drawings

Use the Contractor-originated drawings as the basis for the record drawings. Conform shop drawings included as design documents with the same drawing requirements such as drawing format, sheet size, layering, lettering, and title block used in design drawings.

2.2.3.2 Identification of Shop Drawings Used as Design Drawings

Indicate which shop drawings are being submitted as design drawings in the transmittal letter.

2.2.4 Seal on Documents

Sign, date and seal all Contractor-originated design drawings by the registered architect or the registered engineer of the respective discipline. This is the seal of the Designer of Record for that drawing. Application of the electronic seal and signature accepts responsibility for the work shown thereon.

2.3 SPECIFICATIONS

Provide a Contractor-originated design specification that, in conjunction with the drawings, demonstrates compliance with materials, equipment, execution, and field quality control requirements of the RFP and accepted proposal.

2.3.1 Specifications Format

Utilize the Unified Facility Guide Specifications (**UFGS**) current at the time of Contract award. Process the specifications with the **SpecsIntact** software package.

- a. Edit and expand the appropriate specifications to ensure that all project design requirements, current code requirements, and regulatory requirements are met. Design specifications not included in this package may be prepared that include manufacturer specific data and catalog cuts in lieu of non-proprietary, descriptive specifications. Clearly identify, where appropriate, specific products chosen to meet the contract requirements (i.e., manufacturers' brand names and model numbers or similar product information).
- b. Note that the UFGS are based on design-bid-build contracting and will require editing to apply to a design-build project. **For instance, they assume that the CITY will approve most submittals, whereas in design-build, the EOR has that action, unless this solicitation requires CITY approval for specific submittals.**

2.3.2 Identification of Manufacturer's Product Data Used as Specifications.

Provide complete and legible catalog cut sheets, product data, installation instructions, operation and maintenance instructions, warranty, and certifications for products and equipment for which final material and equipment choices have been made. Indicate, by prominent notation, each product that is being submitted including optional manufacturer's features, and indicate where the product data shows compliance with the Contract requirements.

2.3.3 Specifications Packaging

Provide specifications to include the following:

- a. Cover sheet and project table of contents.
- b. Specification sections, each section with a table of contents.
- c. Manufacturer's Product Data. If providing as attachments to the applicable specification section, incorporate as attachment reference within the section and section table of contents.

2.3.4 Specification Deliverable

Submit a bundled specification package in PDF format for each design package. As a minimum, bookmark each specification section in the bundled package. Also, submit the source files, in the processing system format, used to create the PDF.

PART 3 EXECUTION

3.1 DESIGN SUBMITTALS

Include all deliverable products and associated support documents described in Part 2 of this specification with each design submittal.

3.2 DESIGN SUBMITTALS PHASES

The stages of design submittals described below define requirements with respect to process and content. Determine how to best plan and execute the design and review process for the project, within the parameters listed below. As a minimum, provide at least one interim design submittal, at least one final design submittal before construction of a design package may proceed, and at least one Design Complete submittal that documents the accepted design.

3.2.1 Interim Design Submittals

Submit a single interim design for review, representing a complete package with all design disciplines.

3.2.1.1 Fast-Tracking

Identify the project elements that will be fast-tracked in the Design Quality Control Plan.

3.2.1.2 Over-the-Shoulder Progress Review

To facilitate a streamlined design-build process, the CITY and the Contractor may agree to one-on-one review or small group reviews, on-line, or at the Contractor's design offices or other agreed location, when practicable to the parties. Coordinate such reviews to minimize or eliminate disruptions to the design process. Due to limits on project funding, utilize the maximum virtual teaming methods. Facilitate these reviews with electronic format data transfer and collaboration. Through the partnering process, find ways to facilitate the quality assurance process and to facilitate meeting or bettering the design-build schedule.

3.2.1.3 Interim Design Development Review Waiver

The CITY may agree to shorten or waive the formal interim design development review period for design package(s) if an effective, mutually agreeable partnering procedure is established and implemented for regular (e.g., weekly) over-the shoulder review. During the course of the procedure, keep the CITY reviewers fully informed of the progress, contents, design intent, design documentation, and other pertinent factors of the design package.

3.2.2 Final Design Submissions

After acceptance of the interim design package, revise the design package to incorporate the comments generated and resolved, perform and document a back-check review and submit the final design package.

3.2.3 Design Complete Submittals

After the final design submission and review conference for a design package, revise the design package to incorporate the comments generated and resolved in the final review conferences, perform and document a back-check review and submit the final, design complete documents, which represents released for construction documents.

3.3 DESIGN PLATFORM AND FILE FORMATS

Design the project using the systems and platforms defined below:

3.3.1 CAD

3.3.1.1 Native CAD Authoring Content

All content produced through CAD authoring software must be compliant with Autodesk AutoCAD.

3.4 DISCIPLINE DESIGN REQUIREMENTS

Provide interim design deliverables that include drawings, specifications, and design analysis for the part of design that the Contractor considers ready for review.

- a. Drawings: Include comments from any previous design conferences incorporated into the documents to provide an interim design for the feature of work submitted.
- b. Specifications: Provide specifications to ensure that all project design features are addressed, meeting current code requirements, and regulatory requirements. Use the track changes feature (redlines) to facilitate review of additions and deletions.
- c. Design Analysis: Prepare and present design analysis under the authority of the EOR, with calculations necessary to substantiate and support all design documents submitted. Address design substantiation required by the applicable codes and references in the submittal distribution list.

3.4.1 Geotechnical Investigations and Reports

Perform additional geotechnical investigations, as necessary, to determine the conditions for the actual locations of existing wall tie-backs and buried electrical (if any) features and other site features.

Submit a final geotechnical evaluation report that shows the typical spacing of the buried tie-back systems along with the proposed tie-back spacing and down angle design submittal. Make this information available as early as possible during the over-the-shoulder progress review process.

- a. Summarize the subsurface conditions and provide recommendations for the design of appropriate utilities disconnection/reconnection, tie-backs and dead men anchors.
- b. Include the raw field data and typical photos if available.

3.4.1.1 Inconsistency with the Preliminary Soils Information

Arrange a meeting with the CITY subsequent to completion and evaluation of the site specific geotechnical exploration to outline any differences encountered that are inconsistent with the CITY provided preliminary soils information. Clearly outline differences which require changes in the tie-back type, and earthwork requirements from that possible and contemplated using the CITY furnished preliminary soils investigation, which result in a change to the design or construction.

3.4.1.2 Certification

With the professional engineer consultant (EOR), certify in writing that the design of the project has been developed consistent with the construction documents. Submit the certification, stamped by the consulting professional engineer, with the first design submission. If revisions are made to the initial design submission, provide a new certification with the final design submission.

3.4.2 Civil Site and Utilities Design Contents

Include the following in the interim design for the site and utilities. This list is not intended to limit the contractor from providing different or additional information as needed to support the design presented.

- a. Storm drainage maintenance and protection design
- b. Pavement maintenance design
- c. Location and vicinity maps
- d. Removal and/or relocation plan
- e. Layout plan
- f. Excavation, tie-back placement, grading and drainage management plan
- g. Utility Plan: Identify and locate all subsurface utility features to be relocated, temporarily disconnected and then reconnected, or protected in place
- h. Concrete Joint Plan: Provide a construction joint layout plan for each concrete joint based on production expectations (e.g. 100 LF per week, construction joint will be 100 LF apart).
- i. Erosion and Sediment Control Plan

3.4.3 Structural Systems

3.4.3.1 General

- a. Identify all loads to be used for design.
- b. Identify the program name, source, and version used for computer generated calculations. Provide input data, including loads, and documentation to illustrate the design.

3.4.4 Specialty Equipment

3.4.4.1 Corrosion Control and Prevention Systems

Contractor is expected to use A690 marine grade steel sheet pile. Any additional Epoxy coatings or Galvanic protection shall be discussed by the EOR and shown on a shop drawing if deemed necessary.

3.5 FINAL DESIGN REQUIREMENTS

Provide final design submittals for CITY review and acceptance.

- a. Include any building permits and or permit application fees, required by the City of Key West.
- b. In order to expedite the final design review, prior to the conference, ensure that the design configuration management data and all review comment resolutions are up-to-date.

3.5.1 Design Drawings

Submit shop or design drawings complete with all contract requirements incorporated into the documents to provide a 100 percent design for each package submitted. In addition to all native Advanced Modeling files, provide separate electronic files in a PDF format.

3.5.2 Design Analysis

Provide a design analysis with calculations necessary to validate and support all design work submitted. Expand and advance calculations and information presented in the interim design stage to the current level of design. The responsible EOR(s) stamp, sign and date the design analysis.

3.5.3 Specifications

Provide specifications 100 percent complete and in final form.

3.5.4 Submittal Register

Provide an updated, cumulative submittal register with each design package that identifies the design and construction submittals required by that design package.

3.6 DESIGN COMPLETE CONSTRUCTION DOCUMENT REQUIREMENTS

After the Final Design Submission and Review Conference, revise the design documents for the design package to incorporate the comments generated and resolved in the final review conference.

Perform and document a back-check review and submit the final, design complete documents. The deliverable includes all documentation and supporting design analysis in final form, as well as the final review comments, disposition and the back-check. As part of the quality assurance process, the CITY may perform a review of the released for construction documentation. Promptly correct any errors or omissions found during the CITY review.

3.7 ACCEPTANCE AND RELEASE FOR CONSTRUCTION

After acceptance of the Design Complete Construction Document(s) the Contracting Officer will allow construction to start for that design package.

CITY review and acceptance of design submittals is for contract conformance only and does not relieve the Contractor from responsibility to fully adhere to the requirements of the contract, including the Contractor's accepted proposal, or limit the Contractor's responsibility of design as prescribed under Special Contract Requirement: "**Responsibility of the Contractor for Design**" or limit the CITY's rights under the terms of the contract. The CITY reserves the right to rescind inadvertent acceptance of design submittals containing contract deviations not separately and expressly identified in the submittal for CITY consideration and approval.

-- End of Section --

SECTION 01 50 00

TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. FEDERAL AVIATION ADMINISTRATION (FAA)

FAA AC 70/7460-1 (2007; Rev K) Obstruction Marking and Lighting

1.2 SUBMITTALS

CITY approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Construction Site Plan; G
Hurricane Preparedness Plan; G

1.3 CONSTRUCTION SITE PLAN

Prior to the start of work, submit a site plan showing the locations and dimensions of temporary facilities (including layouts and details, equipment and material storage area (onsite and offsite), and access and haul routes, avenues of ingress/egress to the fenced area and details of the fence installation. Identify any areas which may have to be graveled to prevent the tracking of mud. Indicate if the use of a supplemental or other staging area is desired. Show locations of safety and construction fences, site trailers, construction entrances, trash dumpsters, temporary sanitary facilities, and worker parking areas.

1.4 HURRICANE CONDITION OF READINESS

Unless directed otherwise, comply with:

- a. Condition FOUR Sustained winds of 50 knots or greater expected within 72 hours: Normal daily jobsite cleanup and good housekeeping practices. Collect and store in piles or containers scrap lumber, waste material, and rubbish for removal and disposal at the close of each work day. Maintain the construction site including storage areas, free of accumulation of debris. Stack form lumber in neat piles less than 4 feet high. Remove all debris, trash, or objects that could become missile hazards.
- b. Condition THREE Sustained winds of 50 knots or greater expected within 48 hours: Maintain "Condition FOUR" requirements and commence securing operations necessary for "Condition

ONE" which cannot be completed within 18 hours. Cease all routine activities which might interfere with securing operations. Commence securing and stow all gear and portable equipment. Make preparations for securing buildings. Review requirements pertaining to "Condition TWO" and continue action as necessary to attain "Condition THREE" readiness. Contact CITY for weather and Condition of Readiness (COR) updates and completion of required actions.

- c. Condition TWO Sustained winds of 50 knots or greater expected within 24 hours: Curtail or cease routine activities until securing operation is complete. Reinforce or remove form work and scaffolding. Secure machinery, tools, equipment, materials, or remove from the jobsite. Expend every effort to clear all missile hazards and loose equipment from general base areas. Contact CITY for weather and COR updates and completion of required actions.
- d. Condition ONE. Sustained winds of 50 knots or greater expected within 12 hours: Secure the jobsite, and leave CITY premises.

PART 2 PRODUCTS

2.1 TEMPORARY SIGNAGE

2.1.1 Bulletin Board

Immediately upon beginning of work, provide a weatherproof glass-covered bulletin board not less than 36 by 48 inches in size for displaying the Equal Employment Opportunity poster, Wage Rate Information poster, and other information approved by the CITY.

2.1.2 Project and Safety Signs

The requirements for the signs, their content, and location are as indicated. Erect signs within 15 days after receipt of the notice to proceed. Correct the data required by the safety sign daily, with light colored metallic or non-metallic numerals.

PART 3 EXECUTION

3.1 EMPLOYEE PARKING

Contractor employees will park privately owned vehicles in an area designated by the CITY. This area will be within reasonable walking distance of the construction site. Contractor employee parking must not interfere with existing and established parking requirements of the CITY, NOAA or NAVY installation.

3.2 TEMPORARY BULLETIN BOARD

Locate the bulletin board at the project site in a conspicuous place easily accessible to all employees, as approved by the CITY.

3.3 AVAILABILITY AND USE OF UTILITY SERVICES

3.3.1 Temporary Utilities

Provide temporary utilities required for construction. Materials may be new or used, must be adequate for the required usage, not create unsafe conditions, and not violate applicable codes and standards.

3.3.2 Sanitation

- a. Provide and maintain within the construction area minimum field-type sanitary facilities approved by the CITY and periodically remove waste to a commercial facility. Any penalties and / or fines associated with improper discharge will be the responsibility of the Contractor. Maintain these conveniences at all times without nuisance. Include provisions for pest control and elimination of odors. CITY toilet facilities will not be available to Contractor's personnel.

3.3.3 Telephone

Make arrangements and pay all costs for telephone facilities desired.

3.3.4 Obstruction Lighting of Cranes

Provide a minimum of 2 aviation red or high intensity white obstruction lights on temporary structures (including cranes) over 100 feet above ground level. Light construction and installation must comply with FAA AC 70/7460-1. Lights must be operational during periods of reduced visibility, darkness, and as directed by the CITY.

3.3.5 Fire Protection

Provide temporary fire protection equipment for the protection of personnel and property during construction. Remove debris and flammable materials daily to minimize potential hazards.

3.4 TRAFFIC PROVISIONS

3.4.1 Maintenance of Traffic

- a. Conduct operations in a manner that will not close any thoroughfare or interfere in any way with traffic on roads or highways except with written permission of the CITY at least 15 calendar days prior to the proposed modification date. Contractor may move oversized and slow-moving vehicles to the worksite provided requirements of the highway authority have been met.
- b. Conduct work so as to minimize obstruction of traffic, and maintain traffic on at least half of the roadway width at all times. Obtain approval from the CITY prior to starting any activity that will obstruct traffic.
- c. Provide, erect, and maintain, at contractors expense, lights, barriers, signals, passageways, detours, and other items, that may be required by the Life Safety Signage, overhead protection authority having jurisdiction.

3.4.2 Protection of Traffic

Maintain and protect traffic on all affected roads during the construction period except as otherwise specifically directed by the CITY. Measures for the protection and diversion of traffic, including the provision of watchmen and flagmen, erection of barricades, placing of lights around and in front of equipment, the work, and the erection and maintenance of adequate warning, danger, and direction signs, will be as required by the State and local authorities having jurisdiction. Protect the traveling public from damage to person and property. Minimize the interference with public traffic on roads selected for hauling material to and from the site. Investigate the adequacy of existing roads and their allowable load limit. Contractor is responsible for the repair of any damage to roads caused by construction operations.

3.4.3 Rush Hour Restrictions

Do not interfere with the peak traffic flows preceding and during normal operations without notification to and approval by the CITY.

3.4.4 Dust Control

Dust control methods and procedures must be approved by the CITY. Treat dust abatement on access roads with applications of calcium chloride, water sprinklers, or similar methods or treatment.

3.5 CONTRACTOR'S TEMPORARY FACILITIES

Contractor-owned or -leased trailers must be identified by CITY assigned numbers. Apply the number to the trailer within 14 calendar days of notification, or sooner, if directed by the CITY.

3.5.1 Safety

Protect the integrity of any installed safety systems or personnel safety devices. If entrance into systems serving safety devices is required, the Contractor must obtain prior approval from the CITY. If it is temporarily necessary to remove or disable personnel safety devices in order to accomplish contract requirements, provide alternative means of protection prior to removing or disabling any permanently installed safety devices or equipment and obtain approval from the CITY.

3.5.2 Storage Area

Construct a temporary 6 foot high chain link fence around trailers and materials. Include plastic strip inserts, colored green, so that visibility through the fence is obstructed. Fence posts may be driven, in lieu of concrete bases, where soil conditions permit. Do not place or store Trailers, materials, or equipment outside the fenced area unless such trailers, materials, or equipment are assigned a separate and distinct storage area by the CITY away from the vicinity of the construction site but within the installation boundaries. Trailers, equipment, or materials must not be open to public view with the exception of those items which are in support of ongoing work on any given day. Do not stockpile materials outside the fence in preparation for the next day's work. Park mobile equipment, such as tractors, wheeled lifting equipment, cranes, trucks, and like equipment within the fenced area at the end of each work day.

3.5.3 Supplemental Storage Area

Not Applicable.

3.5.4 Appearance of Trailers

- a. Trailers utilized by the Contractor for administrative or material storage purposes must present a clean and neat exterior appearance and be in a state of good repair. Trailers which, in the opinion of the CITY, require exterior painting or maintenance will not be allowed on installation property.
- b. Maintain the temporary facilities. Failure to do so will be sufficient reason to require their removal.

3.5.5 Maintenance of Storage Area

- a. Keep fencing in a state of good repair and proper alignment. Grassed or unpaved areas, which are not established roadways, will be covered with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways, should the Contractor elect to traverse them with construction equipment or other vehicles; gravel gradation will be at the Contractor's discretion. Mow and maintain grass located within the boundaries of the construction site for the duration of the project. Grass and vegetation along fences, buildings, under trailers, and in areas not accessible to mowers will be edged or trimmed neatly.

3.5.6 Security Provisions

Provide adequate outside security lighting at the Contractor's temporary facilities. The Contractor will be responsible for the security of its own equipment; in addition, the Contractor will notify the appropriate law enforcement agency requesting periodic security checks of the temporary project field office.

3.5.7 Weather Protection of Temporary Facilities and Stored Materials

Take necessary precautions to ensure that roof openings and other critical openings in the building are monitored carefully. Take immediate actions required to seal off such openings when rain or other detrimental weather is imminent, and at the end of each workday. Ensure that the openings are completely sealed off to protect materials and equipment in the building from damage.

3.5.7.1 Building and Site Storm Protection

When a warning of gale force winds is issued, take precautions to minimize danger to persons, and protect the work and nearby CITY property. Precautions must include, but are not limited to, closing openings; removing loose materials, tools and equipment from exposed locations; and removing or securing scaffolding and other temporary work. Close openings in the work when storms of lesser intensity pose a threat to the work or any nearby CITY property.

3.6 FIELD OFFICE

3.6.1 Trailer-Type Mobile Office

The Contractor may, at its option, furnish and maintain a trailer-type mobile office acceptable to the CITY and providing as a minimum the facilities specified above. Securely anchor the trailer to the ground at all four corners to guard against movement during high winds.

3.7 TEMPORARY PROJECT SAFETY FENCING

As soon as practicable, but not later than 15 days after the date established for commencement of work, furnish and erect temporary project safety fencing at the work site. Maintain the safety fencing during the life of the contract and, upon completion and acceptance of the work, will become the property of the Contractor and be removed from the work site.

3.8 CLEANUP

Remove construction debris, waste materials, packaging material and the like from the work site daily. Any dirt or mud which is tracked onto paved or surfaced roadways must be cleaned away. Store any salvageable materials resulting from demolition activities within the fenced area described above or at the supplemental storage area. Neatly stack stored materials not in trailers, whether new or salvaged.

3.9 RESTORATION OF STORAGE AREA

Upon completion of the project remove the bulletin board, signs, barricades, haul roads, and any other temporary products from the site. After removal of trailers, materials, and equipment from within the fenced area, remove the fence that will become the property of the Contractor. Restore areas used by the Contractor for the storage of equipment or material, or other use to the original or better condition. Remove gravel used to traverse grassed areas and restore the area to its original condition, including top soil and seeding as necessary.

-- End of Section --

SECTION 01 57 19

TEMPORARY ENVIRONMENTAL CONTROLS

11/15

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910.120	Hazardous Waste Operations and Emergency Response
40 CFR 112	Oil Pollution Prevention
40 CFR 122.26	Storm Water Discharges (Applicable to State NPDES Programs, see section 123.25)
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 261.7	Residues of Hazardous Waste in Empty Containers
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 268	Land Disposal Restrictions
40 CFR 273	Standards for Universal Waste Management
40 CFR 279	Standards for the Management of Used Oil
40 CFR 403	General Pretreatment Regulations for Existing and New Sources of Pollution
40 CFR 60	Standards of Performance for New Stationary Sources
40 CFR 63	National Emission Standards for Hazardous Air Pollutants for Source Categories
49 CFR 171	General Information, Regulations, and Definitions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
49 CFR 173	Shippers - General Requirements for Shipments and Packaging

1.2 DEFINITIONS

1.2.1 Class I and II Ozone Depleting Substance (ODS)

Class I ODS is defined in Section 602(a) of The Clean Air Act. A list of Class I ODS can be found on the EPA website at the following weblink. <http://www.epa.gov/ozone/science/ods/classone.html>.

Class II ODS is defined in Section 602(s) of The Clean Air Act. A list of Class II ODS can be found on the EPA website at the following weblink. <http://www.epa.gov/ozone/science/ods/classtwo.html>.

1.2.2 Contractor Generated Hazardous Waste

Contractor generated hazardous waste is materials that, if abandoned or disposed of, may meet the definition of a hazardous waste. These waste streams would typically consist of material brought on site by the Contractor to execute work, but are not fully consumed during the course of construction. Examples include, but are not limited to, excess paint thinners (i.e. methyl ethyl ketone, toluene), waste thinners, excess paints, excess solvents, waste solvents, excess pesticides, and contaminated pesticide equipment rinse water.

1.2.3 Electronics Waste

Electronics waste is discarded electronic devices intended for salvage, recycling, or disposal.

1.2.4 Environmental Pollution and Damage

Environmental pollution and damage is 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 humankind; or degrade the environment aesthetically, culturally or historically.

1.2.5 Environmental Protection

Environmental protection is the prevention/control of pollution and habitat disruption that may occur to the environment during construction. The control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

1.2.6 Hazardous Debris

As defined in paragraph SOLID WASTE, debris that contains listed hazardous waste (either on the debris surface, or in its interstices, such as pore structure) in accordance with 40 CFR 261. Hazardous debris also includes debris that exhibits a characteristic of hazardous waste in accordance with 40 CFR 261.

1.2.7 Hazardous Materials

Hazardous materials as defined in 49 CFR 171 and listed in 49 CFR 172.

Hazardous material is any material that: Is regulated as a hazardous material in accordance with 49 CFR 173; or requires a Safety Data Sheet (SDS) in accordance with 29 CFR 1910.120; or during end use, treatment, handling, packaging, storage, transportation, or disposal meets or has components that meet or have potential to meet the definition of a hazardous waste as defined by 40 CFR 261 Subparts A, B, C, or D. Designation of a material by this definition, when separately regulated or controlled by other sections or directives, does not eliminate the need for adherence to that hazard-specific guidance which takes precedence over this section for "control" purposes. Such material includes ammunition, weapons, explosive actuated devices, propellants, pyrotechnics, chemical and biological warfare materials, medical and pharmaceutical supplies, medical waste and infectious materials, bulk fuels, radioactive materials, and other materials such as asbestos, mercury, and polychlorinated biphenyls (PCBs).

1.2.8 Hazardous Waste

Hazardous Waste is any material that meets the definition of a solid waste and exhibit a hazardous characteristic (ignitability, corrosivity, reactivity, or toxicity) as specified in 40 CFR 261, Subpart C, or contains a listed hazardous waste as identified in 40 CFR 261, Subpart D.

1.2.9 Land Application

Land Application means spreading or spraying discharge water at a rate that allows the water to percolate into the soil. No sheeting action, soil erosion, discharge into storm sewers, discharge into defined drainage areas, or discharge into the "waters of the United States" must occur. Comply with federal, state, and local laws and regulations.

1.2.10 Municipal Separate Storm Sewer System (MS4) Permit

MS4 permits are those held by installations to obtain NPDES permit coverage for their stormwater discharges.

1.2.11 National Pollutant Discharge Elimination System (NPDES)

The NPDES permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States.

1.2.12 Oily Waste

Oily waste are those materials that are, or were, mixed with Petroleum, Oils, and Lubricants (POLs) and have become separated from that POLs. Oily wastes also means materials, including wastewaters, centrifuge solids, filter residues or sludges, bottom sediments, tank bottoms, and sorbents which have come into contact with and have been contaminated by, POLs and may be appropriately tested and discarded in a manner which is in compliance with other state and local requirements.

This definition includes materials such as oily rags, "kitty litter" sorbent clay and organic sorbent material. These materials may be land filled provided that: It is not prohibited in other state

regulations or local ordinances; the amount generated is "de minimus" (a small amount); it is the result of minor leaks or spills resulting from normal process operations; and free-flowing oil has been removed to the practicable extent possible. Large quantities of this material, generated as a result of a major spill or in lieu of proper maintenance of the processing equipment, are a solid waste. As a solid waste, perform a hazardous waste determination prior to disposal. As this can be an expensive process, it is recommended that this type of waste be minimized through good housekeeping practices and employee education.

1.2.13 Regulated Waste

Regulated waste are solid wastes that have specific additional federal, state, or local controls for handling, storage, or disposal.

1.2.14 Sediment

Sediment is soil and other debris that have eroded and have been transported by runoff water or wind.

1.2.15 Solid Waste

Solid waste is a solid, liquid, semi-solid or contained gaseous waste. A solid waste can be a hazardous waste, non-hazardous waste, or non-Resource Conservation and Recovery Act (RCRA) regulated waste. Types of solid waste typically generated at construction sites may include:

1.2.15.1 Debris

Debris is non-hazardous solid material generated during the construction, demolition, or renovation of a structure that exceeds 2.5-inch particle size that is: a manufactured object; plant or animal matter; or natural geologic material (for example, cobbles and boulders), broken or removed concrete, masonry, and rock asphalt paving; ceramics; roofing paper and shingles. Inert materials may be reinforced with or contain ferrous wire, rods, accessories and weldments. A mixture of debris and other material such as soil or sludge is also subject to regulation as debris if the mixture is comprised primarily of debris by volume, based on visual inspection.

1.2.15.2 Green Waste

Green waste is the vegetative matter from landscaping, land clearing and grubbing, including, but not limited to, grass, bushes, scrubs, small trees and saplings, tree stumps and plant roots. Marketable trees, grasses and plants that are indicated to remain, be re-located, or be re-used are not included.

1.2.15.3 Material not regulated as solid waste

Material not regulated as solid waste is nuclear source or byproduct materials regulated under the Federal Atomic Energy Act of 1954 as amended; suspended or dissolved materials in domestic sewage effluent or irrigation return flows, or other regulated point source discharges; regulated air emissions; and fluids or wastes associated with natural gas or crude oil exploration or production.

1.2.15.4 Non-Hazardous Waste

Non-hazardous waste is waste that is excluded from, or does not meet, hazardous waste criteria in accordance with 40 CFR 263.

1.2.15.5 Recyclables

Recyclables are materials, equipment and assemblies such as doors, windows, door and window frames, plumbing fixtures, glazing and mirrors that are recovered and sold as recyclable, and structural components. It also includes used fuel oil, textiles, high-grade paper products and corrugated cardboard, stackable pallets in good condition, clean crating material, and clean rubber/vehicle tires. Metal meeting the definition of lead contaminated or lead based paint contaminated may not be included as recyclable if sold to a scrap metal company. Paint cans that meet the definition of empty containers in accordance with 40 CFR 261.7 may be included as recyclable if sold to a scrap metal company.

1.2.15.6 Surplus Soil

Surplus soil is existing soil that is in excess of what is required for this work, including aggregates intended, but not used, for on-site mixing of concrete, mortars, and paving. Contaminated soil meeting the definition of hazardous material or hazardous waste is not included and must be managed in accordance with paragraph HAZARDOUS MATERIAL MANAGEMENT.

1.2.15.7 Scrap Metal

This includes scrap and excess ferrous and non-ferrous metals such as reinforcing steel, structural shapes, pipe, and wire that are recovered or collected and disposed of as scrap. Scrap metal meeting the definition of hazardous material or hazardous waste is not included.

1.2.15.8 Wood

Wood is dimension and non-dimension lumber, plywood, chipboard, hardboard. Treated or painted wood that meets the definition of lead contaminated or lead based contaminated paint is not included. Treated wood includes, but is not limited to, lumber, utility poles, crossties, and other wood products with chemical treatment.

1.2.16 Surface Discharge

Surface discharge means discharge of water into drainage ditches, storm sewers, creeks or "waters of the United States". Surface discharges are discrete, identifiable sources and require a permit from the governing agency. Comply with federal, state, and local laws and regulations.

1.2.17 Wastewater

Wastewater is the used water and solids from a community that flow to a treatment plant.

1.2.17.1 Stormwater

Stormwater is any precipitation in an urban or suburban area that does not evaporate or soak into the ground, but instead collects and flows into storm drains, rivers, and streams.

1.2.18 Waters of the United States

Waters of the United States means Federally jurisdictional waters, including wetlands, that are subject to regulation under Section 404 of the Clean Water Act or navigable waters, as defined under the Rivers and Harbors Act.

1.2.19 Universal Waste

The universal waste regulations streamline collection requirements for certain hazardous wastes in the following categories: batteries, pesticides, mercury-containing equipment (for example, thermostats), and lamps (for example, fluorescent bulbs). The rule is designed to reduce hazardous waste in the municipal solid waste (MSW) stream by making it easier for universal waste handlers to collect these items and send them for recycling or proper disposal. These regulations can be found at 40 CFR 273.

1.3 SUBMITTALS

CITY approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Environmental Protection Plan; G

Stormwater Notice of Intent (for NPDES general permit for construction); G

SD-08 Closeout Submittals

Stormwater Pollution Prevention Plan Compliance Notebook; G

Stormwater Notice of Termination (for NPDES general permit for construction); G

1.4 ENVIRONMENTAL PROTECTION REQUIREMENTS

Provide and maintain, during the life of the contract, environmental protection as defined. Plan for and provide environmental protective measures to control pollution that develops during construction practice. Plan for and provide environmental protective measures required to correct conditions that develop during the construction of permanent or temporary environmental features associated with the project. Protect the environmental resources within the project boundaries and those affected outside the limits of permanent work during the entire duration of this Contract. Comply with federal, state, and local regulations pertaining to the environment, including water, air, solid waste, hazardous waste and substances, oily substances, and noise pollution.

Tests and procedures assessing whether construction operations comply with Applicable Environmental Laws may be required. Analytical work must be performed by qualified laboratories; and where required by law, the laboratories must be certified.

1.4.1 Conformance with the Environmental Management System

Perform work under this contract consistent with the policy and objectives identified in the installation's Environmental Management System (EMS). Perform work in a manner that conforms to objectives and targets of the environmental programs and operational controls identified by the EMS. Support CITY personnel when environmental compliance and EMS audits are conducted by escorting auditors at the Project site, answering questions, and providing proof of records being maintained. Provide monitoring and measurement information as necessary to address environmental performance relative to environmental, energy, and transportation management goals. In the event an EMS nonconformance or environmental noncompliance associated with the contracted services, tasks, or actions occurs, take corrective and preventative actions. In addition, employees must be aware of their roles and responsibilities under the installation EMS and of how these EMS roles and responsibilities affect work performed under the contract.

Coordinate with the installation's EMS coordinator to identify training needs associated with environmental aspects and the EMS, and arrange training or take other action to meet these needs. Provide training documentation to the CITY. The Installation Environmental Office will retain associated environmental compliance records. Make EMS Awareness training completion certificates available to CITY auditors during EMS audits and include the certificates in the Employee Training Records. See paragraph EMPLOYEE TRAINING RECORDS.

1.5 SPECIAL ENVIRONMENTAL REQUIREMENTS

Comply with the special environmental requirements listed here and attached at the end of this section.

1.6 QUALITY ASSURANCE

1.6.1 Preconstruction Survey and Protection of Features

This paragraph supplements the Contract Clause **PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS**. Prior to start of any onsite construction activities, perform a Preconstruction Confirmation Survey of the project site with the CITY, and take photographs showing existing environmental conditions in and adjacent to the site. Submit a report for the record. Include in the report a plan describing the features requiring protection under the provisions of the Contract Clauses, which are not specifically identified on the drawings as environmental features requiring protection along with the condition of trees, shrubs and grassed areas immediately adjacent to the site of work and adjacent to the Contractor's assigned storage area and access route(s), as applicable. The Contractor and the CITY will sign this survey report upon mutual agreement regarding its accuracy and completeness. Protect those environmental features included in the survey report and any indicated on the drawings, regardless of interference that their preservation may cause to the work under the Contract.

1.6.2 Regulatory Notifications

Provide regulatory notification requirements in accordance with federal, state and local regulations. In cases where the CITY will also provide public notification (such as stormwater permitting), coordinate with the CITY. Submit copies of regulatory notifications to the CITY within 14 days prior to commencement of work activities. Typically, regulatory notifications must be provided for the following (this listing is not all-inclusive): demolition, renovation, NPDES defined site work, construction, removal or use of a permitted air emissions source, and remediation of controlled substances (asbestos, hazardous waste, lead paint).

1.6.3 Environmental Brief

Provide the following information: types, quantities, and use of hazardous materials that will be brought onto the installation; and types and quantities of wastes/wastewater that may be generated during the Contract. Discuss the results of the Preconstruction Survey at this time.

Prior to initiating any work on site, meet with the CITY and installation Environmental Office to discuss the proposed Environmental Protection Plan (EPP). Develop a mutual understanding relative to the details of environmental protection, including measures for protecting natural and cultural resources, required reports, required permits, permit requirements (such as mitigation measures), and other measures to be taken.

1.6.4 Non-Compliance Notifications

The CITY will notify the Contractor in writing of any observed noncompliance with federal, state or local environmental laws or regulations, permits, and other elements of the Contractor's EPP. After receipt of such notice, inform the CITY of the proposed corrective action and take such action when approved by the CITY. The CITY may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions will be granted or equitable adjustments allowed for any such suspensions. This is in addition to any other actions the CITY may take under the contract, or in accordance with the Federal Acquisition Regulation or Federal Law.

1.7 ENVIRONMENTAL PROTECTION PLAN

The purpose of the EPP is to present an overview of known or potential environmental issues that must be considered and addressed during construction. Incorporate construction related objectives and targets from the installation's EMS into the EPP. Include in the EPP measures for protecting natural and cultural resources, required reports, and other measures to be taken. Meet with the CITY or CITY Representative to discuss the EPP and develop a mutual understanding relative to the details for environmental protection including measures for protecting natural resources, required reports, and other measures to be taken. Submit the EPP within 14 days after notice to proceed and not less than 10 days before the start of construction. Revise the EPP throughout the project to include any reporting requirements, changes in site conditions, or contract modifications that change the project scope of work in a way that could have an environmental impact. No requirement in this section will relieve the Contractor of any applicable federal, state, and local environmental protection laws and regulations. During Construction, identify, implement, and submit for approval any additional requirements to be included in the EPP. Maintain the current version onsite.

The EPP includes, but is not limited to, the following elements:

1.7.1 General Overview and Purpose

1.7.1.1 Descriptions

A brief description of each specific plan required by environmental permit or elsewhere in this Contract such as stormwater pollution prevention plan, spill control plan, solid waste management plan, wastewater management plan, contaminant prevention plan, a historical, archaeological, cultural resources, biological resources and wetlands plan, traffic control plan, Non-Hazardous Solid Waste Disposal Plan, borrowing material plan, etc.

1.7.1.2 Duties

The duties and level of authority assigned to the person(s) on the job site who oversee environmental compliance, such as who is responsible for adherence to the EPP, who is responsible for spill cleanup and training personnel on spill response procedures, who is responsible for manifesting hazardous waste to be removed from the site (if applicable), and who is responsible for training the Contractor's environmental protection personnel.

1.7.1.3 Procedures

A copy of any standard or project-specific operating procedures that will be used to effectively manage and protect the environment on the project site.

1.7.1.4 Communications

Communication and training procedures that will be used to convey environmental management requirements to Contractor employees and subcontractors.

1.7.1.5 Contact Information

Emergency contact information (office phone number, cell phone number, and e-mail address).

1.7.2 General Site Information

1.7.2.1 Drawings

Drawings showing locations of staging areas, material storage areas, structures, sanitary facilities, maintenance of existing storm drains and conveyances, and stockpiles of excess soil.

1.7.2.2 Work Area

Work area plan showing the proposed activity in each portion of the area and identify the areas of limited use or nonuse. Include measures for marking the limits of use areas, including methods for protection of features to be preserved within authorized work areas and methods to control runoff and to contain materials on site, and a traffic control plan.

1.7.2.3 Documentation

A letter signed by an officer of the firm appointing the Environmental Manager (Foreman) and stating that person is responsible for managing and implementing the Environmental Program as described in this contract. Include in this letter the Environmental Manager's authority to direct the removal and replacement of non-conforming work.

1.7.3 Management of Natural Resources

- a. Land resources
- b. Tree protection
- c. Replacement of damaged landscape features
- d. Temporary construction
- e. Fish and benthic resources

1.7.4 Protection of Historical and Archaeological Resources

- a. Objectives
- b. Methods

1.7.5 Stormwater Management and Control

- a. Ground cover
- b. Erodible soils
- c. Temporary measures
 - (1) Structural Practices
 - (2) Temporary and permanent stabilization
- d. Effective selection, implementation and maintenance of Stormwater Best Management Practices (BMPs).

1.7.6 Protection of the Environment from Waste Derived from Contractor Operations

Control and disposal of solid and sanitary waste. Control and disposal of hazardous waste.

This item consists of the management procedures for hazardous waste to be generated. The elements of those procedures will coincide with the Installation Hazardous Waste Management Plan. The CONTRACTOR will provide a copy of the Installation Hazardous Waste Management Plan. As a minimum, include the following:

- a. List of the types of hazardous wastes expected to be generated
- b. Procedures to ensure a written waste determination is made for appropriate wastes that are to be generated
- c. Sampling/analysis plan, including laboratory method(s) that will be used for waste determinations and copies of relevant laboratory certifications
- d. Methods and proposed locations for hazardous waste accumulation/storage (that is, in tanks or containers)

- e. Management procedures for storage, labeling, transportation, and disposal of waste (treatment of waste is not allowed unless specifically noted)
- f. Management procedures and regulatory documentation ensuring disposal of hazardous waste complies with Land Disposal Restrictions (40 CFR 268)
- g. Management procedures for recyclable hazardous materials such as lead-acid batteries, used oil, and similar
- h. Used oil management procedures in accordance with 40 CFR 279; Hazardous waste minimization procedures
- i. Plans for the disposal of hazardous waste by permitted facilities; and Procedures to be employed to ensure required employee training records are maintained.

1.7.7 Prevention of Releases to the Environment

Procedures to prevent releases to the environment

Notifications in the event of a release to the environment

1.7.8 Regulatory Notification and Permits

List what notifications and permit applications must be made. Some permits require up to 180 days to obtain. Demonstrate that those permits have been obtained or applied for by including copies of applicable environmental permits. The EPP will not be approved until the permits have been obtained.

1.7.9 Clean Air Act Compliance

1.7.9.1 Haul Route

Submit truck and material haul routes along with a Dirt and Dust Control Plan for controlling dirt, debris, and dust on Installation roadways. As a minimum, identify in the plan the subcontractor and equipment for cleaning along the haul route and measures to reduce dirt, dust, and debris from roadways.

1.7.9.2 Pollution Generating Equipment

Identify air pollution generating equipment or processes that may require federal, state, or local permits under the Clean Air Act. Determine requirements based on any current installation permits and the impacts of the project. Provide a list of all fixed or mobile equipment, machinery or operations that could generate air emissions during the project to the Installation Environmental Office (Air Program Manager).

1.7.9.3 Stationary Internal Combustion Engines

Identify portable and stationary internal combustion engines that will be supplied, used or serviced. Comply with 40 CFR 60 Subpart IIII, 40 CFR 60 Subpart JJJJ, 40 CFR 63 and local regulations as applicable. At minimum, include the make, model, serial number, manufacture date, size (engine brake horsepower), and EPA emission certification status of each engine. Maintain applicable records and log hours of operation and fuel use. Logs must include reasons for operation and delineate between emergency and non-emergency operation.

1.7.9.4 Refrigerants

Identify management practices to ensure that heating, ventilation, and air conditioning (HVAC) work involving refrigerants complies with 40 CFR 82 requirements. Technicians must be certified, maintain copies of certification on site, use certified equipment and log work that requires the addition or removal of refrigerant.

1.7.9.5 Air Pollution-engineering Processes

Identify planned air pollution-generating processes and management control measures (including, but not limited to, spray painting, abrasive blasting, demolition, material handling, fugitive dust, and fugitive emissions). Log hours of operations and track quantities of materials used.

1.7.9.6 Monitoring

For the protection of public health, monitor and control contaminant emissions to the air from Hazardous, Toxic, and Radioactive Waste remedial action area sources to minimize short-term risks that might be posed to the community during implementation of the remedial alternative in accordance with the following.

- a. Perimeter Air Contaminant of Concern (TBD if necessary).
- b. Time Averaged Perimeter Action Levels (TBD if necessary).

Concentration	(TBD if necessary)
Time	(TBD if necessary)

- c. Perimeter Sampling/Monitoring Location[s] (TBD if necessary).
- d. Monitoring Instruments/Sampling and Analysis Methods (TBD if necessary).
- e. Staffing (TBD if necessary).

1.7.9.7 Compliant Materials

Provide the CITY a list of MSDSs for all hazardous materials proposed for use on site. Materials must be compliant with all Clean Air Act regulations for emissions including solvent and volatile organic compound contents, and applicable National Emission Standards for Hazardous Air Pollutants requirements. The CITY may alter or limit use of specific materials as needed to meet installation permit requirements for emissions.

1.8 LICENSES AND PERMITS

Obtain licenses and permits required for the construction of the project and in accordance with FAR 52.236-7. Notify the CITY of all general use permitted equipment the Contractor plans to use on site. This paragraph supplements the Contractor's responsibility under FAR 52.236-7.

a. The following permits have been obtained by the CITY:

(1) FDEP File No.: 44-03418446-001-EE, Monroe County

(2) ACOE File No.: SAJ-2016-00621 (NW-GGM)

1.9 ENVIRONMENTAL RECORDS BINDER

Maintain on-site a separate three-ring Environmental Records Binder and submit at the completion of the project. Make separate parts within the binder that correspond to each submittal listed under paragraph CLOSEOUT SUBMITTALS in this section.

1.10 SOLID WASTE MANAGEMENT PERMIT

Provide the CITY with written notification of the quantity of anticipated solid waste or debris that is anticipated or estimated to be generated by construction. Include in the report the locations where various types of waste will be disposed or recycled. Include letters of acceptance from the receiving location or as applicable; submit one copy of the receiving location state and local Solid Waste Management Permit or license showing such agency's approval of the disposal plan before transporting wastes off property.

1.10.1 Solid Waste Management Report

Monthly, submit a solid waste disposal report to the CITY. For each waste, the report will state the classification (using the definitions provided in this section), amount, location, and name of the business receiving the solid waste.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 PROTECTION OF BENTHIC and other NATURAL RESOURCES

Minimize interference with, disturbance to, and damage to fish, wildlife, and plants, including their habitats. Prior to the commencement of activities, consult with the Installation Environmental Office, regarding rare species or sensitive habitats that need to be protected. The protection of rare, threatened, and endangered animal and plant species identified, including their habitats, is the Contractor's responsibility. The following species are known and could be affected within the construction area: Corals referenced in the Benthic Resources Report.

Preserve the natural resources within the project boundaries and outside the limits of permanent work. Restore to an equivalent or improved condition upon completion of work that is consistent with the requirements of the Installation Environmental Office or as otherwise specified. Confine construction activities to within the limits of the work indicated or specified.

3.1.1 Flow Ways

Do not alter water flows or otherwise significantly disturb the native habitat adjacent to the project and critical to the survival of fish and wildlife, except as specified and permitted.

3.1.2 Vegetation

Except in areas to be cleared, do not remove, cut, deface, injure, or destroy trees or shrubs without the CITY's permission. Do not fasten or attach ropes, cables, or guys to existing nearby trees for anchorages unless authorized by the CITY. Where such use of attached ropes, cables, or guys is authorized, the Contractor is responsible for any resultant damage.

Protect existing trees that are to remain to ensure they are not injured, bruised, defaced, or otherwise damaged by construction operations. Remove displaced rocks from uncleared areas. Coordinate with the CITY and Installation Environmental Office to determine appropriate action for trees and other landscape features scarred or damaged by equipment operations.

3.2 STORMWATER

Generally, do not discharge stormwater from construction sites to the sanitary sewer. If the water is noted or suspected of being contaminated, it may only be released to the storm drain system if the discharge is specifically permitted. Obtain authorization in advance from the Installation Environmental Office for any release of contaminated water.

3.2.1 Construction General Permit

Under the terms and conditions of the permit, install, inspect, maintain BMPs, prepare stormwater erosion and sediment control inspection reports, and submit SWPPP inspection reports. Maintain construction operations and management in compliance with the terms and conditions of the general permit for stormwater discharges from construction activities.

3.2.1.1 Stormwater Pollution Prevention Plan

Submit a project-specific Stormwater Pollution Prevention Plan (SWPPP) to the CITY for approval, prior to the commencement of work. The SWPPP must meet the requirements of 40 CFR 122.26 and the State General Permit for stormwater discharges from construction sites.

Include the following:

- a. Comply with terms of the FDEP NPDES general permit for stormwater discharges from construction activities. Prepare SWPPP in accordance with state requirements.

- b. Select applicable BMPs from EPA Fact Sheets located at <http://water.epa.gov/polwaste/npdes/swbmp/Construction-Site-StormWater-Run-Off-Control.cfm> or in accordance with applicable state or local requirements.
- c. Include a completed copy of the Notice of Intent, BMP Inspection Report Template, and Stormwater Notice of Termination, except for the effective date.

3.2.1.2 Stormwater Notice of Intent for Construction Activities

Prepare and submit the Notice of Intent for NPDES coverage under the general permit for construction activities to the CITY for review and approval.

Prepare and submit a Notice of Intent as a co-permittee to the CITY, for review and approval.

Submit the approved NOI and appropriate permit fees onto the appropriate federal or state agency for approval. No land disturbing activities may commence without permit coverage. Maintain an approved copy of the SWPPP at the onsite construction office, and continually update as regulations require, reflecting current site conditions.

3.2.1.3 Inspection Reports

Submit "Inspection Reports" to the CITY in accordance with the State of Florida Construction General Permit.

3.2.1.4 Stormwater Pollution Prevention Plan Compliance Notebook

Create and maintain a three ring binder of documents that demonstrate compliance with the Construction General Permit. Include a copy of the permit Notice of Intent, proof of permit fee payment, SWPPP and SWPPP update amendments, inspection reports and related corrective action records, copies of correspondence with the State Permitting Agency, and a copy of the permit Notice of Termination in the binder. At project completion, the notebook becomes property of the CITY. Provide the compliance notebook to the CITY.

3.2.1.5 Stormwater Notice of Termination for Construction Activities

Submit a Notice of Termination to the CITY for approval once construction is complete and final stabilization has been achieved on all portions of the site for which the permittee is responsible. Once approved, submit the Notice of Termination to the appropriate state or federal agency.

3.2.2 Erosion and Sediment Control Measures

Provide erosion and sediment control measures in accordance with state and local laws and regulations. Preserve vegetation to the maximum extent practicable.

Erosion control inspection reports may be compiled as part of a stormwater pollution prevention plan inspection reports.

3.2.2.1 Erosion Control

Prevent erosion. Stabilize slopes by combination of methods necessary for effective erosion control. Use of hay bales is prohibited.

3.2.2.2 Sediment Control Practices

Implement sediment control practices to divert flows from exposed soils, temporarily store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Implement sediment control practices prior to soil disturbance and prior to creating areas with concentrated flow, during the construction process to minimize erosion and sediment laden runoff.

3.2.3 Work Area Limits

Mark the areas that need not be disturbed under this Contract prior to commencing construction activities. Mark or fence isolated areas within the general work area that are not to be disturbed. Protect monuments and markers before construction operations commence. Where construction operations are to be conducted during darkness, any markers must be visible in the dark. Personnel must be knowledgeable of the purpose for marking and protecting particular objects.

3.2.4 Contractor Facilities and Work Areas

Place field offices, staging areas, stockpile storage, and temporary buildings in areas designated on the drawings or as directed by the CITY. Move or relocate the Contractor facilities only when approved by the CITY. Provide erosion and sediment controls for onsite borrow and spoil areas to prevent sediment from entering nearby waters. Control temporary excavation and embankments for plant or work areas to protect adjacent areas.

3.2.5 Municipal Separate Storm Sewer System (MS4) Management

Comply with the Installation's MS4 permit requirements.

3.3 SURFACE AND GROUNDWATER

3.3.1 Cofferdams, Diversions, and Dewatering

NOT USED.

3.3.2 Waters of the United States

Do not enter, disturb, destroy, or allow discharge of contaminants into waters of the United States except as authorized herein. The protection of waters of the United States shown on the drawings in accordance with paragraph LICENSES AND PERMITS is the Contractor's responsibility. Authorization to enter specific waters of the United States identified does not relieve the Contractor from any obligation to protect other waters of the United States within, adjacent to, or in the vicinity of the construction site and associated boundaries.

3.4 PROTECTION OF CULTURAL RESOURCES

3.4.1 Historical Resources

Existing historical resources within the work area are shown on the drawings. Protect these resources and be responsible for their preservation during the life of the Contract.

3.5 WASTE MINIMIZATION

Minimize the use of hazardous materials and the generation of waste. Include procedures for pollution prevention/ hazardous waste minimization in the Hazardous Waste Management Section of the EPP. Obtain a copy of the installation's Pollution Prevention/Hazardous Waste Minimization Plan for reference material when preparing this part of the EPP. If no written plan exists, obtain information by contacting the CITY. Describe the anticipated types of the hazardous materials to be used in the construction when requesting information.

3.5.1 Salvage, Reuse and Recycle

Identify anticipated materials and waste for salvage, reuse, and recycling. Describe actions to promote material reuse, resale or recycling. To the extent practicable, all scrap metal must be sent for reuse or recycling and will not be disposed of in a landfill.

Include the name, physical address, and telephone number of the hauler, if transported by a franchised solid waste hauler. Include the destination and, unless exempted, provide a copy of the state or local permit (cover) or license for recycling.

3.6 WASTE MANAGEMENT AND DISPOSAL

3.6.1 Wastewater

3.6.1.1 Disposal of wastewater must be as specified below.

3.6.1.1.1 Treatment

Do not allow wastewater from construction activities, such as onsite material processing, concrete curing, concrete clean-up, water used in concrete trucks, and forms to enter water ways or to be discharged prior to being treated to remove pollutants. Dispose of the construction-related waste water off-CITY property in accordance with 40 CFR 403, state, regional, and local laws and regulations.

3.7 PREVIOUSLY USED EQUIPMENT

Clean previously used construction equipment prior to bringing it onto the project site. Equipment must be free from soil residuals, egg deposits from plant pests, noxious weeds, and plant seeds. Consult with the U.S. Department of Agriculture jurisdictional office for additional cleaning requirements.

3.8 PETROLEUM, OIL, LUBRICANT (POL) STORAGE AND FUELING

POL products include flammable or combustible liquids, such as gasoline, diesel, lubricating oil, used engine oil, hydraulic oil, mineral oil, and cooking oil. Store POL products and fuel equipment and motor vehicles in a manner that affords the maximum protection against spills into the environment. Manage and store POL products in accordance with EPA 40 CFR 112, and other federal, state, regional, and local laws and regulations. Use secondary containments, dikes, curbs, and other barriers, to prevent POL products from spilling and entering the ground, storm or sewer drains, stormwater ditches or canals, or navigable waters of the United States. Describe in the EPP (see paragraph ENVIRONMENTAL PROTECTION PLAN) how POL tanks and containers must be stored, managed, and inspected and what protections must be provided.

3.8.1 Used Oil Management

Manage used oil generated on site in accordance with 40 CFR 279. Determine if any used oil generated while onsite exhibits a characteristic of hazardous waste. Used oil containing 1,000 parts per million of solvents is considered a hazardous waste and disposed of at the Contractor's expense. Used oil mixed with a hazardous waste is also considered a hazardous waste. Dispose in accordance with paragraph HAZARDOUS WASTE DISPOSAL.

3.8.2 Oil Storage Including Fuel Tanks

Provide secondary containment and overfill protection for oil storage tanks. A berm used to provide secondary containment must be of sufficient size and strength to contain the contents of the tanks plus 5 inches freeboard for precipitation. Construct the berm to be impervious to oil for 72 hours that no discharge will permeate, drain, infiltrate, or otherwise escape before cleanup occurs. Use drip pans during oil transfer operations; adequate absorbent material must be onsite to clean up any spills and prevent releases to the environment. Cover tanks and drip pans during inclement weather. Provide procedures and equipment to prevent overfilling of tanks. If tanks and containers with an aggregate aboveground capacity greater than 1320 gallons will be used onsite (only containers with a capacity of 55 gallons or greater are counted), provide and implement a SPCC plan meeting the requirements of 40 CFR 112. Do not bring underground storage tanks to the installation for Contractor use during a project. Submit the SPCC plan to the CITY for approval.

Monitor and remove any rainwater that accumulates in open containment dikes or berms. Inspect the accumulated rainwater prior to draining from a containment dike to the environment, to determine there is no oil sheen present.

3.9 INADVERTENT DISCOVERY OF PETROLEUM-CONTAMINATED SOIL OR HAZARDOUS WASTES

If petroleum-contaminated soil, or suspected hazardous waste is found during construction that was not identified in the Contract documents, immediately notify the CITY. Do not disturb this material until authorized by the CITY.

3.10 POST CONSTRUCTION CLEANUP

Clean up areas used for construction in accordance with Contract Clause: "Cleaning Up". Unless otherwise instructed in writing by the CITY, remove traces of temporary construction facilities such as

haul roads, work area, structures, foundations of temporary structures, stockpiles of excess or waste materials, and other vestiges of construction prior to final acceptance of the work. Grade parking area and similar temporarily used areas to conform with surrounding contours.

-- End of Section --

SECTION 01 74 19

CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT

PART 1 GENERAL

1.1 CITY POLICY

CITY policy is to apply sound environmental principles in the design, construction and use of facilities. As part of the implementation of that policy: (1) practice efficient waste management when sizing, cutting, and installing products and materials and (2) use all reasonable means to divert construction and demolition waste from landfills and incinerators and to facilitate their recycling or reuse. If possible, divert project solid waste from the landfill. **Do not use solid waste to fill the void between the old wall and the new wall. Use clean pea gravel or 57 stone only.**

1.2 MANAGEMENT

Develop and implement a waste management program. Take a pro-active, responsible role in the management of construction and demolition waste and require all subcontractors, vendors, and suppliers to participate in the effort. Construction and demolition waste includes products of demolition or removal, excess or unusable construction materials, packaging materials for construction products, and other materials generated during the construction process but not incorporated into the work. In the management of waste, consider the availability of viable markets, the condition of the material, the ability to provide the material in suitable condition and in a quantity acceptable to available markets, and time constraints imposed by internal project completion mandates. Implement any special programs involving rebates or similar incentives related to recycling of waste. Revenues or other savings obtained for salvage, or recycling accrue to the Contractor. Appropriately permit firms and facilities used for recycling, reuse, and disposal for the intended use to the extent required by federal, state, and local regulations. Also, provide on-site instruction of appropriate separation, handling, recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

1.3 MEETINGS

If necessary, conduct Construction Waste Management meetings. After award of the Contract and prior to commencement of work, schedule and conduct a meeting with the CITY to discuss the proposed Waste Management Plan and to develop a mutual understanding relative to the details of waste management. The requirements for this meeting may be fulfilled during the coordination and mutual understanding meeting outlined in Section QUALITY CONTROL. At a minimum, discuss environmental and waste management goals and issues at the following additional meetings:

- a. Pre-bid meeting.
- b. Preconstruction meeting.
- c. Regular site meetings.
- d. Work safety meetings.

1.4 WASTE MANAGEMENT PLAN

Submit a waste management plan within 15 days after notice to proceed and not less than 10 days before the preconstruction meeting. The plan demonstrates how to meet the project waste diversion goal. Also, include the following in the plan:

It is understood that the mooring piles and portions of the docks will be removed, stored and replaced. Only the existing concrete cap will need to be managed as a part of the demolition.

- a. Name of individuals on the Contractor's staff responsible for waste prevention and management. (FOREMAN)
- b. Actions that will be taken to reduce solid waste generation, including coordination with subcontractors to ensure awareness and participation.
- c. Description of the regular meetings to be held to address waste management.
- d. Description of the specific approaches to be used in recycling/reuse of the various materials generated, including the areas on site and equipment to be used for processing, sorting, and temporary storage of wastes.
- e. Characterization, including estimated types and quantities, of the waste to be generated.
- f. Name of landfill and/or incinerator to be used and the estimated costs for use, assuming that there would be no salvage or recycling on the project.
- g. Identification of local and regional reuse programs, including non-profit organizations such as schools, local housing agencies, and organizations that accept used materials such as materials exchange networks and Habitat for Humanity. Include the name, location, and phone number for each reuse facility to be used, and provide a copy of the permit or license for each facility.
- h. List of specific waste materials that will be salvaged for resale, salvaged and reused on the current project, salvaged and stored for reuse on a future project, or recycled. Identify the recycling facilities by name, location, and phone number, including a copy of the permit or license for each facility.
- i. Identification of materials that cannot be recycled/reused with an explanation or justification, to be approved by the CITY.
- j. Description of the means by which any waste materials identified in item (h) above will be protected from contamination.
- k. Description of the means of transportation of the recyclable materials (whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler and removed from the site).

- I. Anticipated net cost savings determined by subtracting Contractor program management costs and the cost of disposal from the revenue generated by sale of the materials and the incineration and/or landfill cost avoidance.

Revise and resubmit Plan as required by the CITY. Approval of Contractor's Plan will not relieve the Contractor of responsibility for compliance with applicable environmental regulations or meeting project cumulative waste diversion requirement. Distribute copies of the Waste Management Plan to each subcontractor, the Quality Control Manager, and the CITY.

1.5 RECORDS

Maintain records to document the quantity of waste generated; the quantity of waste diverted through sale, reuse, or recycling; and the quantity of waste disposed by landfill or incineration. Make the records available to the CITY during construction, and deliver to the CITY upon completion of the construction, a copy of the records.

1.6 COLLECTION

Separate, store, protect, and handle at the site identified recyclable and salvageable waste products in a manner that maximizes recyclability and salvagability of identified materials. Provide the necessary containers, bins and storage areas to facilitate effective waste management and clearly and appropriately identify them. Provide materials for barriers and enclosures around recyclable material storage areas which are nonhazardous and recyclable or reusable. Locate out of the way of construction traffic. Provide adequate space for pick-up and delivery and convenience to subcontractors. Recycling and waste bin areas are to be kept neat and clean, and handle recyclable materials to prevent contamination of materials from incompatible products and materials. Clean contaminated materials prior to placing in collection containers. Use cleaning materials that are nonhazardous and biodegradable. Handle hazardous waste and hazardous materials in accordance with applicable regulations and coordinate with Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS. Separate materials by one of the following methods:

1.6.1 Source Separated Method.

Separate waste products and materials that are recyclable from trash and sorted as described below into appropriately marked separate containers and then transported to the respective recycling facility for further processing. Deliver materials in accordance with recycling or reuse facility requirements (e.g., free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process). Separate materials into the following category types as appropriate to the project waste and to the available recycling and reuse programs in the project area:

- a. Land clearing debris.
- b. Asphalt.
- c. Concrete and masonry.
- d. Metal (e.g. banding, stud trim, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized, stainless steel, aluminum, copper, zinc, lead brass, bronze).
 - (1) Ferrous.

- (2) Non-ferrous.
- e. Wood (nails and staples allowed).
- f. Debris.
- g. Paper.
 - (1) Bond.
 - (2) Newsprint.
 - (3) Cardboard and paper packaging materials.
- h. Non-hazardous paint and paint cans.
- i. Beverage containers.

1.6.2 Co-Mingled Method.

Place waste products and recyclable materials into a single container and then transport to a recycling facility where the recyclable materials are sorted and processed.

1.6.3 Other Methods.

Other proposed methods may be used when approved by the CITY.

1.7 DISPOSAL

Control accumulation of waste materials and trash. Recycle or dispose of collected materials off-site at intervals approved by the CITY and in compliance with waste management procedures. Except as otherwise specified in other sections of the specifications, dispose of in accordance with the following:

1.7.1 Reuse.

Give first consideration to salvage for reuse since little or no re-processing is necessary for this method, and less pollution is created when items are reused in their original form. Coordinate reuse with the CITY. Consider sale or donation of waste suitable for reuse.

1.7.2 Recycle.

Recycle waste materials not suitable for reuse, but having value as being recyclable. Arrange for timely pickups from the site or deliveries to recycling facilities in order to prevent contamination of recyclable materials.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01 78 00

CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.1 DEFINITIONS

1.1.1 As-Built Drawings

As-built drawings are developed and maintained by the Contractor and depict actual conditions, including deviations from the Contract Documents. These deviations and additions may result from coordination required by, but not limited to: contract modifications; official responses to Contractor submitted Requests for Information; direction from the CITY; designs which are the responsibility of the Contractor, and differing site conditions. Maintain the as-builts throughout construction as red-lined hard copies on site. These files serve as the basis for the creation of the record drawings.

1.1.2 Record Drawings

The record drawings are the final compilation of actual conditions reflected in the as-built drawings.

1.2 SOURCE DRAWING FILES

Request the full set of electronic drawings, in the source format, for Record Drawing preparation, after award and at least 30 days prior to required use.

1.2.1 Terms and Conditions

Data contained on these electronic files must not be used for any purpose other than as a convenience in the preparation of construction drawings and data for the referenced project. Any other use or reuse shall be at the sole risk of the Contractor and without liability or legal exposure to the CITY. The Contractor must make no claim and waives to the fullest extent permitted by law, any claim or cause of action of any nature against the CITY, its agents or sub consultants that may arise out of or in connection with the use of these electronic files. The Contractor must, to the fullest extent permitted by law, indemnify and hold the CITY harmless against all damages, liabilities or costs, including reasonable attorney's fees and defense costs, arising out of or resulting from the use of these electronic files.

These electronic CAD drawing files are not construction documents. Differences may exist between the CAD files and the corresponding construction documents. The CITY makes no representation regarding the accuracy or completeness of the electronic CAD files, nor does it make representation to the compatibility of these files with the Contractor hardware or software. In the event that a conflict arises between the signed and sealed construction documents prepared by the CITY and the furnished Source drawing files, the signed and sealed construction documents govern. The Contractor is responsible for determining if any conflict exists. Use of these Source Drawing files does not relieve the Contractor of duty to fully comply with the contract documents, including and without limitation, the need to check, confirm and coordinate the work of all contractors for the project. If

the Contractor uses, duplicates or modifies these electronic source drawing files for use in producing construction drawings and data related to this contract, remove all previous indicia of ownership (seals, logos, signatures, initials and dates).

1.3 SUBMITTALS

CITY approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-08 Closeout Submittals
Final Approved Shop Drawings; G
As-Built Drawings; G

1.4 WARRANTY MANAGEMENT

1.4.1 Warranty Management Plan

Develop a warranty management plan which contains information relevant to the clause Warranty of Construction. Include within the warranty management plan all required actions and documents to assure that the CITY receives all warranties to which it is entitled. The plan must be in narrative form and contain sufficient detail to render it suitable for use by future maintenance and repair personnel, whether tradesmen, or of engineering background, not necessarily familiar with this contract. The term "status" as indicated below must include due date and whether item has been submitted or was accomplished. Warranty information made available during the construction phase must be submitted to the CITY for approval prior to each monthly pay estimate. Assemble approved information in a binder and turn over to the CITY upon acceptance of the work. The construction warranty period will begin on the date of project acceptance and continue for the full product warranty period. Include within the warranty management plan, but not limited to, the following:

- a. Roles and responsibilities of all personnel associated with the warranty process, including points of contact and telephone numbers within the organizations of the Contractors, subcontractors, manufacturers or suppliers involved.
- b. Furnish with each warranty the name, address, and telephone number of each of the guarantor's representatives nearest to the project location.
- c. Listing and status of delivery of all Certificates of Warranty for extended warranty items, to include workmanship, corrosion, coatings, fasteners, etc.
- d. A list for each warranted equipment, item, and feature of construction or system indicating:
 - (1) Name of item.
 - (2) Location where installed.
 - (3) Name and phone numbers of manufacturers or suppliers.
 - (4) Names, addresses and telephone numbers of sources of suppliers.

- (5) Warranties and terms of warranty. Include one-year overall warranty of construction, including the starting date of warranty of construction. Items which have extended warranties must be indicated with separate warranty expiration dates.
- (8) Cross-reference to warranty certificates as applicable.
- (9) Starting point and duration of warranty period.
- (10) Summary of maintenance procedures required to continue the warranty in force.
- (11) Organization, names and phone numbers of persons to call for warranty service.
- (12) Typical response time and repair time expected for various warranted equipment.

- e. Procedure and status of tagging of all equipment covered by extended warranties.

1.4.2 Performance Bond

The Performance Bond must remain effective throughout the construction period.

- a. In the event the Contractor fails to commence and diligently pursue any construction warranty work required, the CITY will have the work performed by others, and after completion of the work, will charge the remaining construction warranty funds of expenses incurred by the CITY while performing the work, including, but not limited to administrative expenses.
- b. In the event sufficient funds are not available to cover the construction warranty work performed by the CITY at the Contractor's expense, the CITY will have the right to recoup expenses from the bonding company.
- c. Following oral or written notification of required construction warranty repair work, respond in a timely manner. Written verification will follow oral instructions. Failure to respond will be cause for the CITY to proceed against the Contractor.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 AS-BUILT DRAWINGS

3.1.1 Markup Guidelines

Make comments and markup the drawings complete without reference to letters, memos, or materials that are not part of the As-Built drawing. Show what was changed, how it was changed, where items(s) were relocated and change related details. These working as-built markup prints must be neat, legible and accurate as follows:

- a. Use base colors of red, green, and blue. Color code for changes as follows:
 - (1) Special (Blue) - Items requiring special information, coordination, or special detailing or detailing notes.

- (2) Deletions (Red) - Over-strike deleted graphic items (lines), lettering in notes and leaders.
- (3) Additions (Green) - Added items, lettering in notes and leaders.
- b. Provide a legend if colors other than the "base" colors of red, green, and blue are used.
- c. Add and denote any additional equipment or material facilities, service lines, incorporated under As-Built Revisions if not already shown in legend.
- d. Use frequent written explanations on markup drawings to describe changes. Do not totally rely on graphic means to convey the revision.
- e. Use legible lettering and precise and clear digital values when marking prints. Clarify ambiguities concerning the nature and application of change involved.
- f. Wherever a revision is made, also make changes to related section views, details, legend, profiles, plans and elevation views, schedules, notes and call out designations, and mark accordingly to avoid conflicting data on all other sheets.
- g. For deletions, cross out all features, data and captions that relate to that revision.
- h. For changes on small-scale drawings and in restricted areas, provide large-scale inserts, with leaders to the applicable location.
- i. Indicate one of the following when attaching a print or sketch to a markup print:
 - 1) Add an entire drawing to contract drawings.
 - 2) Provided for reference only to further detail the initial design.
- j. Incorporate all shop and fabrication drawings into the markup drawings.

3.1.2 As-Built Drawings Content

Show on the as-built drawings, but not limited to, the following information:

- a. The actual location, kinds and sizes of all sub-surface utility lines. In order that the location of these lines and appurtenances may be determined in the event the surface openings or indicators become covered over or obscured, show by offset dimensions to two permanently fixed surface features the end of each run including each change in direction on the record drawings. Locate valves, splice boxes and similar appurtenances by dimensioning along the utility run from a reference point. Also record the average depth below the surface of each run.
- b. The location and dimensions of any changes within the building structure.
- c. Layout and schematic drawings of electrical circuits and piping.
- d. Correct grade, elevations, cross section, or alignment of roads, earthwork, structures or utilities if any changes were made from contract plans.

- e. Changes in details of design or additional information obtained from working drawings specified to be prepared and/or furnished by the Contractor; including but not limited to shop drawings, fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions of equipment foundations, etc.
- f. The topography, invert elevations and grades of drainage installed or affected as part of the project construction.
- g. Changes or Revisions which result from the final inspection.
- h. Where contract drawings or specifications present options, show only the option selected for construction on the working as-built markup drawings.
- i. If borrow material for this project is from sources on CITY property, or if CITY property is used as a spoil area, furnish a contour map of the final borrow pit/spoil area elevations.
- j. Systems designed or enhanced by the Contractor, such as HVAC controls, fire alarm, fire sprinkler, and irrigation systems.
- k. Changes in location of equipment and architectural features.
- j. Modifications (include within change order price the cost to change working as-built markup drawings to reflect modifications).
- l. Actual location of anchors, construction and control joints, etc., in concrete.
- m. Unusual or uncharted obstructions that are encountered in the contract work area during construction.
- n. Location, extent, thickness, and size of stone protection particularly where it will be normally submerged by water.

3.2 CLEANUP

Leave premises "broom clean." Clean interior and exterior glass surfaces exposed to view; remove temporary labels, stains and foreign substances; polish transparent and glossy surfaces; vacuum carpeted and soft surfaces. Clean equipment and fixtures to a sanitary condition. Clean debris from drainage systems. Sweep paved areas and rake clean landscaped areas. Remove waste and surplus materials, rubbish and construction facilities from the site.

3.2.1 Extraordinary Cleanup Requirements

The following cleanup requirements apply: **Do not place any debris waterward of the proposed wall.**

-- End of Section --

SECTION 02 41 00

DEMOLITION AND DECONSTRUCTION

05/10

PART 1 GENERAL

1.1 PROJECT DESCRIPTION

1.1.1 Demolition/Deconstruction Plan

Prepare a combined Demolition and Deconstruction Plan and submit proposed salvage, demolition, deconstruction, and removal procedures for approval before work is started. Include in the plan procedures for careful removal and disposition of materials specified to be salvaged, coordination with other work in progress, a disconnection schedule of utility services, a detailed description of methods and equipment to be used for each operation and of the sequence of operations. Plans shall be approved by CITY prior to work beginning.

1.1.2 General Requirements

Do not begin demolition or deconstruction until authorization is received from the CITY. Remove rubbish and debris from the project site; do not allow accumulations to occur near the water. The work includes demolition, deconstruction, salvage of identified items and materials, and removal of resulting rubbish and debris. Remove rubbish and debris from CITY and/or NOAA property daily, unless otherwise directed. Store materials that cannot be removed daily in areas specified by the CITY.

1.2 ITEMS TO REMAIN IN PLACE

Take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the CITY and/or NOAA. Repair or replace damaged items as approved by the CITY. Coordinate the work of this section with all other work indicated. Construct and maintain shoring, bracing, and supports as required. Ensure that structural elements are not overloaded. Increase structural supports or add new supports as may be required as a result of any cutting, removal, deconstruction, or demolition work performed under this contract. Do not overload structural elements. Provide new supports and reinforcement for existing construction weakened by demolition, deconstruction, or removal work. Repairs, reinforcement, or structural replacement require approval by the CITY prior to performing such work.

1.2.1 Existing Construction Limits and Protection

Do not disturb existing construction beyond the extent indicated or necessary for installation of new construction. Provide temporary shoring and bracing for support of building components to prevent settlement or other movement. Provide protective measures to control accumulation and migration of dust and dirt in all work areas. Remove dust, dirt, and debris from work areas daily.

1.2.2 Weather Protection

For portions of the wall to remain, protect from the weather when possible during deconstruction. Where removal of existing overburden or concrete is necessary to accomplish work, have materials and workmen ready to provide adequate and temporary covering of exposed areas.

1.2.3 Trees

Protect trees within the project site which might be damaged during demolition or deconstruction, and which are indicated to be left in place, by a 6 foot high fence. Erect and secure fence a minimum of 5 feet from the trunk of individual trees or follow the outer perimeter of branches or clumps of trees. Replace any tree designated to remain that is damaged during the work under this contract with like-kind or as approved by the CITY.

1.2.4 Utility Service

Maintain existing utilities indicated to stay in service and protect against damage during demolition and deconstruction operations. Prior to start of work, utilities serving each area of alteration or removal will be shut off by the CITY and/or NOAA and disconnected and sealed by the Contractor.

1.2.5 Facilities

Protect electrical and mechanical services and utilities. Where removal of existing utilities and pavement is specified or indicated, provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities. Sheet Pile and mooring piles or any other structural components that are designed and constructed to stand without lateral support or shoring, and are determined to be in stable condition, must remain standing without additional bracing, shoring, or lateral support until demolished or deconstructed, unless directed otherwise by the CITY. Ensure that no elements determined to be unstable are left unsupported and place and secure bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, deconstruction, or demolition work performed under this contract.

The existing concrete panel wall is the most unstable on the east end of the wall nearest the boat ramp. The contractor should take every precaution when working in this area to protect the existing panels and other upland facilities.

1.3 BURNING

The use of burning at the project site for the disposal of refuse and debris will not be permitted.

1.4 AVAILABILITY OF WORK AREAS

Areas in which the work is to be accomplished will be available in accordance with the following schedule:

Seawall and upland adjacent to wall	Date: 7-days after the NTP
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Entire area upland will be made available during construction. Vessels currently moored at the docks will be relocated by NOAA as required by the contractor.	TBD - depending on the issuance of the award and the notice to proceed.
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1.5 SUBMITTALS

CITY and/or NOAA approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Demolition & Deconstruction Plan; G

1.6 QUALITY ASSURANCE

Submit timely notification of demolition, deconstruction, and renovation projects to Federal, State, Regional, and CITY authorities. Notify the FDEP, NOAA, the ACOE and the CITY in writing 10 working days prior to the commencement of work. Comply with federal, state, and local hauling and disposal regulations. Use of explosives will not be permitted.

1.6.1 Dust and Debris Control

Prevent the spread of dust and debris and avoid the creation of a nuisance in the surrounding area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, flooding, or pollution. Clean the work area daily. Sweep pavements as often as necessary to control the spread of debris that may result in foreign object damage potential to vehicular and/or pedestrian.

1.7 PROTECTION

1.7.1 Traffic Control Signs

- a. Where pedestrian and driver safety is endangered in the area of removal work, use barricades with flashing lights. Anchor barricades in a manner to prevent displacement by wind. Notify the CITY prior to beginning such work. Tripping or fall hazards should not be left unprotected overnight.
- b. Provide a minimum of 2 FAA type L-810 steady burning red obstruction lights on temporary structures (including cranes) over 100 feet above ground level. The use of LED based obstruction lights are not permitted.

1.7.2 Protection of Personnel

Before, during and after the demolition and deconstruction work continuously evaluate the condition of the structure being demolished and deconstructed and take immediate action to protect all personnel working in and around the project site. No area, section, or component of floors, roofs,

walls, columns, pilasters, or other structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while workmen remove debris or perform other work in the immediate area.

1.8 FOREIGN OBJECT DAMAGE (FOD)

NOT USED

1.9 RELOCATIONS

Perform the removal and reinstallation of relocated items as indicated with workmen skilled in the trades involved. Repair or replace items to be relocated which are damaged by the Contractor with new undamaged items as approved by the CITY.

1.10 EXISTING CONDITIONS

This item is provided for use by the contractor to verify the existing conditions described by the CITY. Before beginning any demolition or deconstruction work, survey the site and examine the drawings and specifications to determine the extent of the work. Record existing conditions in the presence of the CITY showing the condition of structures and other facilities adjacent to areas of alteration or removal. Photographs sized 4 inch will be acceptable as a record of existing conditions. Include in the record the elevation of the top of foundation walls, finish floor elevations, possible conflicting electrical conduits, plumbing lines, alarms systems, the location and extent of existing cracks and other damage and description of surface conditions that exist prior to before starting work. It is the Contractor's responsibility to verify and document all required outages which will be required during the course of work, and to note these outages on the record document. Submit survey results.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

3.1 EXISTING FACILITIES TO BE REMOVED

Inspect and evaluate existing structures onsite for reuse. Existing construction scheduled to be removed for reuse shall be disassembled. Dismantled and removed materials are to be separated, set aside, and prepared as specified, and stored or delivered to a collection point for reuse, remanufacture, recycling, or other disposal, as specified. Materials shall be designated for reuse onsite whenever possible.

3.1.1 Structures

- a. Remove existing structures indicated to be removed to top of existing seawall. Fill above the existing tie-back systems will be excavated only as required to install the proposed tie-back systems and will otherwise be left in place.

- b. Demolish and/or deconstruct structures in a systematic manner from the top of the structure to the ground. Demolish the concrete cap in small sections. Remove structural members and mooring piles with a crane or other equipment (preferably from the upland), and lower to ground by means of suitable methods.
- c. Locate demolition and deconstruction equipment as far away from the face of the existing wall as possible so as to not impose excessive loads or surcharges on the structure.

3.1.2 Utilities and Related Equipment

3.1.2.1 General Requirements

Do not interrupt existing utilities serving NOAA's occupied or used facilities, except when authorized in writing by the CITY and/or NOAA. Do not interrupt existing utilities serving facilities occupied and used by the CITY and/or NOAA except when approved in writing and then only after temporary utility services have been approved and provided. Do not begin demolition or deconstruction work until all utility disconnections have been made. Shut off and cap utilities for future use, as indicated.

3.1.2.2 Disconnecting Existing Utilities

Remove existing utilities uncovered by work and terminate in a manner conforming to the nationally recognized code covering the specific utility and approved by the CITY. When utility lines are encountered but are not indicated on the drawings, notify the CITY prior to further work in that area. Remove meters and related equipment and deliver to a location in accordance with instructions of the CITY.

- a. Electrical: When cutting the electrical wiring serving the docks, do so knowing that the dock facilities will need to be reconnected to the upland service at the proposed pull boxes. The wires that are cut should be rolled up and stowed in a manner that will protect them from the elements until they can be reconnected. The wires from the main breaker panel out to the proposed pull boxes will all be new.
- b. Water service: The existing water service will be reconfigured so that the manifold line is buried in the upland behind the old and new wall. New globe valves should be provided as indicated on the plans.

3.1.3 Chain Link Fencing

Remove only a portion of the chain link fencing, gates and other related salvaged items scheduled for removal and transport to designated areas. Remove gates as whole units. Cut chain link fabric to 20 foot lengths and store in rolls off the ground.

3.1.4 Paving and Slabs

Remove concrete and asphaltic concrete paving and slabs including aggregate base as required. Provide neat sawcuts at limits of wall-cap or other concrete removal as indicated. Pavement and slabs designated to be recycled and utilized in this project shall be moved, ground and stored as

directed by the CITY. Pavement and slabs not to be used in this project shall be removed from the Installation at Contractor's expense.

3.1.5 Concrete

Saw concrete along straight lines to a depth of a minimum 2 inch. Make each cut perpendicular to the face and in alignment with the cut in the opposite face. Break out the remainder of the concrete provided that the broken area is concealed in the finished work, and the remaining concrete is sound. At locations where the broken face cannot be concealed, grind smooth or saw cut entirely through the concrete. Salvage removed concrete.

3.1.6 Structural Steel

Dismantle structural steel at field connections and in a manner that will prevent bending or damage. Salvage structural steel, angles, plates, columns and shapes. Flame-cutting torches are permitted when other methods of dismantling are not practical.

3.1.7 Miscellaneous Metal

Salvage light-gage and cold-formed metal pieces, such as steel studs, sections of steel sheet pile, accessories and similar items. Scrap metal shall become the Contractor's property. Recycle scrap metal as part of demolition and deconstruction operations. Provide separate containers to collect scrap metal and transport to a scrap metal collection or recycling facility, in accordance with the Waste Management Plan.

3.1.8 Carpentry

Salvage for reuse lumber, millwork items, and finished boards, and sort by type and size. Chip or shred and recycle salvaged wood unfit for reuse, except stained, painted, or treated wood.

3.1.9 Mechanical Equipment and Fixtures

Disconnect mechanical hardware at the nearest connection to existing services to remain, unless otherwise noted. Disconnect mechanical equipment and fixtures at fittings. Do not remove equipment until approved.

3.1.10 Electrical Equipment and Fixtures

Salvage motors, motor controllers, and operating and control equipment that are attached to the driven equipment. Salvage wiring systems and components. Box loose items and tag for identification. Disconnect primary, secondary, control, communication, and signal circuits at the point of attachment to their distribution system.

3.1.10.1 Conduit and Miscellaneous Items

Salvage conduit except where embedded in concrete or masonry. Consider corroded, bent, or damaged conduit as scrap metal. Sort straight and undamaged lengths of conduit according to size and type. Classify supports, knobs, tubes, cleats, and straps as debris to be removed and disposed.

3.2 CONCURRENT EARTH-MOVING OPERATIONS

Do not begin excavation, filling, and other earth-moving operations that are sequential to demolition or deconstruction work in areas occupied by structures to be demolished or deconstructed until all demolition and deconstruction in the area has been completed and debris removed. Fill holes, open basements and other hazardous openings.

3.3 DISPOSITION OF MATERIAL

3.3.1 Title to Materials

Except for salvaged items specified in related Sections, and for materials or equipment scheduled for salvage, all materials and equipment removed and not reused or salvaged, shall become the property of the Contractor and shall be removed from CITY and/or NOAA property. Title to materials resulting from demolition and deconstruction, and materials and equipment to be removed, is vested in the Contractor upon approval by the CITY of the Contractor's demolition, deconstruction, and removal procedures, and authorization by the CITY to begin demolition and deconstruction. The CITY and/or NOAA will not be responsible for the condition or loss of, or damage to, such property after contract award. Showing for sale or selling materials and equipment on site is prohibited.

3.3.2 Reuse of Materials and Equipment

Remove and store materials in the Demolition and Deconstruction Plan to be reused or relocated to prevent damage, and reinstall as the work progresses.

3.3.3 Salvaged Materials and Equipment

Remove materials in the Demolition and Deconstruction Plan specified to be removed by the Contractor and that are to remain the property of the CITY and/or NOAA, and deliver to a storage site as directed.

- a. Salvage items and material to the maximum extent possible.
- b. Store all materials salvaged for the Contractor as approved by the CITY and remove from CITY and/or NOAA property before completion of the contract. On site sales of salvaged material is prohibited.
- c. Remove salvaged items to remain the property of the CITY and/or NOAA in a manner to prevent damage, and packed or crated to protect the items from damage while in storage or during shipment. Items damaged during removal or storage must be repaired or replaced to match existing items. Properly identify the contents of containers.
- d. Remove historical items in a manner to prevent damage. Store the historical items for reuse in the project.

3.3.4 Unsalvageable and Non-Recyclable Material

Dispose of unsalvageable and non-recyclable noncombustible material in the disposal area approved to accept the waste. Dispose of unsalvageable and non-recyclable combustible material in the sanitary fill in this approved area.

3.4 CLEANUP

Remove debris and rubbish from basement and similar excavations. Remove and transport the debris in a manner that prevents spillage on streets or adjacent areas. Apply local regulations regarding hauling and disposal.

3.5 DISPOSAL OF REMOVED MATERIALS

3.5.1 Regulation of Removed Materials

Dispose of debris, rubbish, scrap, and other non-salvageable materials resulting from removal operations with all applicable federal, state and local regulations as contractually specified in the Waste Management Plan. Storage of removed materials on the project site is prohibited.

3.5.2 Burning on CITY and/or NOAA Property

Burning of materials removed from demolished and deconstructed structures will not be permitted on CITY and/or NOAA property.

3.5.3 Removal to Spoil Areas on CITY and/or NOAA Property

Transport noncombustible materials removed from demolition and deconstruction structures to designated spoil areas on CITY and/or NOAA property.

3.5.4 Removal from CITY and/or NOAA Property

Transport waste materials removed from demolished and deconstructed structures, except waste soil, from CITY and/or NOAA property for legal disposal. Dispose of waste soil as directed.

3.6 REUSE OF SALVAGED ITEMS

Recondition salvaged materials and equipment designated for reuse before installation. Replace items damaged during removal and salvage operations or restore them as necessary to usable condition.

-- End of Section --

SECTION 02 42 91

REMOVAL AND SALVAGE OF HISTORIC CONSTRUCTION MATERIALS

PART 1 GENERAL

1.1 PROJECT DESCRIPTION

The work includes removal and salvage of identified historic items and materials, and removal of resulting rubbish and debris. General demolition of non-historic materials and removal of resulting rubbish and debris shall comply with the requirements of Section 02 41 00 DEMOLITION AND DECONSTRUCTION. Materials to be salvaged or recycled shall be stored daily in areas and manner specified by the CITY. In the interest of conservation, salvage and recycling shall be pursued to the maximum extent possible.

1.1.1 Dust Control

The amount of dust resulting from removal, salvage and demolition operations shall be controlled to prevent the spread of dust to occupied portions of the construction site and to avoid creation of a nuisance in the surrounding area. Use of water to control dust will not be permitted when it will result in, or create, damage to existing building materials and hazardous or objectionable conditions such as ice, flooding and pollution.

1.1.2 Protection

1.1.2.1 Protection of Existing Historic Property

Before beginning any removal, salvage or demolition work, survey the site and examine the drawings and specifications to determine the extent of the work. Take necessary precautions to avoid damage to existing historic items that are to remain in place, to be reused, or to remain the property of the CITY. Repair or restore items damaged by the Contractor to original condition, or replaced, as approved by the CITY. Coordinate the work of this section with all other work and shall construct and maintain shoring, bracing and supports, as required. Ensure that structural elements are not overloaded and shall provide additional supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

1.1.2.2 Protection from the Weather

The interior of buildings to remain and salvageable materials shall be protected from the weather at all times. Salvaged historic materials shall be stored out of contact with the ground and under weathertight covering if possible.

1.1.2.3 Environmental Protection

The contractor shall coordinate with the CITY for any additional environmental protection measures that arise as a result of the implementation of this specification.

1.2 SUBMITTALS

CITY approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Work Plan; G

1.3 QUALIFICATIONS

Provide qualified workers trained and experienced in recycling, removal and salvage of historic materials. A current point-of-contact for identified references shall be provided.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 SALVAGED ITEMS

Salvage items to the maximum extent possible. Prior to any demolition work, historic items to be salvaged shall be removed from the structure. Removal of salvageable items shall be accomplished by hand labor to the maximum extent possible. Care shall be taken to not damage portions of the structure to remain or items identified for salvage. Materials not scheduled for salvage or recycling shall be removed prior to any salvaging procedures. Keep a complete recording of all salvaged materials including the condition of such materials before, and after, salvage operations.

3.1.1 Site Work

The following site items shall be removed intact and salvaged: Mooring piles, white plastic pile caps, and the marginal portions of the five existing docks.

3.1.2 Concrete

The following concrete items shall be removed intact and salvaged: Contractor shall coordinate with the CITY to confirm the disposition of the concrete cap. For bidding purposes, the contractor should plan to demo and remove the concrete cap.

3.1.3 Masonry

Not Used

3.1.4 Metals

Not Used

3.1.5 Wood

The following materials shall be removed intact and salvaged: wood decking, wood stairs and handrails, ladders, timber mooring piles, header boards, and other timber products that can be reused if removed and stored in good condition. No wood that appears to have been damaged during the deconstruction process shall be reused.

3.1.6 Mechanical Equipment

The following mechanical equipment shall be removed intact and salvaged: Access gates to docks.

3.1.6 Storm water systems

All existing storm drainage and other upland facilities will be protected.

3.1.7 Electrical Equipment:

The following electrical fixtures and equipment shall be removed intact and salvaged: Electrical wiring on the docks shall be protected and reused. New wiring shall be provided from the main breaker panel to the proposed pull boxes. Existing solar powered field lighting will be protected and/or removed, stored and replaced.

3.2 RECYCLED MATERIALS

The following materials shall be recycled: timber piles, plastic pile caps, and portions of existing decking, electrical wiring serving the docks and other works as required. The following materials may be recycled (if possible): dimension lumber, scrap wood from form work, and rubble from concrete cap. Recycle materials to the maximum extent possible. Removal of recyclable materials shall be accomplished by hand labor wherever possible. Historic portions of the structure to remain and items identified for salvage shall not be damaged while removing materials for recycling. **No rubble or other recycled materials shall be placed between the old and new wall.**

3.3 DISPOSITION OF MATERIALS

Title to materials and equipment to be demolished, is vested in the Contractor upon receipt of notice to proceed. The CITY will not be responsible for the condition, loss or damage to such property after notice to proceed.

3.3.1 Material Salvaged for the Contractor

Temporarily store salvaged material as approved by the CITY and remove from CITY property before completion of the contract. Sale of salvaged material on the site is prohibited.

3.3.2 Items Salvaged for the CITY

Salvaged items to remain the property of the CITY shall be removed in a manner to prevent damage, packed or crated to protect the items from damage, or as directed by the CITY. Items damaged

during removal or storage shall be repaired or replaced to match existing items. Containers shall be properly identified as to contents. The following items reserved as property of the CITY shall be delivered to the areas designated: TBD. Contractor shall coordinate with CITY if materials are salvaged and not used on the project.

3.4 CLEAN-UP

Upon completion of the work, portions of structure to remain and adjacent areas and structures shall be cleaned of dust, dirt, and debris caused by salvage and demolition operations. Debris and rubbish shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Local regulations regarding hauling and disposal shall apply.

-- End of Section --

SECTION 03 10 00

CONCRETE FORMWORK

PART 1 - GENERAL

1.01 THE REQUIREMENT

- A. The Contractor shall design and furnish all materials for concrete formwork, bracing, and supports and shall design and construct all falsework, all in accordance with the provisions of the Contract Documents.

1.02 RESPONSIBILITY

- A. The design and engineering of the formwork as well as safety considerations are the responsibility of the Contractor.

1.03 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Without limiting the generality of other requirements of these Specifications, all work specified herein shall conform to or exceed the requirements of the Florida Building Code and the applicable requirements of the following documents to the extent that the provisions of such documents are not in conflict with the requirements of this Section.
 - 1. Codes and Standards
The Building Code, as referenced herein, is the Florida Building Code (FBC).
 - 2. Government Standards
PS 1 U.S. Product Standard for Concrete Forms, Class I.
 - 3. Commercial Standards
ACI 347 Recommended Practice for Concrete Formwork.
ACI 318R Building Code Requirements for Reinforced Concrete.

1.04 QUALITY ASSURANCE

- A. The variation from established grade or lines shall not exceed 1/4 inch in 10 feet and there shall be no offsets or visible bulges or waviness in the finished surface. All tolerances shall be within the "Suggested Tolerances" specified in ACI 347. The Contractor shall grind smooth all fins and projections between formwork panels as directed by the Engineer.
- B. Curved forms shall be used for curved and circular structures that are cast-in-place. Straight panels will not be acceptable for forming curved structures.

PART 2 - PRODUCTS

2.01 FORM MATERIALS

- A. Except as otherwise expressly accepted by the Engineer, all lumber brought on the job site for use as forms, shoring, or bracing shall be new material. All forms shall be smooth surface forms and shall be of the following materials:

Footing sides -Construction grade Hem Fir or Douglas Fir

Walls -Steel or plywood panel

Columns -Steel, plywood or fiber glass Roof and floor

Slabs -Plywood

All other work -Steel panels, plywood or tongue and groove lumber

- A. Materials for concrete forms, formwork, and falsework shall conform to the following requirements:
1. Lumber shall be Southern Pine, construction grade or better, in conformance with U.S. Product Standard PS20.
 2. Plywood for concrete formwork shall be new, waterproof, synthetic resin bonded, exterior type Douglas Fir or Southern Pine plywood manufactured especially for concrete formwork and shall conform to the requirements of PS I for Concrete Forms, Class I, and shall be edge sealed. Thickness shall be as required to support concrete at the rate it is placed, but not less than 5/8-inch thick.

2.02 PREFABRICATED FORMS

- A. Form materials shall be metal, wood, plywood, or other acceptable material that will not adversely affect the concrete and will facilitate placement of concrete to the shape, form, line, and grade indicated. Metal forms shall be an acceptable type that will accomplish such results. Wood forms for surfaces to be painted shall be Medium Density Overlaid plywood, MDO Ext. Grade.

2.03 FORMWORK ACCESSORIES

- A. Exterior corners in concrete members shall be provided with 3/4-inch chamfers. Re-entrant corners in concrete members shall not have fillets unless otherwise shown.
- B. Form ties shall be provided with a plastic cone or other suitable means for forming a conical hole to insure that the form tie may be broken off back of the face of the concrete. The maximum diameter of removable cones for rod ties, or of other removable form-tie fasteners having a circular cross-section, shall not exceed 1-1/2 inches; and all such fasteners shall be such as to leave holes of regular shape for reaming.
- C. Form ties for water-retaining structures shall have integral waterstops. Removable taper ties may be used when acceptable to the Engineer. Taper ties shall not be used to cast water retaining structural walls. At other locations, a preformed neoprene or

polyurethane tapered plug sized to seat at the center of the wall shall be inserted in the hole left by the removal of the taper tie.

- D. Form release agent shall be a blend of natural and synthetic chemicals that employs a chemical reaction to provide quick, easy and clean release of concrete from forms. It shall not stain the concrete and shall leave the concrete with a paintable surface. Formulation of the form release agent shall be such that it would minimize formation of "Bug Holes" in cast- in-place concrete.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Forms to confine the concrete and shape it to the required lines shall be used wherever necessary. The Contractor shall assume full responsibility for the adequate design of all forms, and any forms which are unsafe or inadequate in any respect shall promptly be removed from the Work and replaced at the Contractor's expense. A sufficient number of forms of each kind shall be provided to permit the required rate of progress to be maintained. The design and inspection of concrete forms and falsework, shall comply with applicable local, state and Federal regulations. Plumb and string lines shall be installed before concrete placement and shall be maintained during placement. Such lines shall be used by Contractor's personnel and by the Engineer and shall be in sufficient number and properly installed. During concrete placement, the Contractor shall continually monitor plumb and string line form positions and immediately correct deficiencies.
- B. Concrete forms shall conform to the shape, lines, and dimensions of members as called for on the Drawings, and shall be substantially, free from surface defects, and sufficiently tight to prevent leakage. Forms shall be properly braced or tied together to maintain their position and shape under a load of freshly-placed concrete.
- C. All forms shall be true in every respect to the required shape and size, shall conform to the established alignment and grade, and shall be of sufficient strength and rigidity to maintain their position and shape under the loads and operations incident to placing and vibrating the concrete. Suitable and effective means shall be provided on all forms for holding adjacent edges and ends of panels and sections tightly together and in accurate alignment so as to prevent the formation of ridges, fins, offsets, or similar surface defects in the finished concrete. Plywood, 5/8 inch and greater in thickness, may be fastened directly to studding if the studs are spaced close enough to prevent visible deflection marks in the concrete. The forms shall be tight so as to prevent the loss of water, cement and fines during placing and vibrating of the concrete. Specifically, the bottom of wall forms that rest on concrete footings or slabs shall be provided with a gasket to prevent loss of fines and paste during placement and vibration of concrete. Such gasket may be a 1 to 1-1/2-inch diameter polyethylene rod held in position to the underside of the wall form. Adequate clean-out holes shall be provided at the bottom of each lift of forms. The size, number, and location of such clean-outs shall be as acceptable to the Engineer.

- D. Concrete construction joints will not be permitted at locations other than those shown or specified, except as may be acceptable to the Engineer. When a second lift is placed on hardened concrete, special precautions shall be taken in the way of the number, location, and tightening of ties at the top of the old lift and bottom of the new to prevent any unsatisfactory effect whatsoever on the concrete. Pipe stubs and anchor bolts shall be set in the forms where required.

3.02 EARTH FORMS

- A. All vertical surfaces of concrete members shall be formed, except where placement of the concrete against the ground is called for on the Drawings. Not less than 1 inch of concrete shall be added to the thickness of the concrete member as shown where concrete is permitted to be placed against trimmed ground in lieu of forms. Such permission will be granted only for members of comparatively limited height and where the character of the ground is such that it can be trimmed to the required lines and will stand securely without caving or sloughing until the concrete has been placed.

3.03 FOOTINGS, SLAB EDGES AND GRADE BEAMS

- A. Provide wood side forms for all footings, slab edges and grade beams.

3.04 APPLICATION - FORM RELEASE AGENT

- A. Apply form release agent on formwork in accordance with manufacturer's recommendations.

3.05 INSERTS, EMBEDDED PARTS AND OPENINGS

- A. Embedded Form Ties: Holes left by the removal of form tie cones shall be reamed with suitable toothed reamers so as to leave the surface of the holes clean and rough before being filled with mortar as specified for in Section 03350 entitled "Concrete Finishes". Wire ties for holding forms will not be permitted. No form-tying device or part thereof, other than metal, shall be left embedded in the concrete. Ties shall not be removed in such manner as to leave a hole extending through the interior of the concrete members. The use of snap-ties which cause spalling of the concrete upon form stripping or tie removal will not be permitted. If steel panel forms are used, rubber grommets shall be provided where the ties pass through the form in order to prevent loss of cement paste. Where metal rods extending through the concrete are used to support or to strengthen forms, the rods shall remain embedded and shall terminate not less than 1-inch back from the formed face or faces of the concrete.

3.06 FORM CLEANING

- A. Forms may be reused only if in good condition and only if acceptable to the Engineer. Light sanding between uses will be required wherever necessary to obtain uniform surface texture on all exposed concrete surfaces. Exposed concrete surfaces are defined

as surfaces which are permanently exposed to view. Unused tie rod holes in forms shall be covered with metal caps or shall be filled by other methods acceptable to the Engineer.

3.07 FORMWORK TOLERANCES

- A. Formwork shall be constructed to insure that finished concrete surfaces will be in accordance with the tolerances listed in ACI 347.
 - 1. The following construction tolerances are hereby established and apply to finished walls and slab unless otherwise shown in the Drawings:

Item	Tolerance
Variation of the constructed linear outline from the established position in plan	In 10 feet: 1/4 inch; In 20 feet or more: 1/2 inch
Variation from the level or from the grades shown on the Drawings	In 10 feet: 1/4 inch; In 20 feet or more: 1/2 inch
Variation from the plum	In 10 feet: 1/4 inch; In 20 feet or more: 1/2 inch
Variation in the thickness of slabs and walls	Minus 1/4 inch; Plus 1/2 inch
Variation in the locations and sizes of slab and wall openings	Plus or minus 1/4 inch

3.08 FORM REMOVAL

- A. Remove top forms on sloping surfaces of concrete as soon as removal operations will not allow the concrete to sag. Perform any needed repairs or treatment required on sloping surfaces at once and follow immediately with the specified curing.
- B. The Contractor shall be responsible for the removal of forms and shores. Forms or shores shall not be removed before test cylinders have reached the specified minimum 28 day comprehensive strength for the class of concrete specified in Section 03300 entitled "Cast- in-Place Concrete", nor sooner than listed below:
 - 1. Grade beam side forms 3 days
 - 2. Wall forms 3 days
 - 3. Column forms 3 days
 - 4. Beam and girder side forms 3 days
 - 5. Beam bottoms and slab forms/shores 14 days

3.09 MAINTENANCE OF FORMS

- A. Forms shall be maintained at all times in good condition, particularly as to size, shape, strength, rigidity, tightness, and smoothness of surface. Forms, when in place, shall conform to the established alignment and grades. Before concrete is placed, the forms

shall be thoroughly cleaned. The form surfaces shall be treated with a nonstaining mineral oil or other lubricant acceptable to the Engineer. Any excess lubricant shall be satisfactorily removed before placing the concrete. Where field oiling of forms is required, the Contractor shall perform the oiling at least two weeks in advance of their use. Care shall be exercised to keep oil off the surfaces of steel reinforcement and other metal items to be embedded in concrete.

-- End of Section --

SECTION 03 30 00

CAST -IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 THE REQUIREMENT

- A. The Contractor shall furnish all materials for concrete in accordance with the provisions of this Section and shall form, mix, place, cure, repair, finish, and do all other work as required to produce finished concrete, all in accordance with the requirements of the Contract Documents.
- B. The requirements in this section shall apply to the following types of concrete:
 - 1. Class A Concrete: Normal weight concrete used at all locations, unless otherwise noted.
 - 2. Class B Concrete: Normal weight concrete with pea-rock aggregate. Class B concrete shall be used only at locations indicated on the Drawings.
 - 3. Class C Concrete: Normal weight concrete used in electrical/ instrumentation ductbanks, pipe encasements and sidewalks.
 - 4. Tremie concrete: Concrete indicated to be placed underwater.

1.02 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Without limiting the generality of other requirements of these Specifications, all work specified herein shall conform to or exceed the requirements of the Florida Building Code (FBC) and the applicable requirements of the following documents to the extent that the provisions of such documents are not in conflict with the requirements of this Section.
- B. Codes and Standards
 - 1. The Building Code, as referenced herein, shall be the Florida Building Code.
- C. Federal Specifications
 - 1. UU-B-790A (Int. Amd. 1) Building Paper, Vegetable Fiber (Kraft, Waterproofed, Water Repellant and Fire Resistant).
- D. Commercial Standards
 - ACI 214.1 R-81 Recommended Practice for Evaluation of Strength Test Results of Concrete.
 - AC1318R Building Code Requirements for Reinforced Concrete.
 - ACI 301 Specifications for Structural Concrete for Buildings.
 - ACI 315R Details and Detailing of Concrete Reinforcement.
 - ACI 347R Recommended Practice for Concrete Formwork.
 - ASTM C 31 Methods of Making and Curing Concrete Test Specimens in the Field.
 - ASTM C 33 Specification for Concrete Aggregates.
 - ASTM C 39 Test Method for Compressive Strength of Cylindrical Concrete Specimens.
 - ASTM C 94 Specification for Ready-Mixed Concrete.
 - ASTM C 114 Method for Chemical Analysis of Hydraulic Cement.

ASTM C 136	Method for Sieve Analysis of Fine and Coarse Aggregate.
ASTM C 143	Test Method for Slump of Portland Cement Concrete.
ASTM C 150	Specification for Portland Cement.
ASTM C 156	Test Method for Water Retention by Concrete Curing Materials.
ASTM C 157	Test Method for Length Change of Hardened Cement Mortar and Concrete.
ASTM C 192	Method of Making and Curing Concrete Test Specimens in the Laboratory.
ASTM C 260	Specification for Air-Entraining Admixtures for Concrete.
ASTM C 494	Specification for Chemical Admixtures for Concrete.

1.03 SUBMITTALS

- A. The design mix to be used shall be prepared by qualified persons and submitted for review. The design of the mix is the responsibility of the Contractor subject to the limitations of the specifications. Review processing of this submission will be required only as evidence that the mix has been designed by qualified persons and that the minimum requirements of the specifications have been met. Such review will in no way alter the responsibility of the Contractor to furnish concrete meeting the requirements of the specifications relative to strength and slump. If in the progress of the work the sources of materials change in characteristics or the Contractor requests a new source in writing, the Contractor shall, at his expense submit new test data and information for the establishment of a new design mix. Submit mix designs for all classes of concrete.
- B. Where ready-mix concrete is used, the Contractor shall provide delivery tickets at the time of delivery of each load of concrete. In addition to the information required by ASTM C94, each ticket shall show the mix number, cement content and water/cement ratio.
- C. Location of all proposed construction joints.
- D. Manufacturer's data on all admixtures.
- E. Concrete mix designs for each type of mix proposed and its intended locations.
- F. A schedule of all concrete placement with volume of concrete planned to be placed each day.
- G. A layout of all structures with all planned construction joint locations.

1.04 QUALITY ASSURANCE

- A. Plant equipment and facilities shall meet all requirements of the Check List for Certification of Ready Mixed Concrete Production facilities of the National Ready Mixed Concrete Association and ASTM C 94.
- B. Tests for compressive strength and slump of concrete will be performed as specified herein. Test for determining slump will be in accordance with the requirements of ASTM C 143.
- C. The cost of all tests, will be borne by the Owner. However, the Contractor shall be charged for the cost of any additional tests and investigation on work performed which does not meet the Specifications.
- D. Concrete for testing shall be supplied by the Contractor at no cost to the Owner, and the Contractor shall provide assistance to the Engineer in obtaining samples. The Contractor shall dispose of and clean up all excess material.
- E. Construction Tolerances

1. The Contractor shall set and maintain concrete forms and perform finishing operations so as to ensure that the completed work is within the tolerances specified herein. Surface defects and irregularities are defined as finishes are to be distinguished from tolerances. Tolerance is the specified permissible variation from lines, grades, or dimensions shown. Where tolerances are not stated in the Specifications, permissible deviations will be in accordance with ACI 347 and Section 03100 entitled "Concrete Formwork".

1.05 FIELD SAMPLES

A. Field Compression Tests

1. Compression test specimens shall be taken during construction from the first placement of each class of concrete specified herein and at intervals thereafter as selected by the Engineer to insure continued compliance with these Specifications. At least one set of test specimens shall be made for each 50 yards of concrete placed. Each set of test specimens shall be a minimum of 5 cylinders.
2. Compression test specimens for concrete shall be made in accordance with ASTM C 31. Specimens shall be 6-inch diameter by 12-inch high cylinders.
3. Compression test shall be performed in accordance with ASTM C 39. One cylinder tested at three days, one test cylinders will be tested at 7 days and 2 at 28 days. The remaining cylinder will be held to verify test results, if needed.

B. Evaluation and Acceptance of Concrete

1. Evaluation and acceptance of the compressive strength of concrete shall be according to the requirements of ACI 318, Chapter 5 "Concrete Quality Mixing and Placing", and as specified herein.
2. If any concrete fails to meet these requirements, immediate corrective action shall be taken to increase the compressive strength for all subsequent batches of the type of concrete affected.
3. All concrete which fails to meet the ACI requirements and these specifications, is subject to removal and replacement at the cost of the Contractor.

PART 2 - PRODUCTS

2.01 CONCRETE MATERIALS

- A. Materials shall be delivered, stored, and handled so as to prevent damage by water or breakage. Only one brand of cement shall be used. Cement reclaimed from cleaning bags or leaking containers shall not be used. All cement shall be used in the sequence of receipt of shipments.
- B. All materials furnished and stored for the work shall comply with the requirements of ACI 301, as applicable.
- C. Materials for concrete shall conform to the following requirements:
 1. Cement shall be standard brand portland cement conforming to ASTM C 150 for

Type II. Portland cement shall contain not more than 0.60 percent alkalis. The term "alkalies" referred to herein is defined as the sum of the percentage of sodium oxide and 0.658 times the percentage of potassium oxide ($\text{Na}_2\text{O} + 0.658 \text{K}_2\text{O}$). These oxides shall be determined in accordance with ASTM C 114. A single brand of cement shall be used throughout the Work, and prior to its use, the brand shall be acceptable to the Engineer. The cement shall be suitably protected from exposure to moisture until used. Cement that has become lumpy shall not be used. Sacked cement shall be stored in such a manner so as to permit access for inspection and sampling. Certified mill test reports for each shipment of cement to be used shall be submitted to the Engineer if requested regarding compliance with these Specifications.

2. Water shall be potable, clean, and free from objectionable quantities of silty organic matter, alkali, salts and other impurities. The water shall be considered potable, for the purposes of this Section only, if it meets the requirements of the local governmental agencies.
3. Aggregates shall be obtained from pits acceptable to the Engineer, shall be non-reactive, and shall conform to the Florida Building Code (FBC) and ASTM C 33. Maximum size of coarse aggregate shall be as specified in Article 2.04, Paragraph B of this Section. Lightweight sand for fine aggregate will not be permitted.
 - a. Coarse aggregates shall consist of clean, hard, durable gravel, crushed gravel, crushed rock or a combination thereof. The coarse aggregates shall be prepared and handled in two or more size groups for combined aggregates with a maximum size not greater than 1 inch. When the aggregates are proportioned for each batch of concrete the two size groups shall be combined.
 - b. Fine aggregates shall be manufactured sand that is hard and durable.
 - c. Combined aggregates shall be well graded from coarse to fine sizes, and shall be uniformly graded between screen sizes to produce a concrete that has optimum workability and consolidation characteristics. Where a trial batch is required for a mix design, the final combined aggregate gradations will be established during the trial batch process.
 - d. When tested in accordance with "Potential Reactivity of Aggregates (Chemical Method)" (ASTM C 289), the ratio of silica released to reduction in alkalinity shall not exceed 1.0.
 - e. When tested in accordance with "Organic Impurities in Sands for Concrete" (ASTM C 40), the fine aggregate shall produce a color in the supernatant liquid no darker than the reference standard color solution.
 - f. When tested in accordance with "Resistance to Abrasion of Small size Coarse Aggregate by Use of the Los Angeles Machine" (ASTM C 131), the coarse aggregate shall show a loss not exceeding 42 percent after 500 revolutions, or 10.5 percent after 100 revolutions.
 - g. When tested in accordance with "Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate" (ASTM C 88), the loss resulting after five cycles shall not exceed 10 percent for fine or coarse aggregate when using sodium sulfate.
4. All cement, admixtures, sealers, and form release agents used in or on the concrete or mortar shall conform to NSF International (NSF) standard 61-2001 and Addendum 1.0-2001 to NSF Standard 61-2001.

5. Aggregate used in the concrete or mortar shall be clean (i.e. free of excess clay, silt, mica, organic matter, chemical salts and coated grains) and shall be essentially free of those metals and radionuclides regulated under applicable primary drinking water standards.

2.02 ADMIXTURES

- A. Air-entraining agent meeting the requirements of ASTM C 260, shall be used. Sufficient air-entraining agent shall be used to provide a total air content of 3 to 5 percent.
- B. Admixtures shall be required at the Engineer's discretion or, if not required, may be added at the Contractor's option to control the set, effect water reduction, and increase workability. In either case, the addition of an admixture shall be at the Contractor's expense. The use of an admixture shall be subject to acceptance by the Engineer. Concrete containing an admixture shall be first placed at a location determined by the Engineer. If the use of an admixture is producing an inferior end result, the Contractor shall discontinue use of the admixture. Admixtures specified herein shall conform to the requirements of ASTM C 494. The required quantity of cement shall be used in the mix regardless of whether or not an admixture is used. Admixtures shall contain no free chloride ions, be non-toxic after 30 days, and shall be compatible with and made by the same manufacturer as the air entraining admixture.
 1. Set controlling admixture shall be either with or without water-reducing properties. Where the air temperature at the time of placement is expected to be consistently over 80 degrees Fahrenheit, a set retarding admixture such as Sika Chemical Corporation's Plastiment, Master Builder's Pozzoloth 200R or equal shall be used. Where the air temperature at the time of placement is expected to be consistently under 40 degrees Fahrenheit, a set accelerating admixture such as Sika Chemical Corporation's Plastocrete 161 FL, Master Builder's Pozzoloth 50C, or equal shall be used.
 2. Low range water reducer shall be added to all structural concrete, and shall conform to ASTM C 494, Type A. It shall be either a hydroxylated carboxylic acid type or a hydroxylated polymer type. The quantity of admixture used and the method of mixing shall be in accordance with the manufacturer's instructions and recommendations.
 3. Water reducing and retarding admixture shall be in conformance with ASTM C 494 Type D free of chlorides, "MB-HC" by Master Builders, "WRDA-79" by Grace or equal.
 4. High range water reducer shall be sulfonated polymer conforming to ASTM C 494, Type For G.
 5. If the high range water reducing agent is added to the concrete at the batch plant, it shall be second generation type, Daracem 100, as manufactured by W.R. Grace & Co., Pozzolith 430R, as manufactured by Master Builders; or equal. High range water reducer shall be added to the concrete after all other ingredients have been mixed and initial slump has been verified.
 6. If the high range water reducer is added to the concrete at the job site, it shall be used in conjunction with a low range water reducer and shall be Pozzolith 400N and Pozzolith MBL82, as manufactured by Master Builders; WRDA 19 and WRDA 79, as manufactured by W.R. Grace & Co., or equal. Concrete shall have a slump of 3 inches. \pm 1/2 inch prior to adding the high range water reducing admixture at

the job site. The high range water reducing admixture shall be accurately measured and pressure injected into the mixer as a single dose by an experienced technician. A standby system shall be provided and tested prior to each day's operation of the job site system.

7. Concrete shall be mixed at mixing speed for a minimum of 30 mixer revolutions after the addition of the high range water reducer.
8. The Contractor shall submit certification from each admixture manufacturer that all admixtures utilized in the design mix are compatible with one another and properly proportioned.
9. Prohibited Admixtures: Calcium chloride, thiocyanate or admixtures containing more than 0.05 percent chloride ions are not permitted.
10. Certification: Written conformance to the above mentioned requirements and the chloride ion content of the admixture will be required from the admixture manufacturer prior to Mix design review by the Engineer.
11. For Class A, Class B and Class C Concrete, no flyash may be added.

1.03 ACCESSORIES

- A. Epoxy adhesives shall be the following products for the applications specified to be used in strict accordance with manufacturer's recommendations.
 1. For bonding freshly-mixed, plastic concrete to hardened concrete, Sikadur 32 Hi-Mod, LPL Epoxy Adhesive, as manufactured by Sika Chemical Corporation; Concrete 1001-LPL, as manufactured by Adhesive Engineering Company; or equal.
 2. For bonding hardened concrete or masonry to steel, Colma-Our Gel, Sikadur Hi-Mod Gel, or equal.
 3. Epoxy grouting of vertical and horizontal dowels in existing concrete: A two-component structural epoxy gel such as Rawl/Sika Foil-Fast Epoxy Injection Gel, Sikadur injection gel as manufactured by Sika Chemical Corp., EPCON G5 or approved equal. Place with pneumatic or manual injection gun.

1.04 CONCRETE MIX

- A. Concrete shall be composed of cement, admixtures, aggregates and water. These materials shall be of the qualities specified. The exact proportions in which these materials are to be used for different parts of the work will be determined by the Contractor. In general, the mix shall be designed to produce a concrete capable of being deposited so as to obtain maximum density and minimum shrinkage and, where deposited in forms, to have good consolidation properties and maximum smoothness of surface. Mix designs with more than 41 percent of sand of the total weight of fine and coarse aggregate shall not be used for Class A Concrete. The aggregate gradations shall be formulated to provide fresh concrete that will not promote rock pockets around reinforcing steel or embedded items. The proportions shall be changed whenever necessary or desirable to meet the required results at no additional cost to the Owner. All changes shall be subject to review by the Engineer.
- B. The proportions of cement, aggregates, admixtures and water used in the concrete shall be based on tests of grading and moisture content of materials, slump of concrete mixture, strength of concrete and the following factors:

1. Class A Concrete (All cast-in-place, tremied concrete and precast concrete unless otherwise noted).

Minimum cementitious materials content, per cubic yard	without flyash added: 611 lbs.
Maximum water-cementitious materials ratio, by weight	0.40
Slump range	3 inches to 4 inches with water reducing admixture 3-inch maximum before addition of high range water reducing admixture. 8-inch maximum after addition of high range water reducing admixture
Coarse Aggregate	#57 per ASTM C33
Compressive strength at 28 days F'c -	5,500 psi
Air Content	3% ± 1 %

2. Class B Concrete (At locations shown on the Drawings or specified herein).

Minimum cementitious materials content, per cubic yard	517 lbs.
Maximum water-cementitious materials ratio, by weight	0.50
Slump, maximum	5 inches
Compressive strength at 28 days - F'c	3,000 psi
Coarse Aggregate	Pearock
Air Content	3% ± 1%

3. Class C Concrete (Sidewalks)

Minimum cementitious materials content, per cubic yard	500 lbs.
Maximum water-cementitious materials ratio, by weight	0.55
Slump, maximum	5 inches
Compressive strength at 28 days - F'c	3,000 psi
Compressive strength at 28 days – F'c (Sidewalk only)	2,500 psi

Coarse Aggregate	#57 per ASTM C33
Air Content	2 ½ % ± 5 ½ %

- C. All Class A concrete, unless noted otherwise on the Drawings, shall be air entrained concrete and contain the high range water-reducing admixture (superplasticizer). A water reducing admixture may be added to the mix at the Contractor's option.
- D. The mix proportions used shall be changed subject to the limitation specified herein, whenever such change is necessary or desirable to secure the required strength, density, workability, and surface finish and the Contractor shall be entitled to no additional compensation because of such changes.

1.05 CONSISTENCY

- A. The quantity of water entering into a batch of concrete shall be just sufficient, with a normal mixing period, to produce a concrete which can be worked properly into place without segregation, and which can be compacted by the vibratory methods herein specified to give the desired density, impermeability and smoothness of surface. The quantity of water shall be changed as necessary, with variations in the nature or moisture content of the aggregates, to maintain uniform production of a desired consistency. The consistency of the concrete in successive batches shall be determined by slump tests in accordance with ASTM C 143. Slumps shall be 4 inches ± 1 inch measured at the form. Slump with high range water reducers shall be 6 inches ± 1 inch at the form.

1.06 READY-MIXED CONCRETE

- A. Ready-mixed concrete shall be used meeting the requirements as to materials, batching, mixing, transporting, and placing as specified herein and in accordance with ASTM C 94.
- B. Ready-mixed concrete shall be delivered to the site of the work, and discharge shall be completed within one and one-half hour after the addition of the cement to the aggregates or before the drum has been revolved 250 revolutions, whichever is first. Upon delivery from the truck concrete temperature shall not exceed 90 degrees Fahrenheit.
- C. Truck mixers shall be equipped with electrically-actuated counters by which the number of revolutions of the drum or blades may be readily verified. The counter shall be of the resettable, recording type. The counters shall be actuated at the time of starting mixers at mixing speeds.
- D. Each batch of concrete shall be mixed in a truck mixer for not less than 70 revolutions of the drum or blades at the rate of rotation designated by the manufacturer of equipment. Additional mixing, if any, shall be at the speed designated by the manufacturer of the equipment as agitating speed. All materials including mixing water shall be in the mixer drum before actuating the revolution counter for determining the number of revolution of mixing.

PART 3 - EXECUTION

1.01 PROPORTIONING AND MIXING

- A. Proportioning of the concrete mix shall conform to the requirements of Chapter 3 "Proportioning" of ACI 301; provided, that the maximum slump for any concrete shall not exceed the limits specified in this Section of the Specifications.
- B. Mixing of concrete shall conform to the requirements of Chapter 7 of ACI 301 Specifications.
- C. Retempering of concrete or mortar which has partially hardened will not be permitted.

1.02 PREPARATION

- A. Earth surfaces shall be thoroughly wetted by sprinkling, prior to the placing of any concrete, and these surfaces shall be kept moist by frequent sprinkling up to the time of placing concrete thereon. A vapor barrier specified in Section 07190 entitled "Vapor Barrier" shall be placed. The surface shall be free from standing water, mud, and debris at the time of placing concrete.
- B. No concrete shall be placed until the reinforcement steel and formwork have been erected in a manner acceptable to the Engineer. The Contractor shall notify the Engineer not less than two working days prior to Concrete Placement, allowing one day for review and any corrective measures which are required.
- C. Joints in Concrete
 - 1. Concrete surfaces upon or against which concrete is to be placed shall be given a roughened surface for good bond and a bonding agent shall be placed.
 - 2. After the surfaces have been prepared all approximately horizontal construction joints shall be covered with a layer of mortar approximately one-inch thick. The mortar shall have the same proportions of cement and sand as the regular concrete mixture. The water-cement ratio of the mortar in place shall not exceed that of the concrete to be placed upon it, and the consistency of the mortar shall be suitable for placing and working in the manner hereinafter specified. The mortar shall be spread uniformly and shall be worked thoroughly into all irregularities of the surface. Wire brooms shall be used where possible to scrub the mortar into the surface. Concrete shall be placed immediately upon the fresh mortar.
- D. Placing Interruptions
 - 1. When placing of concrete is to be interrupted long enough for the concrete to take a set, the working face shall be given a shape by the use of forms or other means, that will secure proper union with subsequent work; provided that construction joints shall be made only where acceptable to the Engineer. Cold joints will be sufficient cause for rejection of the work.
- A. Embedded Items
 - 1. No concrete shall be placed until all formwork, installation of parts to be embedded, reinforcing steel, and preparation of surfaces involved in the placing have been completed and accepted by the Engineer at least four hours before placement of concrete. All surfaces of forms and embedded items that have

become encrusted with dried grout from concrete previously placed shall be cleaned of all such grout before the surrounding or adjacent concrete is placed.

2. All inserts or other embedded items shall conform to the requirements herein.
- B. All reinforcement, anchor bolts, sleeves, inserts, and similar items shall be set and secured in the forms where shown on the Drawings or by shop drawings and shall be acceptable to the Engineer before any concrete is placed. Accuracy of placement is the responsibility of the Contractor.
- G. All anchor bolts called for on the drawings shall be cast-in-place in the concrete. Drilled, impact, adhesive or other types of anchors shall not be substituted for anchor bolts unless otherwise shown on the Drawings. Anchor bolts shall conform to the requirements set forth in Section 05500 entitled "Miscellaneous Fabrications."
- H. Casting New Concrete Against Old
1. Where concrete is to be cast against old concrete (any concrete which is greater than 60 days of age), the surface of the old concrete shall be thoroughly cleaned and roughened by sand-blasting (exposing aggregate) to an amplitude of $\frac{1}{4}$ " prior to the application of an epoxy bonding agent.
- I. No concrete shall be placed in any structure until all water entering the space to be filled with concrete has been properly cut off or has been diverted by pipes, or other means, and carried out of the forms, clear of the work. No concrete shall be deposited underwater, except where shown on the Drawings to be placed by the tremie method, nor shall the Contractor allow still water to rise on any concrete until the concrete has attained its initial set. Water shall not be permitted to flow over the surface of any concrete in such manner and at such velocity as will injure the surface finish of the concrete. Pumping or other necessary dewatering operations for removing ground water, if required, will be subject to the review of the Engineer.
- J. Corrosion Protection
1. Pipe, conduit, dowels, and other ferrous items required to be embedded in concrete construction shall be so positioned and supported prior to placement of concrete that there will be a minimum of 2 inches clearance between said items and any part of the concrete reinforcement. Securing such items in position by wiring or welding them to the reinforcement will not be permitted.
 2. Openings for pipes, inserts for pipe hangers and brackets, and the setting of anchors shall, where practicable, be provided for during the placing of concrete.
 3. Anchor bolts shall be accurately set, and shall be maintained in position by templates while being embedded in concrete.

4. The surfaces of all metalwork to be in contact with concrete shall be thoroughly cleaned of all dirt, grease, loose scale and rust, grout, mortar, and other foreign substances immediately before the concrete is placed.

1.03 PLACING CONCRETE

- A. Placing of concrete shall conform to the applicable requirements of Chapter 8 of ACI 301 and the requirements of this Section.
- C. Non-Conforming Work or Materials
 1. Concrete which upon or before placing is found not to conform to the requirements specified herein shall be rejected and immediately removed from the Work. Concrete which is not placed in accordance with these Specifications, or which is of inferior quality, shall be removed and replaced by and at the expense of the Contractor.
- D. Unauthorized Placement
 1. No concrete shall be placed except in the presence of duly authorized representative of the Engineer. The Contractor shall notify the Engineer at least 24 hours in advance of placement of any concrete.
- E. Placement in Wall Forms
 1. Concrete shall not be dropped through reinforcement steel or into any deep form, whether reinforcement is present or not, causing separation of the coarse aggregate from the mortar on account of repeatedly hitting rods or the sides of the form as it falls, nor shall concrete be placed in any form in such a manner as to leave accumulation of mortar on the form surfaces above the placed concrete. In such cases, some means such as the use of hoppers and, if necessary, vertical ducts of canvas, rubber, or metal shall be used for placing concrete in the forms in a manner that it may reach the place of final deposit without separation. In no case shall the free fall of concrete exceed 4 feet below the ends of ducts, chutes, or buggies.
 2. Concrete shall be uniformly distributed during the process of depositing and in no case after depositing shall any portion be displaced in the forms more than 6 feet in horizontal direction. Concrete in forms shall be deposited in uniform horizontal layers not deeper than 2 feet; and care shall be taken to avoid inclined layers or inclined construction joints except where such are required for sloping members. Each layer shall be placed while the previous layer is still soft. The rate of placing concrete in forms shall not exceed 5 feet of vertical rise per hour.
- F. Casting New Concrete Against Old
 1. An epoxy adhesive bonding agent shall be applied to set surfaces of construction joints according to the manufacturer's written recommendations.

G. Conveyor Belts and Chutes

1. All ends of chutes, hopper gates, and all other points of concrete discharge throughout the Contractor's conveying, hoisting and placing system shall be so designed and arranged that concrete passing from them will not fall separated into whatever receptacle immediately receives it. Conveyor belts, if used, shall be of a type acceptable to the Engineer. Chutes longer than 50 feet will not be permitted. Minimum slopes of chutes shall be such that concrete of the specified consistency will readily flow in them. If a conveyor belt is used, it shall be wiped clean by a device operated in such a manner that none of the mortar adhering to the belt will be wasted. All conveyor belts and chutes shall be covered. Sufficient illumination shall be provided in the interior of all forms so that the concrete at the places of deposit is visible from the deck or runway.

H. Placement in Slabs

1. Concrete placed in sloping slabs shall proceed uniformly from the bottom of the slab to the top, for the full width of the pour. As the work progresses, the concrete shall be vibrated and carefully worked around the slab reinforcement, and the surface of the slab shall be screeded in an up-slope direction.

I. Temperature of Concrete

1. The temperature of concrete when it is being placed shall be not more than 90 degrees F. Concrete ingredients shall not be heated to a temperature higher than that necessary to keep the temperature of the mixed concrete, as placed, from falling below the specified minimum temperature. If concrete is placed when the weather is such that the temperature of the concrete would exceed 90 degrees Fahrenheit, the Contractor shall employ effective means, such as precooling of aggregates and mixing water using ice or placing at night, as necessary to maintain the temperature of the concrete, as it is placed, below 90 degrees F. The Contractor shall be entitled to no additional compensation on account of the foregoing requirements. During summer months concrete pours shall be scheduled in the morning or early part of the day when temperatures are cooler.

J. Pumping Equipment

1. Pumping equipment and procedures if used shall conform to the recommendations contained in the report of ACI Committee 304 on Placing Concrete by Pumping Methods, ACI 304.2R. The specified slump shall be measured at the point of discharge. The loss of slump in pumping shall not exceed 1-1/2 inches.

- K. The order of placing concrete in all parts of the work shall be acceptable to the Engineer. In order to minimize the effects of shrinkage, the concrete shall be placed in units as bounded by construction joints shown on the Drawings. The placing of units shall be done by placing alternate units in a manner such that each unit placed shall have cured at least

7 days before the contiguous unit or units are placed, except that the corner sections of vertical walls shall not be placed until the 2 adjacent wall panels have cured at least 14 days.

- L. The surface of the concrete shall be level whenever a run of concrete is stopped. To insure a level, straight joint on the exposed surface of walls, a wood strip at least 3/4-inch thick shall be tacked to the forms on these surfaces. The concrete shall be carried about 1/2-inch above the underside of the strip. About one hour after the concrete is placed, the strip shall be removed and any irregularities in the edge formed by the strip shall be leveled with a trowel and ailaitance shall be removed.
- M. As concrete is placed in the forms or in excavations, it shall be thoroughly settled and compacted, throughout the entire depth of the layer which is being consolidated, into a dense, homogeneous mass, filling all corners and angles, thoroughly embedding the reinforcement, eliminating rock pockets, and bringing only a slight excess of water to the exposed surface of concrete during placement. Vibrators shall be high speed power vibrators (8000 to 10,000 rpm) of an immersion type in sufficient number and with (at least one) standby units as required.
- N. Care shall be used in placing concrete around waterstops. The concrete shall be carefully worked by rodding and vibrating to make sure that all air and rock pockets have been eliminated. Where flat-strip type waterstops are placed horizontally, the concrete shall be worked under the waterstops by hand, making sure that all air and rock pockets have been eliminated. Concrete surrounding the waterstops shall be given additional vibration, over and above that used for adjacent concrete placement to assure complete embedment of the waterstops in the concrete.
- O. Concrete in walls shall be internally vibrated and at the same time, stirred, or worked with suitable appliances, tamping bars, shovels, or forked tools until it completely fills the forms or excavations and closes snugly against all surfaces. Subsequent layers of concrete shall not be placed until the layers previously placed have been worked thoroughly as specified. Vibrators shall be provided in sufficient numbers, with standby units as required, to accomplish the results herein specified within 15 minutes after concrete of the prescribed consistency is placed in the forms. The vibrating head shall be kept from contact with the surfaces of the forms. Care shall be taken not to vibrate concrete excessively or to work it in any manner that causes segregation of its constituents.

1.04 CONCRETE FINISHING

- A. Concrete finishes are specified in Section 03 35 0 entitled "Concrete Finishes".

1.05 CURING AND PROTECTION

- A. Curing is specified in Section 03 37 0 entitled "Concrete Curing".

1.06 PLACING CONCRETE UNDER PRESSURE (PUMPING)

- A. Where concrete is conveyed and placed by mechanically applied pressure, the equipment shall have the capacity for the operation. The operation of the pump shall be such that a continuous stream of concrete without air pockets is produced. To obtain the least line resistance, the layout of the pipeline system shall contain a minimum number of bends with no change in pipe size. If two sizes of pipe must be used, the smaller diameter should be used at the pump end and the larger at the discharge end. When pumping is completed, the concrete remaining in the pipelines, if it is to be used, shall be ejected in such a manner that there will be no contamination of the concrete or separation of the ingredients.
- B. No aluminum parts shall be in contact with the concrete during the entire placing of concrete under pressure at any time.
- C. Prior to placing concrete under pressure, the Contractor shall submit the concrete mix design together with test results from a recognized testing laboratory proving the proposed mix meets all requirements. In addition, at the Contractor's option, an actual pumping test under field conditions may be performed prior to use of the accepted mix. This test requires a duplication of anticipated site conditions from beginning to end. The batching and truck mixing shall be the same as will be used; the same pump and operator shall be present and the pipe and pipe layouts will reflect the maximum height and distance contemplated.
- D. If the pumped concrete does not produce satisfactory end results, the Contractor shall discontinue the Pumping operation and proceed with the placing of concrete using conventional methods.
- E. The pumping equipment must have two cylinders and be designed to operate with one cylinder only in case the other one is not functioning. In lieu of this requirement, the Contractor may have a standby pump on the site during pumping.
- F. The minimum diameter of the hose (conduits) shall be four inches.
- G. Pumping equipment and hoses (conduits) that are not functioning properly shall be replaced.

1.07 ORDER OF PLACING CONCRETE

- A. In order to minimize the effects of shrinkage, the concrete shall be placed in units as bounded by construction joints shown on the Drawings and maximum lengths as indicated on Drawings. The placing of units shall be done by placing alternate units in a manner such that each unit placed shall be have cured at least seven days before the contiguous unit or units are placed, except that the corner sections of vertical walls shall not be placed until the two adjacent wall panels have cured at least 14 days.
- B. The surface of the concrete shall be level whenever a run of concrete is stopped.

1.08 DEFECTIVE CONCRETE

- A. As soon as forms are removed, all exposed surfaces shall be carefully examined and any irregularities shall be immediately rubbed or ground in a satisfactory manner in order to secure a smooth, uniform, and continuous surface. Plastering or coating of surfaces to be smoothed will not be permitted. No repairs shall be made until reviewed by the Engineer. In no case will extensive patching of honeycombed concrete be permitted. Concrete containing minor voids, holes, honeycombing, or similar depression defects shall have them repaired as specified herein. Concrete containing extensive voids, holes,

honeycombing, or similar depression defects, shall be completely removed and replaced. All repairs and replacements herein specified shall be promptly executed by the Contractor at its own expense.

- B. Defective surfaces to be repaired as specified in Article 3.06, Paragraph A of this Section, shall be cut back from true line a minimum depth of 1/2 inch over the entire area. Feathered edges will not be permitted. Where chipping or cutting tools are not required in order to deepen the area properly, the surface shall be prepared for bonding by the removal of all laitance or soft material, and not less than 1/32-inch depth of the surface film from all hard portions. The material used for repair proposed shall consist of a mixture of one sack of cement to 3 cubic feet of sand. For exposed walls, the cement shall contain such a proportion of Atlas white portland cement as is required to make the color of the patch match the color of the surrounding concrete.
- C. Holes left by tie-rod cones shall be repaired in an acceptable manner with dry-packed cement grout or premixed patching material as accepted by the Engineer.
- D. All repairs shall be built up and shaped in such a manner that the completed work will conform to the requirements of Article 3.04 or 3.06 of this Section, as applicable, using acceptable methods which will not disturb the bond, cause sagging, or cause horizontal fractures. Surfaces of said repairs shall receive the same kind and amount of curing treatment as required for the concrete in the repaired section.
- E. Prior to backfilling, all cracks that may have developed shall be "vee'd" and filled with sealant conforming to the requirements of Section 03290 entitled, " Joints in Concrete". This repair method shall be done on the faces of members in contact with fill.

1.09 CARE AND REPAIR OF CONCRETE

- A. The Contractor shall protect all concrete against injury or damage from excessive heat, lack of moisture, overstress, or any other cause until final acceptance by the Owner. Particular care shall be taken to prevent the drying of concrete and to avoid roughening or otherwise damaging the surface. Any concrete found to be damaged, or which may have been originally defective, or which becomes defective at any time prior to the final acceptance of the completed work, or which departs from the established line or grade, or which, for any other reason, does not conform to the requirements of the Contract Documents, shall be satisfactorily repaired or removed and replaced with acceptable concrete at the Contractor's expense.

1.10 CONCRETE SEALER

- A. Contractor shall apply to the top surface of all finished concrete floor slabs and equipment pads a sealer specified in Section 09850 entitled "Painting".

- End of Section

-- End of Section --

SECTION 03 35 00

CONCRETE FINISHING

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN CONCRETE INSTITUTE INTERNATIONAL (ACI)

ACI 301 (2010; ERTA 2015) Specifications for Structural Concrete

1.2 SUBMITTALS

CITY approval is required for submittals with a "G" designation; submittals not having a "G" designation are for [information only]. When used, a designation following the "G" designation identifies the office that will review the submittal for the CITY. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-06 Manufacturer's Instructions

Dry Shake Finish

1.3 QUALITY ASSURANCE

1.3.1 Field Test Panels

Construct field test panels prior to beginning of work using the materials and procedures proposed for use on the job, to demonstrate the results to be attained. The quality and appearance of each panel is subject to the approval of the Contracting Officer, and, if not judged satisfactory, construct additional panels until approval is attained. Formed or finished surfaces in the completed structure must match the quality and appearance of the approved field example.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 FINISHING FORMED SURFACES

Forms, form materials, and form construction are specified in Section 03 10 00 CAST-IN-PLACE CONCRETE FORMING. Finish formed surfaces as specified herein. Unless another type of

architectural or special finish is specified, leave surfaces with the texture imparted by the forms except that defective surfaces must be repaired.

Maintain uniform color of the concrete by use of only one mixture without changes in materials or proportions for any structure or portion of structure Class A finish. The form panels used to produce the finish must be orderly in arrangement, with joints between panels planned in approved relation to openings, building corners, and other architectural features.

Do not reuse forms if there is any evidence of surface wear or defects that would impair the quality of the surface.

3.1.1 Class A Finish

Class A finish is required on all visually exposed surfaces of the seawall cap. Formed surfaces meet the requirements of ACI 301, surface finish SF-3.0.

3.1.2 Class B Finish

Class B finish is required where concrete cap is not visible. Formed surfaces meet the requirements of ACI 301, surface finish SF-2.0.

3.1.3 Architectural and Special Finishes

Architectural concrete finishes are specified in Section 03 33 00 CAST-IN-PLACE ARCHITECTURAL CONCRETE. Conform special finishes to the requirements specified herein.

3.1.3.1 Smooth Finish

After other concrete construction is complete in each overall separate contiguous area of the structure, apply smooth finish to the areas indicated. Use a mortar mix consisting of one part portland cement and two parts well-graded sand passing a No. 30 sieve, with water added to give the consistency of thick paint. Where the finished surface will not receive other applied surface, use white cement to replace part of the job cement to produce an approved color, which must be uniform throughout the surfaces of the structure. After the surface has been thoroughly wetted and allowed to approach surface dryness, vigorously apply the mortar to the area by clean burlap pads or by cork or wood-floating, to completely fill all surface voids. Scrape off excess grout with a trowel. As soon as it can be accomplished without pulling the mortar from the voids, rub the area with burlap pads having on their surface the same sand-cement mix specified above but without any mixing water, until all of the visible grout film is removed. Tightly stretch the burlap pads used for this operation around a board to prevent dishing the mortar in the voids. Complete the finish of any area in the same day, and make the limits of a finished area at natural breaks in the surface. Continuously moist cure the surface for 48 hours commencing immediately after finishing operations in each area. The temperature of the air adjacent to the surface must be not less than 50 degrees F for 24 hours prior to, and 48 hours after, the application. In hot, dry weather apply the smooth finish in shaded areas or at night, and never be apply when there is significant hot, dry wind.

3.1.3.2 Tooled Finish

Dress the thoroughly cured concrete at an approved age with approved electric, air, or hand tools to a uniform texture with a hand-tooled surface texture. The finish must be similar to and closely match the finish on the approved preconstruction test panel.

3.2 REPAIRS

Repair in accordance with ACI 301, Section 5.

3.3 FINISHING UNFORMED SURFACES

The finish of all unformed surfaces must meet the requirements of 03 31 29 Marine Concrete, when tested as specified herein.

3.3.1 General

The ambient temperature of spaces adjacent to unformed surfaces being finished and of the base on which concrete will be placed must not be less than 50 degrees F. Float finish unformed surfaces that are not to be covered by additional concrete or backfill, with additional finishing as specified below, and true to the elevation indicated. Bring surfaces to receive additional concrete or backfill to the elevation indicated, properly consolidate, and leave true and regular. Unless otherwise indicated, evenly slope exterior surfaces for drainage. Where drains are provided, evenly slope interior floors to the drains. Carefully make joints with a jointing or edging tool. Protect the finished surfaces from stains or abrasions. Grate tampers or "jitterbugs" cannot be used for any surfaces. The dusting of surfaces with dry cement or other materials or the addition of any water during finishing is not be permitted. If bleedwater is present prior to finishing, carefully drag off the excess water or remove by absorption with porous materials such as burlap. During finishing operations, take extreme care to prevent over finishing or working water into the surface; this can cause "crazing" (surface shrinkage cracks which appear after hardening) of the surface. Remove and replace any slabs with surfaces which exhibit significant crazing. During finishing operations, check surfaces with a 10 foot straightedge, applied in both directions at regular intervals while the concrete is still plastic, to detect high or low areas.

3.3.2 Trowel Finish

In accordance with ACI 301, Section 5.

3.3.3 Non-Slip Finish

Construct non-slip floors in accordance with ACI 301, Section 5.

-- End of Section --

SECTION 05 14 00.13

WELDING STRUCTURAL ALUMINUM FRAMING

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN WELDING SOCIETY (AWS)

AWS D1.2/D1.2M (2014) Structural Welding Code - Aluminum

AWS Z49.1 (2012) Safety in Welding and Cutting and
Allied Processes

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 51B (2014) Standard for Fire Prevention During
Welding, Cutting, and Other Hot Work

1.2 DEFINITIONS

Establish levels of fabrication using the following classifications:

1.2.1 Class B Fabrication

Class B fabrication includes complete and partial penetration groove weld joints and fillet weld joints, and applies to those welds where failure would reduce the overall efficiency of the system but loss of system or hazard to personnel would not be experienced.

1.3 ADMINISTRATIVE REQUIREMENTS

1.3.1 Pre-Installation Meetings

Within 30 days of Contract Award, submit an operating safety plan to the CITY indicating all work will conform to the requirements of AWS Z49.1, Annex 'J' of AWS D1.2/D1.2M, and NFPA 51B.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 EXAMINATION

Perform pre-weld inspection of all components. Report in writing all deficiencies or discrepancies to the CITY. Commencement of welding procedures validates Contractors acceptance of existing conditions.

3.2 PREPARATION

3.2.1 Protection

Protect all adjacent surfaces and equipment prior to commencement of welding work, in conformance with NFPA 51B and approved Operating Safety Plan.

3.2.2 Surface Preparation

Prepare all surfaces to be welded in conformance with AWS D1.2/D1.2M.

3.2.3 Welding Equipment

Provide all welding equipment, electrodes, welding wire, fluxes, preparatory tools and equipment, and any other accessories required to perform the work.

3.2.4 Heat Input Requirements

3.2.4.1 Preheat

Do not weld at an ambient temperature below 32 degrees F, or when the surfaces are wet or exposed to rain, snow, or high wind. Verify that the minimum temperature of the metals in the area of welding is 50 degrees F. When the ambient conditions are such that the normal temperature of the base metal is below 50 degrees F, preheat the area surrounding the joint to provide a base metal temperature of 100 degrees F for a distance of at least 3 inch in all directions from the joint to be welded.

3.2.4.2 Interpass

In a multipass weld, ensure the interpass temperature is the temperature of the weld metal before the next pass is started.

3.2.4.3 Postweld

Postweld heat treatment of weldments is prohibited unless noted in the applicable qualified/certified welding documentation.

3.3 FIELD QUALITY CONTROL

3.3.1 Class B Fabrication

Fabricate weldment in accordance with the requirements of applicable section of AWS D1.2/D1.2M.

3.3.2 Inspection/Nondestructive Examination (NDE)

3.3.2.1 Inspection

Perform fabrication/erection inspection to ensure that materials and workmanship meet the minimum requirements of the contract documents.

Final acceptance of all welded joints will be by the CITY.

Repair all unacceptable welds and make ready for CITY reinspection at no additional cost to the CITY.

After weld joints have been satisfactorily completed and accepted by the CITY, clean the joint area to a bright, unpitted, and unscarred surface and protect in accordance with the applicable contract documents.

3.3.2.2 Methods of Non-Destructive Examination (NDE)

Perform NDE examination/inspection of structural aluminum weldments in accordance with AWS D1.2/D1.2M.

- End of Section -

SECTION 06 13 33

PIER TIMBERWORK

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN WOOD PROTECTION ASSOCIATION (AWPA)

AWPA M4	(2015) Standard for the Care of Preservative-Treated Wood Products
AWPA M6	(2013) Brands Used on Preservative Treated Materials
AWPA P5	(2015) Standard for Waterborne Preservatives
AWPA U1	(2015) Use Category System: User Specification for Treated Wood

ASTM INTERNATIONAL (ASTM)

ASTM A123/A123M	(2013) Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A153/A153M	(2016) Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A307	(2014) Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength

U.S. DEPARTMENT OF DEFENSE (DOD)

MIL-P-21035	(1991; Rev B; Notice 2 2003) Paint, High Zinc Dust Content, Galvanizing Repair (Metric)
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U.S. GENERAL SERVICES ADMINISTRATION (GSA)

FS RR-W-410	(Rev H) Wire Rope and Strand
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1.2 SUBMITTALS

CITY approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation

identifies the office that will review the submittal for the CITY. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

- Pier timberwork
- Submit drawings of treated timber showing dimensions of cut, framed, or bored timbers.

1.3 DELIVERY AND STORAGE

Open-stack untreated timber and lumber material on skids at least 12 inches aboveground, in a manner that will prevent warping and allow shedding of water. Close-stack treated timber and lumber material in a manner that will prevent long timbers or pre-framed material from sagging or becoming crooked. Keep ground under and within 5 feet of such piles free of weeds, rubbish, and combustible materials. Protect materials from weather. Handle treated timber with ropes or chain slings without dropping, breaking outer fibers, bruising, or penetrating surface with tools. Do not use can't dogs, peaveys, hooks, or pike poles. Protect timber and hardware from damage.

1.4 QUALITY ASSURANCE

1.4.1 MSDS and CIS

Provide Material Safety Data Sheets (MSDS) and Consumer Information Sheets (CIS) associated with timber pile preservative treatment. Contractor shall comply with all safety precautions indicated on MSDS and CIS.

1.4.2 Timber Preservative Inspection

Submit the inspection report of an independent inspection agency, for approval by the CITY that offered products complying with applicable AWPAs Standards. Identify treatment on each piece by the quality mark of an agency accredited by the Board of Review of the American Lumber Standard Committee.

1.4.3 Delivery Inspection List

Field inspect and submit a verification list of each treated timber member and each strapped bundle of treated lumber indicating the wording and lettering of the quality control markings, the species and the condition of the wood. Do not incorporate materials damaged in transport from plant to site. Inspect all preservative-treated wood, visually to ensure there are no excessive residual materials or preservative deposits. Material shall be clean and dry or it will be rejected due to environmental concerns.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Lumber and Timbers

2.1.1.1 Solid Sawn

Provide solid sawn lumber and timbers of stress-rated Southern Pine or Douglas Fir-Larch, with a stress rating as indicated, and identified by the grade mark of a recognized association or independent inspection agency using the specific grading requirements of an association recognized as covering the species used. The association or independent inspection agency shall be certified by the Board of Review, American Lumber Standards Committee, to grade the species used. Use commercial grade lumber for secondary members such as decking, joists and railings.

2.1.1.2 Preservative Treatment

Fabricate lumber and timbers before preservative treatment. Each piece of treated lumber or timber shall be branded, by the producer, in accordance with AWWA M6. Treat wood to be used in contact with salt water or salt water splash in accordance with AWWA U1 (Material Subject to Marine Borer Exposure) with water-borne preservative. For wood not in contact with salt water or salt water splash, treatment shall be in accordance with AWWA U1 (For Above Ground, Soil Contact or Fresh Water Use) with water-borne preservative (AWWA P5) except that chromated zinc chlorides, pentachlorophenol-ammoniacal systems, and alkyl ammonium compounds will not be allowed. The Contractor shall be responsible for the quality of treated wood products.

2.1.2 Hardware

Stainless Steel hardware only.

Bolts with necessary nuts and washers, timber connectors, drift pins, dowels, nails, screws, spikes, and other fastenings. Bolts and nuts shall conform to ASTM A307. Provide stainless steel ogee washers, or stainless steel plate or cut washers where indicated. Provide bolts with washers under nut and head. Provide timber connectors and other metal fastenings of type and size shown.

2.1.2.1 Wire Rope and Fittings

Not Used.

2.1.2.2 Zinc-Coating

Not Used. Stainless Steel hardware only. Aluminum gate repairs to remain like kind.

PART 3 EXECUTION

3.1 CONSTRUCTION

Cut, bevel, and face timbers prior to plant preservative treatment. In addition to the contract clause entitled "Accident Prevention" provide protective equipment for personnel fabricating, field treating, or handling materials treated with creosote or water-borne salts. Refer to paragraph entitled "MSDS and CIS."

3.1.1 Framing

Cut and frame lumber and timber so that joints will fit over contact surface. Secure timbers and piles in alignment. Open joints are unacceptable. Shimming is not allowed. Bore holes for drift pins and dowels with a bit 1/16 inch less in diameter than the pin or dowel. Bore holes for truss rods or bolts with a bit 1/16 inch larger in diameter than rod or bolt. Bore holes for lag screws in two parts. Make lead hole for shank the same diameter as shank. Make lead hole for the threaded portion approximately two-thirds of the shank diameter. Bore holes in small timbers for boat or wire spikes with a bit of the same diameter or smallest dimension of the spike to prevent splitting. Counterbore for countersinking wherever smooth faces are indicated or specified.

3.1.2 Fender Systems

Face fender piles to receive chocks. Use only full-length timbers for chocks and tightly fit against fender piles. Face fender piles to provide a flat bearing against wales. Splice wales in location in a manner as existing. Additional splicing of wales will not be permitted. Bevel tops of fender piles outboard as indicated. Wrap pile clusters with wire rope. Fasten wire rope with clips and staples.

3.1.3 Bulkheads

Make timber bulkheads at land end of pier of height and width indicated. Provide special anchorage such as bulkhead piles or dead-men, as indicated.

3.1.4 Framed Bents

3.1.4.1 Footings

Bed mudsills to bearing and tamp in place. Finish concrete pedestals for support of framed bents so that the sills will have even bearing.

3.1.4.2 Posts and Timbers

Provide even bearing for sills on mudsills, piles, or pedestals. Drift bolt sills to mudsills, piles, or pedestals with bolts of at least 1 inch [the indicated] diameter that extend into mudsills, piles, or pedestals at least 6 inches. Cast dowels or bolts into concrete pedestals. When indicated, remove earth from contact with sills to provide for free air circulation. Saw posts for framed bents to proper length (vertical or batter) and provide even bearing on pedestals or sills. Fasten posts to sills with dowels of at least 1 inch [the indicated] diameter extending at least 6 inches into posts.

3.1.5 Bracing

Align bents before bracing is placed. Provide bracing of sufficient length to provide a minimum distance of 8 inches between outside bolt and end of brace. Bracing and girts shall bear firmly against piles or timber to which secured. Place fillers to avoid bending the bracing more than 1 inch out of line when bracing bolts or other fastenings are drawn up tight. Built-up fillers will not be permitted. Make filler a single piece of the same treated lumber as that in the brace, with a width of at least 6

inches and a length of at least 12 inches. Bolt ends of bracing through pile, post, or cap with a bolt of at least 1 inch diameter. Bolt or boat spike intermediate intersections as indicated.

3.1.6 Caps

Prior to placing caps, prepare tops of posts or piles according to paragraphs entitled, "Field Treatment." Place timber caps to secure bearing over tops of supporting posts or piles and to secure even alignment of their ends. Secure caps by drift bolts of at least one inch [the indicated] diameter extending at least 9 inches into posts or piles. Place drift bolts in the center of pile or post.

3.1.7 Stringers

Place crown up and, if possible, the better edge of deck stringers down. Tops of stringers shall not vary from a plane more than will permit bearing of the floor on stringers. Butt-joint and splice outside stringers, but lap interior stringers to take bearing over full width of cap or floor beam at each end. Break joints if stringers cover two spans. Toenail or drift bolt stringers as indicated. Stringers may be of sufficient length to cover two spans, except on sharp horizontal curves. Between stringers, frame and toenail cross-bridging or solid-bridging at each end with at least two nails for cross-bridging and four nails for solid-bridging. Make size and spacing of bridging as indicated.

3.1.8 Decking

Make decking of a single thickness of plank supported by stringers or joists. Unless otherwise indicated, lay plank with heart side down and with tight joints. Spike each plank to each joist or nailing strip with at least two spikes. Provide spikes at least 4 inches greater than the thickness of plank. Place spikes at least 2-1/2 inches from edges of the plank. Cut ends of planks parallel to center line of pier. Grade planks as to thickness and lay so that adjacent planks vary less than 1/16 inch.

3.1.9 Wheel Guard and Railing

Lay wheel guards in sections at least 12 feet long; bolt through floor plank and through outside stringer or nailing piece with 3/4 inch bolts spaced 4 feet or less apart. Bevel wheel guards on pier side as shown. Provide wheel guard material surfaced on four sides (S4S) on the top edge and pier side. Provide surfaced (S4S) material for railings.

3.1.10 Fastening

Use stainless steel fasteners only. Vertical bolts shall have nuts on the lower end. Where bolts are used to fasten timber to timber, timber to concrete, or timber to steel, bolt members together when they are installed and retighten immediately prior to final acceptance of contract. Provide bolts having sufficient additional threading to provide at least 3/8 inch per foot thickness of timber for future retightening. Provide timber connectors of types indicated. Install split-ring and shear-plate connectors in pre-cut grooves of the dimensions as recommended by the manufacturer. Force toothed-ring and spike-grid connectors and clamping plates into the contact surfaces of timbers joined by means of proper pressure tools; at joints, embed connectors of these types simultaneously and uniformly.

3.1.11 Wrapping Pile Clusters and Dolphins

Fasten ends of wire rope with stainless steel clips or clamps. Draw piles together, and bear on adjacent piles and structure as shown. Provide and draw uptight through bolts before wrapping is finally secured. Attach wire rope to piles as indicated.

3.2 FIELD TREATMENT

3.2.1 Timberwork

Field treat cuts, bevels, notches, refacing and abrasions made in the field in treated piles or timbers in accordance with AWWA M4, MSDS and CIS. Wood preservatives are restricted use pesticides and shall be applied according to applicable standards. Trim cuts and abrasions before field treatment. Paint depressions or openings around bolt holes, joints, or gaps including recesses formed by counterboring, with preservative treatment used for piles or timber; and after bolt or screw is in place, fill with hot pitch or a bitumastic compound.

3.2.2 Piling and Post Protection

In accordance with AWWA M4, immediately after pile or post tops are cut off and prior to placement of pile cap, protect pile or post top with several heavy applications of the same preservative used to treat the pile or post, or else copper naphthenate solutions containing a minimum of 2 percent copper metal may be used with treated products. Seal ends with a heavy application of coal-tar pitch or other appropriate sealer.

3.2.3 Galvanized Surfaces

Repair and recoat zinc coating which has been field or shop cut, burned by welding, abraded, or otherwise damaged to such an extent as to expose the base metal. Thoroughly clean the damaged area by wire brushing and remove traces of welding flux and loose or cracked zinc coating prior to painting. Paint cleaned area with two coats of zinc oxide-zinc dust paint conforming to MIL-P-21035. Compound paint with a suitable vehicle in a ratio of one part zinc oxide to four parts zinc dust by weight.

-- End of Section --

SECTION 26 00 00

BASIC ELECTRICAL MATERIALS AND METHODS

07/06

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D709 (2013) Laminated Thermosetting Materials

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE 100 (2000; Archived) The Authoritative Dictionary of IEEE Standards Terms

IEEE C2 (2012; Errata 1 2012; INT 1-4 2012; Errata 2 2013; INT 5-7 2013; INT 8-10 2014; INT 11 2015) National Electrical Safety Code

IEEE C57.12.28 (2014) Standard for Pad-Mounted Equipment - Enclosure Integrity

IEEE C57.12.29 (2014) Standard for Pad-Mounted Equipment - Enclosure Integrity for Coastal Environments

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA 250 (2014) Enclosures for Electrical Equipment (1000 Volts Maximum)

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70 (2014; AMD 1 2013; Errata 1 2013; AMD 2 2013; Errata 2 2013; AMD 3 2014; Errata 3-4 2014; AMD 4-6 2014) National Electrical Code

1.2 RELATED REQUIREMENTS

This section applies to certain sections of Division 02, EXISTING CONDITIONS. This section applies to existing electrical connections providing power to the five excising dock facilities along the NOAA seawall.

1.3 DEFINITIONS

- a. Unless otherwise specified or indicated, electrical and electronics terms used in these specifications, and on the drawings, shall be as defined in IEEE 100.
- b. The technical sections referred to herein are those specification sections that describe products, installation procedures, and equipment operations and that refer to this section for detailed description of submittal types.
- c. The technical paragraphs referred to herein are those paragraphs in PART 2 - PRODUCTS and PART 3 - EXECUTION of the technical sections that describe products, systems, installation procedures, equipment, and test methods.

1.4 ELECTRICAL CHARACTERISTICS

This section will require field verification to match existing characteristics. Final connections to the power distribution system at the existing hand hole or drop box shall be made by the Contractor as directed by the CITY.

1.5 SUBMITTALS INFORMATION

Submittals required in other sections that refer to this section must conform to the following additional requirements as applicable.

1.5.1 Shop Drawings (SD-02); G

Include wiring diagrams and installation details of equipment indicating proposed location, layout and arrangement, control panels, accessories, piping, ductwork, and other items that must be shown to ensure a coordinated installation. Wiring diagrams shall identify circuit terminals and indicate the internal wiring for each item of equipment and the interconnection between each item of equipment. Drawings shall indicate adequate clearance for operation, maintenance, and replacement of operating equipment devices.

1.5.2 Product Data (SD-03)

Not Used.

1.6 QUALITY ASSURANCE

1.6.1 Regulatory Requirements

In each of the publications referred to herein, consider the advisory provisions to be mandatory, as though the word, "shall" had been substituted for "should" wherever it appears. Interpret references in these publications to the "authority having jurisdiction," or words of similar meaning, to mean the CITY. Equipment, materials, installation, and workmanship shall be in accordance with the mandatory and advisory provisions of NFPA 70 unless more stringent requirements are specified or indicated.

1.6.2 Standard Products

Provide materials and equipment that are products of manufacturers regularly engaged in the production of such products which are of equal material, design and workmanship. Products shall have been in satisfactory commercial or industrial use for 2 years prior to bid opening. The 2-year period shall include applications of equipment and materials under similar circumstances and of similar size. The product shall have been on sale on the commercial market through advertisements, manufacturers' catalogs, or brochures during the 2-year period. Where two or more items of the same class of equipment are required, these items shall be products of a single manufacturer; however, the component parts of the item need not be the products of the same manufacturer unless stated in the technical section.

1.6.2.1 Alternative Qualifications

Products having less than a 2-year field service record will be acceptable if a certified record of satisfactory field operation for not less than 6000 hours, exclusive of the manufacturers' factory or laboratory tests, is furnished.

1.6.2.2 Material and Equipment Manufacturing Date

Products manufactured more than 3 years prior to date of delivery to site shall not be used, unless specified otherwise.

1.7 WARRANTY

The equipment items shall be supported by service organizations which are reasonably convenient to the equipment installation in order to render satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract.

1.8 POSTED OPERATING INSTRUCTIONS

Not Used. Operation of existing facility to be the same after construction as it was before.

1.9 MANUFACTURER'S NAMEPLATE

Not Used.

1.10 FIELD FABRICATED NAMEPLATES

Not Used.

1.11 WARNING SIGNS

Not Used.

1.12 ELECTRICAL REQUIREMENTS

Electrical installations shall conform to IEEE C2, NFPA 70, and requirements specified herein.

1.13 INSTRUCTION TO CITY PERSONNEL

Confirmation of operation shall be provided to designated NOAA personnel. Instruction shall be given during the first regular work week after the equipment or system has been accepted and turned over to the CITY/NOAA for regular operation.

PART 2 PRODUCTS

2.1 FACTORY APPLIED FINISH

Electrical equipment shall have factory-applied painting systems which shall, as a minimum, meet the requirements of NEMA 250 corrosion-resistance test.

PART 3 EXECUTION

Not Used.

-- End of Section --

SECTION 31 23 00

EXCAVATION AND FILL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM C136/C136M	(2014) Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C33/C33M	(2013) Standard Specification for Concrete Aggregates
ASTM D1140	(2014) Amount of Material in Soils Finer than the No. 200 (75-micrometer) Sieve
ASTM D1556/D1556M	(2015; E 2016) Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method
ASTM D1557	(2012; E 2015) Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft ³) (2700 kN-m/m ³)
ASTM D1883	(2014) CBR (California Bearing Ratio) of Laboratory-Compacted Soils
ASTM D2487	(2011) Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D4318	(2010; E 2014) Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4759	(2011) Determining the Specification Conformance of Geosynthetics
ASTM D5084	(2010) Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter
ASTM D6938	(2015) Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
ASTM D698	(2012; E 2014; E 2015) Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/cu. ft. (600 kN-m/cu. m.))

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA SW-846.3-3	(1999, Third Edition, Update III-A) Test Methods for Evaluating Solid Waste: Physical/Chemical Methods
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1.2 DEFINITIONS

1.2.1 Capillary Water Barrier

A layer of clean, poorly graded crushed rock, stone, or natural sand or gravel having a high porosity which is placed between the existing and proposed bulkheads without a vapor barrier to cut off the capillary flow of pore water to the area near the mudline or through the wall weep holes or knuckles.

1.2.2 Degree of Compaction

Degree of compaction is expressed as a percentage of the maximum density obtained by the test procedure presented in [ASTM D698][ASTM D1557], for general soil types, abbreviated as percent laboratory maximum density.

1.2.3 Hard Materials

Weathered rock, dense consolidated deposits, or conglomerate materials which are not included in the definition of "rock" but which usually require the use of heavy excavation equipment, ripper teeth, or jack hammers for removal.

1.2.4 Rock

Solid homogeneous interlocking crystalline material with firmly cemented, laminated, or foliated masses or conglomerate deposits, neither of which can be removed without systematic drilling and blasting, drilling and the use of expansion jacks or feather wedges, or the use of backhoe-mounted pneumatic hole punchers or rock breakers; also large boulders, buried masonry, or concrete other than pavement exceeding 1/2 cubic yard in volume.

1.3 SUBMITTALS

CITY approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the CITY. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Shoring and Sheet piling Plan, Submit 15 days prior to starting work.

Copies of all supplier cut sheets and field test reports within 24 hours of the completion of the test.

1.4 DELIVERY, STORAGE, AND HANDLING

Perform in a manner to prevent contamination or segregation of materials.

1.5 CRITERIA FOR BIDDING

Base bids on the following criteria:

- a. Surface elevations are as indicated.
- b. Pipes or other artificial obstructions, except those indicated, will not be encountered.
- c. Ground water elevations indicated by the boring log were those existing at the time subsurface investigations were made and do not necessarily represent ground water elevation at the time of construction.
- d. Ground water elevation is 4-5 feet below existing surface elevation.
- e. Material character is indicated by the boring logs.
- f. Hard materials will be encountered in 100 percent of the excavations starting at the surface and continuing to full depth of drive below existing surface elevations.
- g. Suitable backfill in the quantities required is available from local suppliers on Rockland Key just north (east) of Key West.
- h. Blasting will not be permitted. Remove material in an approved manner.

1.6 REQUIREMENTS FOR OFF SITE SOIL

Not Used.

1.7 QUALITY ASSURANCE

1.7.1 Dewatering Work Plan

Not used.

1.7.2 Utilities

Movement of construction machinery and equipment over pipes and utilities during construction shall be at the Contractor's risk. Excavation made with power-driven equipment is not permitted within two feet of known CITY-owned utility or subsurface construction. For work immediately adjacent to or for excavations exposing a utility or other buried obstruction, excavate by hand. Start hand excavation on each side of the indicated obstruction and continue until the obstruction is uncovered or until clearance for the new grade is assured. Report damage to utility lines or subsurface construction immediately to the CITY.

PART 2 PRODUCTS

2.1 SOIL MATERIALS

2.1.1 Satisfactory Materials

Any materials classified by ASTM D2487 as GW, SW, SP, free of debris, roots, wood, scrap material, vegetation, refuse, soft unsound particles, and deleterious, or objectionable materials. Unless specified otherwise, the maximum particle diameter shall be specified by the engineer of record and shown on the plans for that location.

2.1.2 Unsatisfactory Materials

Materials which do not comply with the requirements for satisfactory materials. Unsatisfactory materials also include man-made fills, trash, refuse, construction debris, or backfills from previous construction. Unsatisfactory material also includes material classified as satisfactory which contains root and other organic matter, and stones larger than 3 inches. The CITY shall be notified of any contaminated materials.

2.1.3 Select Material

Provide materials classified as GW, GP, SW, SP, by ASTM D2487 where indicated. Coefficient of permeability shall be a minimum of 0.002 feet per minute when tested in accordance with ASTM D5084.

Bearing Ratio: At 0.1 inch penetration, the bearing ratio shall be determined in accordance with ASTM D1883 for a laboratory soaking period of not less than 4 days. The combined material shall conform to the following sieve analysis:]]

Sieve Size	Percent Passing by Weight
2 1/2 inches	100
No. 4	40 - 85
No. 10	20 - 80
No. 40	10 - 60
No. 200	5 - 25

2.2 POROUS FILL FOR CAPILLARY WATER BARRIER

Not Used.

2.3 BORROW

Obtain borrow materials required in excess of those furnished from excavations from sources outside of CITY property.

Obtain borrow materials required in excess of those furnished from excavations from sources outside of CITY property, except that borrow materials conforming to satisfactory material may be obtained from local suppliers. Dispose of materials from clearing and grubbing operations at the landfill indicated. If satisfactory borrow is used, strip top 12 inches of soil material and stockpile. After removal of borrow material, regrade borrow pit using stockpiled soil material to contours which will blend in with adjacent topography. Maximum side slopes shall be two horizontal to one vertical. Excavation and backfilling of borrow pit shall ensure proper drainage.

2.4 FILTER FABRIC

If the space between the existing wall and the proposed wall allows, provide a pervious sheet of polyester, nylon, glass or polypropylene filaments woven, spun bonded, fused, or otherwise manufactured into a nonraveling fabric with uniform thickness and strength. Fabric shall have the following manufacturer certified minimum average roll properties as determined by ASTM D4759:

PART 3 EXECUTION

3.1 PROTECTION

3.1.1 Drainage and Dewatering

Provide for the collection and disposal of surface and subsurface water encountered during construction.

3.1.1.1 Drainage

So that construction operations progress successfully, completely drain construction site during periods of construction to keep soil materials sufficiently dry. The Contractor shall establish/construct storm drainage features at the earliest stages of site development, and throughout construction grade the construction area to provide positive surface water runoff away from the construction activity and/or provide temporary drainage features and equipment as required to prevent erosion and undermining of existing seawall foundations and/or tie-back systems. When unsuitable working platforms for equipment operation and unsuitable soil support for subsequent construction features develop, remove unsuitable material and provide new soil material as specified herein. It is the responsibility of the Contractor to assess the soil and ground water conditions presented by the plans and specifications and to employ necessary measures to permit construction to proceed. Excavated slopes and backfill surfaces shall be protected to prevent erosion and sloughing. Excavation shall be performed so that the site, the area immediately surrounding the site, and the area affecting operations at the site shall be continually and effectively drained.

3.1.1.2 Dewatering

Groundwater flowing toward or into excavations shall be controlled to prevent sloughing of excavation slopes and walls, boils, uplift and heave in the excavation and to eliminate interference with orderly progress of construction. French drains, sumps, ditches or trenches will not be permitted within 3 feet of the foundation of any structure, except with specific written approval, and after specific contractual provisions for restoration of the foundation area have been made. Control measures shall be taken by the time the excavation reaches the water level in order to maintain the integrity of the in situ material. While the excavation is open, the water level shall be maintained continuously, at least 1 foot below the working level.

3.1.2 Underground Utilities

Location of the existing utilities indicated is approximate. The Contractor shall physically verify the location and elevation of the existing utilities indicated prior to starting construction. The Contractor

shall contact the "Sunshine 811 One-Call of Florida (www.sunshine811.com)" and or the local Public Works Department for assistance in locating existing utilities.

3.1.3 Machinery and Equipment

Movement of construction machinery and equipment over pipes during construction shall be at the Contractor's risk. Repair, or remove and provide new pipe for existing or newly installed pipe that has been displaced or damaged.

3.2 SURFACE PREPARATION

3.2.1 Clearing and Grubbing

Unless indicated otherwise, remove trees, stumps, logs, shrubs, brush and vegetation and other items that would interfere with construction operations within the clearing limits. Remove stumps entirely. Grub out matted roots and roots over 2 inches in diameter to at least 18 inches below existing surface.

3.2.2 Stripping

Strip suitable soil from the site where excavation or grading is indicated and stockpile separately from other excavated material.

3.2.3 Unsuitable Material

Remove vegetation, debris, decayed vegetable matter, sod, mulch, and rubbish underneath paved areas or concrete slabs.

3.3 EXCAVATION

Excavate to contours, elevation, and dimensions indicated. Reuse excavated materials that meet the specified requirements for the material type required at the intended location. This specifically applies to the areas excavated for tie-back installation. Keep excavations free from water. Excavate soil disturbed or weakened by Contractor's operations, soils softened or made unsuitable for subsequent construction due to exposure to weather. Excavations below indicated depths will not be permitted except to remove unsatisfactory material. Unsatisfactory material encountered below the grades shown shall be removed as directed. Refill with satisfactory material and compact to 95 percent of ASTM D698 maximum density. Unless specified otherwise, refill excavations cut below indicated depth with satisfactory material 95 percent of ASTM D698 maximum density. Satisfactory material removed below the depths indicated, without specific direction of the CITY, shall be replaced with satisfactory materials to the indicated excavation grade; except as specified for spread footings. Determination of elevations and measurements of approved overdepth excavation of unsatisfactory material below grades indicated shall be done under the direction of the CITY.

3.3.1 Tie-back Trenches

Excavate to the dimension indicated. Grade bottom of trenches to provide uniform support for each section of tie-back bedding placement. Tamp if necessary to provide a firm bed. Recesses shall be excavated to accommodate turnbuckles so that tie-backs will be uniformly supported for the entire length. Rock, where encountered, shall be excavated to a depth of at least 6 inches below the bottom of the tie-back.

3.3.2 Hard Material and Rock Excavation

Remove hard material and rock to elevations indicated in a manner that will leave foundation material in an unshattered and solid condition. Roughen level surfaces and cut sloped surfaces into benches for bond with concrete. Protect shale from conditions causing decomposition along joints or cleavage planes and other types of erosion. Removal of hard material and rock beyond lines and grades indicated will not be grounds for a claim for additional payment unless previously authorized by the CITY. Excavation of the material claimed as rock shall not be performed until the material has been cross sectioned by the Contractor and approved by the CITY. Common excavation shall consist of all excavation not classified as rock excavation.

3.3.3 Excavated Materials

Satisfactory excavated material required for fill or backfill shall be placed in the proper section of the permanent work required or shall be separately stockpiled if it cannot be readily placed. Satisfactory material in excess of that required for the permanent work and all unsatisfactory material shall be disposed of as specified in Paragraph "DISPOSITION OF SURPLUS MATERIAL."

3.3.4 Final Grade of Surfaces to Support Concrete

Excavation to final grade shall not be made until just before concrete is to be placed. For pile foundations, the excavation shall be stopped at an elevation 6 to 12 inches above the bottom of the footing before driving piles. After pile driving has been completed, the remainder of the excavation shall be completed to the elevations shown. Only excavation methods that will leave the foundation rock in a solid and unshattered condition shall be used. Approximately level surfaces shall be roughened, and sloped surfaces shall be cut as indicated into rough steps or benches to provide a satisfactory bond. Shales shall be protected from slaking and all surfaces shall be protected from erosion resulting from ponding or flow of water.

3.4 SUBGRADE PREPARATION

Unsatisfactory material in surfaces to receive fill or in excavated areas shall be removed and replaced with satisfactory materials as directed by the CITY. The surface shall be scarified to a depth of 6 inches before the fill is started. Sloped surfaces steeper than 1 vertical to 4 horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. When subgrades are less than the specified density, the ground surface shall be broken up to a minimum depth of 6 inches, pulverized, and compacted to the specified density. When the subgrade is part fill and part excavation or natural ground, the excavated or natural ground portion shall be scarified to a depth of 12 inches and compacted as specified for the adjacent fill. Material shall not be placed on surfaces that are muddy, frozen, or contain frost. Compaction shall be accomplished by sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, or other approved equipment well suited to the soil being compacted. Material shall be moistened or aerated as necessary to provide

the moisture content that will readily facilitate obtaining the specified compaction with the equipment used. Minimum subgrade density shall be as specified herein.

3.5 SUBGRADE FILTER FABRIC

Place synthetic fiber filter fabric as indicated directly on prepared subgrade free of vegetation, stumps, rocks larger than 2 inches diameter and other debris which may puncture or otherwise damage the fabric. Repair damaged fabric by placing an additional layer of fabric to cover the damaged area a minimum of 3 feet overlap in all directions. Overlap fabric at joints a minimum of 3 feet. Obtain approval of filter fabric installation before placing fill or backfill. Place fill or backfill on fabric in the direction of overlaps and compact as specified herein. Follow manufacturer's recommended installation procedures.

3.6 FILLING AND BACKFILLING

Fill and backfill to contours, elevations, and dimensions indicated. Compact each lift before placing overlying lift.

3.6.1 Common Fill Placement

Use satisfactory materials. Place in 6 inch lifts. Compact areas not accessible to rollers or compactors with mechanical hand tampers. Aerate material excessively moistened by rain to a satisfactory moisture content. Finish to a smooth surface by blading, rolling with a smooth roller, or both.

3.6.2 Backfill and Fill Material Placement

Provide for paved areas and under concrete slabs, except where select material is provided. Place in 6 inch lifts. Do not place over wet or frozen areas. Place backfill material adjacent to structures as the structural elements are completed and accepted. Backfill against concrete only when approved. Place and compact material to avoid loading upon or against the structure.

3.6.3 Select Material Placement

Provide under porous fill of structures not pile supported. Place in 6 inch lifts. Backfill adjacent to structures shall be placed as structural elements are completed and accepted. Backfill against concrete only when approved. Place and compact material to avoid loading upon or against structure.

3.6.4 Backfill and Fill Material Placement Over Conduit and at walls

Backfilling shall not begin until construction below finish grade has been approved, underground utilities systems have been inspected, tested and approved, forms removed, and the excavation cleaned of trash and debris. Backfill shall be brought to indicated finish grade and shall include backfill for outside grease interceptors and underground fuel tanks. Where pipe is coated or wrapped for protection against corrosion, the backfill material up to an elevation 2 feet above sewer lines and 1 foot above other utility lines shall be free from stones larger than 1 inch in any dimension. Heavy equipment for spreading and compacting backfill shall not be operated closer to foundation or

retaining walls than a distance equal to the height of backfill above the top of footing; the area remaining shall be compacted in layers not more than 4 inches in compacted thickness with power-driven hand tampers suitable for the material being compacted. Backfill shall be placed carefully around pipes or tanks to avoid damage to coatings, wrappings, or tanks. Backfill shall not be placed against foundation walls prior to 7 days after completion of the walls. As far as practicable, backfill shall be brought up evenly on each side of the wall and sloped to drain away from the wall.

3.6.5 Porous Fill Placement

Provide between existing and proposed seawall. Place in 4 inch lifts with a minimum of two passes of a hand plate-type compactor (as space allows).

3.6.6 Trench Backfilling

Backfill as rapidly as construction, testing, and acceptance of work permits. Place and compact backfill in 6 inch lifts to top of trench.

3.7 COMPACTION

Determine in-place density of existing subgrade; if required density exists, no compaction of existing subgrade will be required. Density requirements specified herein are for cohesionless materials. When cohesive materials are encountered or used, density requirements may be reduced by 5 percent.

3.7.1 General Site

Compact underneath areas designated for vegetation and areas outside the 5 foot line of the paved area or structure to 90percent of ASTM D698.

3.7.2 Structures, Spread Footings, and Concrete Slabs

Compact top 12 inches of subgrades to 95 percent of ASTM D698. Compact select material to 95 percent of ASTM D698.

3.7.3 Adjacent Area

Compact areas within 5 feet of structures to 90percent of ASTM D698.

3.8 FINISH OPERATIONS

3.8.1 Grading

Finish grades as indicated within one-tenth of one foot. Grade areas to drain water away from structures. Maintain areas free of trash and debris. For existing grades that will remain but which were disturbed by Contractor's operations, grade as directed.

3.8.2 Protection of Surfaces

Protect newly backfilled, graded, and/or topsoiled areas from traffic, erosion, and settlements that may occur. Repair or reestablish damaged grades, elevations, or slopes.

3.9 DISPOSITION OF SURPLUS MATERIAL

Remove from CITY property surplus or other soil material not required or suitable for filling or backfilling, and brush, refuse, stumps, roots, and timber.

3.10 FIELD QUALITY CONTROL

3.10.1 Sampling

Take the number and size of samples required to perform the following tests.

3.13.2 Testing

Perform one of each of the following tests for each material used. Provide additional tests for each source change.

3.13.2.1 Fill and Backfill Material Testing

Provide certifications from material supplier or test fill and backfill material in accordance with ASTM C136/C136M for conformance to ASTM D2487 gradation limits; ASTM D1140 for material finer than the No. 200 sieve; ASTM D4318 for liquid limit and for plastic limit; ASTM D698 or ASTM D1557 for moisture density relations, as applicable.

3.13.2.2 Select Material Testing

Provide certifications from the material supplier, or test select material in accordance with ASTM C136/C136M for conformance to ASTM D2487 gradation limits; ASTM D1140 for material finer than the No. 200 sieve; ASTM D698 or ASTM D1557 for moisture density relations, as applicable.

3.13.2.3 Porous Fill Testing

Test porous fill in accordance with ASTM C136/C136M for conformance to gradation specified in ASTM C33/C33M.

3.13.2.4 Density Tests

Test density in accordance with ASTM D1556/D1556M, or ASTM D6938.

-- End of Section --

SECTION 31 41 16

METAL SHEET PILING

08/09

PART 1 GENERAL

1.1 UNIT PRICES

1.1.1 Steel Sheet Piling, Grade 50, Type ASTM A690 (Marine Steel), minimum length of 35-feet, Cold Rolled as specified by the EOR. Contractor shall use a minimum length of 35-feet for his bid item and provide a line item to coat both sides of all sheets for the top 25 feet with minimum 16-Mil TARGUARD Coal Tar Epoxy. Final sheet selection may vary depending of final contractor/engineer design and will be selected by contractor's engineer of record.

1.1.1.1 Payment

Payment for sheet piling quantities will be lump sum for fully furnished and installed project wall. Payment will cover all cost of shipping, furnishing, handling, storing and installing piling including placing, driving, cutting holes and other materials and work incident thereto.

1.1.1.2 Measurement

Lump sum.

1.1.1.3 Unit of Measure

Unit of measure: lump sum.

1.1.2 Cut-Offs

1.1.2.1 Payment

When pilings which have not been driven to penetration depths shown are directed to be cut off, except for cut-offs due to excessive battering, no payment will be made for cutting off each piling.

1.1.2.2 Measurement

No payment will be made for cut-off portions of pilings.

1.1.2.3 Unit of Measure

Unit of measure: N/A.

1.1.3 Splices

1.1.3.1 Payment

Payment will be lump sum part of wall installation.

1.1.3.2 Measurement

Lump sum.

1.1.3.3 Unit of Measure

Unit of measure: each.

1.2 ESTIMATED QUANTITIES

The estimated quantities of sheet piling listed in the unit price schedule of the contract, as to be furnished by the Contractor, are given for bidding purposes only. Sheet piling quantities for payment will consist of the linear feet of piling acceptably installed. Installed quantities will consist of all piling including fabricated sections driven between the required top and bottom elevations of pilings plus any additions thereto resulting from changes in design or alignment as provided in paragraph DRIVING.

1.3 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1/D1.1M (2015; Errata 2015) Structural Welding Code - Steel

ASTM INTERNATIONAL (ASTM)

ASTM A6/A6M (2014) Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling
ASTM A690/A690M (2013a) Standard Specification for High-Strength Low-Alloy Nickel, Copper, Phosphorus Steel H-Piles and Sheet Piling with Atmospheric Corrosion Resistance for Use in Marine Environments

1.4 SUBMITTALS

CITY approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings
Metal Sheet Piling; G
SD-03 Product Data
Driving
Pile Driving Equipment; G
Pulling and Redriving; G
SD-08 Closeout Submittals
Pile Driving Record

1.5 QUALITY ASSURANCE

Not Used.

1.6 DELIVERY, STORAGE, AND HANDLING

Materials delivered to the site shall be new and undamaged and shall be accompanied by certified test reports. Provide the manufacturer's logo and mill identification mark on the sheet piling as required by the referenced specifications. Store and handle sheet piling in the manner recommended by the manufacturer to prevent permanent deflection, distortion or damage to the interlocks; as a minimum, support on level blocks or racks spaced not more than 10 feet apart and not more than 2 feet from the ends. Storage of sheet piling should also facilitate required inspection activities and prevent damage to coatings and corrosion prior to installation.

PART 2 PRODUCTS

2.1 METAL SHEET PILING

Submit detail drawings for sheet piling, including fabricated sections, showing complete piling dimensions and details, driving sequence and location of installed piling.

- a. Include in the drawings details of top protection, special reinforcing tips, tip protection, lagging, splices, fabricated additions to plain piles, cut-off method, corrosion protection, and dimensions of templates and other temporary guide structures for installing piling. Provide details of the method for handling piling to prevent permanent deflection, distortion or damage to piling interlocks.
- b. Metal sheet piling shall be Grade 50, Type ASTM A690/A690M cold-formed, epoxy coated with 16-mil coal tar epoxy on both sides for the full length of the sheet.

2.1.1 Interlocks

The interlocks of sheet piling shall be free-sliding, provide a swing angle suitable for the intended installation but not less than 5 degrees when interlocked, and maintain continuous interlocking when installed.

2.1.2 General Requirements

Sheet piling including special fabricated sections shall be full-length sections of the dimensions shown. Provide fabricated sections conforming to the requirement and the piling manufacturer's recommendations for fabricated sections. Fabricated tees, wyes and cross pieces shall be fabricated of piling sections with a minimum web thickness specified by the EOR. Provide sheet piling with standard pulling holes.

2.2 APPURTENANT METAL MATERIALS

Provide metal plates, shapes, bolts, nuts, rivets and other appurtenant fabrication and installation materials conforming to manufacturer's standards and to the requirements specified in the respective sheet piling standards.

2.3 TESTS, INSPECTIONS, AND VERIFICATIONS

Requirements for material tests, workmanship and other measures for quality assurance shall be as specified.

2.3.1 Materials Tests

Submit certified materials tests reports showing that sheet piling and appurtenant metal materials meet the specified requirements, for each shipment and identified with specific lots prior to installing materials. Material test reports shall meet the requirements of ASTM A6/A6M. Perform materials tests conforming to the following requirements. Sheet piling and appurtenant materials shall be tested and certified by the manufacturer to meet the specified chemical, mechanical and section property requirements prior to delivery to the site. Testing of sheet piling for mechanical properties shall be performed after the completion of all rolling and forming operations. Testing of sheet piling shall meet the requirements of ASTM A6/A6M.

PART 3 EXECUTION

3.1 EARTHWORK

Perform in accordance with Section 31 23 00 EXCAVATION AND FILL. Pre-excavation will not be permitted. Backfill as indicated.

3.2 INSTALLATION

3.2.1 Pile Driving Equipment

Submit complete descriptions of sheet piling driving equipment including hammers (and vibratory hammers), extractors, protection caps and other installation appurtenances, prior to commencement of work. Descriptive information includes manufacturer's name, model numbers, capacity, rated energy, hammer details, cushion material, helmet, and templates. Provide pile driving equipment conforming to the following requirements.

3.2.1.1 Driving Hammers

Hammers shall be steam, air, or diesel drop, single-acting, double-acting, differential-acting, or vibratory type. The driving energy of the hammers shall be selected by the contractor according to the sheet selection and as recommended by the manufacturer for the piling weights and subsurface materials to be encountered. Repair damage to piling caused by use of a pile hammer with excess delivered force or energy.

3.2.1.2 Jetting Equipment

Jetting will not be permitted.

3.2.2 Placing and Driving

3.2.2.1 Placing

Any excavation required within the area where sheet pilings are to be installed shall be completed prior to placing sheet pilings. Pilings properly placed and driven shall be interlocked throughout their length with adjacent pilings to form a continuous diaphragm throughout the length or run of piling wall.

- a. Pilings shall be carefully located as indicated. Pilings shall be placed plumb with out-of-plumbness not exceeding 1/4 inch per foot of length and true to line. Place the pile so the face will not be more than 6 inches from vertical alignment at any point. Top of pile at elevation of cut-off shall be within 1/2 inch horizontally and 2 inches vertically of the location indicated. Manipulation of piles to force them into position will not be permitted. Check all piles for heave. Re-drive all heaved piles to the required tip elevation.
- b. Provide temporary wales, templates, master pilings or guide structures to ensure that the pilings are placed and driven to the correct alignment. Use a system of structural framing sufficiently rigid to resist lateral and driving forces and to adequately support the sheet piling until design tip elevation is achieved. Use two templates, at least, when placing each piling not less than 20 feet apart. Templates shall not move when supporting sheet piling. Fit templates with wood blocking to bear against the web of each alternate sheet pile and hold the sheet pile at the design location alignment. Provide outer template straps or other restraints as necessary to prevent the sheets from warping or wandering from the alignment. Mark template for the location of the leading edge of each alternate sheet pile. If in view, also mark the second level to assure that the piles are vertical and in position. If two guide marks cannot be seen, other means shall be used to keep the sheet pile vertical along its leading edge.

3.2.2.2 Driving

Submit records of the completed sheet piling driving operations, including a system of identification which shows the disposition of approved piling in the work, driving equipment performance data, piling penetration rate data, piling dimensions and top and bottom elevations of installed piling. The format for driving records shall be as directed. Prior to driving pilings in water, paint a horizontal line on both sides of each piling at a fixed distance from the bottom so that it will be visible above the water line after installation. This line shall indicate the profile of the bottom elevation of installed pilings and potential problem areas can be identified by abrupt changes in its elevation. Drive pilings with the proper size hammer and by approved methods so as not to subject the pilings to damage and to ensure proper interlocking throughout their lengths.

- a. Maintain driving hammers in proper alignment during driving operations by use of leads or guides attached to the hammer. Caution shall be taken in the sustained use of vibratory hammers when a hard driving condition is encountered to avoid interlock-melt or damages. Discontinue the use of vibratory hammers and impact hammers employed when the penetration rate due to vibratory loading is one foot or less per minute.
- b. Employ a protecting cap in driving when using impact hammers to prevent damage to the tops of pilings. Remove and replace pilings damaged during driving or driven out of interlock at the Contractor's expense.

- c. Drive pilings without the aid of a water jet. Before commencing the driving of the final 5 feet, firmly seat the pile in place by the application of a number of reduced energy hammer blows.
- d. Take adequate precautions to ensure that pilings are driven plumb. Where possible, drive Z-pile with the ball end leading. If an open socket is leading, a bolt or similar object placed in the bottom of the interlock will minimize packing material into it and ease driving for the next sheet. If at any time the forward or leading edge of the piling wall is found to be out-of-plumb in the plane of the wall the piling being driven shall be driven to the required depth and tapered pilings shall be provided and driven to interlock with the out-of-plumb leading edge or other approved corrective measures shall be taken to insure the plumbness of succeeding pilings. The maximum permissible taper for any tapered piling shall be 1/8 inch per foot of length.
- e. Pilings in each run or continuous length of piling wall shall be driven alternately in increments of depth to the required depth or elevation. No piling shall be driven to a lower elevation than those behind it in the same run except when the pilings behind it cannot be driven deeper. Incrementally sequence driving of individual piles such that the tip of any sheet pile shall not be more than 4 feet below that of any adjacent sheet pile. When the penetration resistance exceeds five blows per inch, the tip of any sheet pile shall not be more than 2 feet below any adjacent sheet pile. If the piling next to the one being driven tends to follow below final elevation it may be pinned to the next adjacent piling.
- f. If obstructions restrict driving a piling to the specified penetration, the obstructions shall be removed or penetrated with a chisel beam. If the Contractor demonstrates that removal or penetration is impractical, make changes in the design alignment of the piling structure as directed to ensure the adequacy and stability of the structure. Pilings shall be driven to depths shown and shall extend up to the elevation indicated for the top of pilings. Piling driven to rock shall be seated individually on the rock. Pilings shall not be driven within 100 feet of concrete less than 7 days old.
- g. Pre-augering or spudding may be permitted if slopes cause the sheets to slide or as required by the EOR.

3.2.3 Cutting-Off and Splicing

Pilings driven to refusal or to the point where additional penetration cannot be attained and are extending above the required top elevation in excess of the specified tolerance shall be cut off to the required elevation. Pilings driven below the required top elevation and pilings damaged by driving and cut off to permit further driving shall be extended as required to reach the top elevation by splicing when directed at no additional cost to the CITY.

- a. Pilings adjoining spliced pilings shall be full length unless otherwise approved. Splicing of pilings shall be as indicated. Ends of pilings to be spliced shall be squared before splicing to eliminate dips or camber. Pilings shall be spliced together with concentric alignment of the interlocks so that there are no discontinuities, dips or camber at the abutting interlocks. Spliced pilings shall be free sliding and able to obtain the maximum swing with contiguous pilings. Shop and field welding, qualification of welding procedures, welders, and welding operators shall be in accordance with AWS D1.1/D1.1M.

- b. The tops of pilings excessively battered during driving shall be trimmed when directed, at no cost to the CITY. Piling cut-offs shall become the property of the Contractor and shall be removed from the site.
- c. Cut holes in pilings for bolts, rods, drains or utilities in a neat and workmanlike manner, as shown or as directed. Use a straight edge in cuts made by burning to avoid abrupt nicks. Bolt holes in steel piling shall be drilled or may be burned and reamed by approved methods which will not damage the surrounding metal. Holes other than bolt holes shall be reasonably smooth and the proper size for rods and other items to be inserted. All holes in steel pilings on the wet side of cofferdams shall be made watertight by welding steel plates over the holes after the piling installation is completed. Do not use explosives for cutting.

3.2.4 Inspection of Driven Piling

Perform continuous inspection during pile driving. Inspect all piles for compliance with tolerance requirements. Bring any unusual problems which may occur to the attention of the CITY. Inspect the interlocked joints of driven pilings extending above ground. Pilings found to be out of interlock shall be removed and replaced at the Contractor's expense. Use divers or pole mounted camera to inspect underwater interlocked joints of cofferdam sheet piling. CITY divers may also inspect the interlocked joints. The inspection of cofferdams shall be performed after driving is completed, prior to filling each cell and connecting arc, and within 48 hours after filling each cell and arc.

3.2.5 Pulling and Redriving

Submit the proposed method of pulling sheet piling, prior to pulling any piling. Pull, as directed, selected pilings after driving to determine the condition of the underground portions of pilings. Any piling so pulled and found to be damaged, to the extent that its usefulness in the structure is impaired, shall be removed and replaced at the Contractor's expense. Pilings pulled and found to be in satisfactory condition shall be redriven when directed.

3.3 REMOVAL

The removal of sheet pilings shall consist of pulling, sorting, cleaning the interlocks, inventorying and storing previously installed sheet pilings as shown and directed.

3.3.1 Pulling

The method of pulling piling shall be approved. Provide pulling holes in pilings, as required. Extractors shall be of suitable type and size. Care shall be exercised during pulling of pilings to avoid damaging piling interlocks and adjacent construction. If the CITY determines that adjacent permanent construction has been damaged during pulling, the Contractor will be required to repair this construction at no cost to the CITY. Pull pilings one sheet at a time. Pilings fused together shall be separated prior to pulling, unless the Contractor demonstrates, to the satisfaction of the CITY, that the pilings cannot be separated. The Contractor will not be paid for the removal of pilings damaged beyond structural use due to proper care not being exercised during pulling.

3.3.2 Sorting, Cleaning, Inventorying and Storing

Pulled pilings shall be sorted, cleaned, inventoried and stored by type into groups as:

- a. Piling usable without reconditioning.
- b. Piling requiring reconditioning.
- c. Piling damaged beyond structural use.

3.4 INSTALLATION RECORDS

Maintain a pile driving record for each sheet pile driven. Indicate on the installation record: installation dates and times, type and size of hammer, rate of operation, total driving time, dimensions of driving helmet and cap used, blows required per foot for each foot of penetration, or number of feet per minute if vibratory hammer is used, final driving resistance in blows for final 6 inches, pile locations, tip elevations, ground elevations, cut-off elevations, and any reheading or cutting of piles. Record any unusual pile driving problems during driving. Submit complete records to the CITY.

-- End of Section --

SECTION 31 62 19.13

WOOD MARINE PILES

04/06

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN WOOD PROTECTION ASSOCIATION (AWPA)

AWPA A1	(2015) Standard Methods for Analysis of Creosote and Oil-Type Preservatives
AWPA A4	(2011) Standard Methods for Sampling Wood Preservatives
AWPA A5	(2015) Standard Methods for Analysis of Oil-Borne Preservatives
AWPA A6	(2015) Standard Method for the Determination of Oil-Type Preservatives from Small Samples
AWPA A8	(1990) Qualitative Recovery of Creosote or Creosote Solution from Freshly Treated Piles, Poles, or Timber (Squeeze Method)
AWPA A9	(2013) Standard Method for Analysis of Treated Wood and Treating Solutions by X-Ray Spectroscopy
AWPA C1	(2003) All Timber Products - Preservative Treatment by Pressure Processes
AWPA C3	(2003) Piles - Preservative Treatment by Pressure Processes
AWPA M2	(2015) Standard for Inspection of Treated Wood Products
AWPA M4	(2015) Standard for the Care of Preservative-Treated Wood Products
AWPA M6	(2013) Brands Used on Preservative Treated Materials

ASTM INTERNATIONAL (ASTM)

ASTM A1011/A1011M	(2015) Standard Specification for Steel, Sheet, and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability and Ultra-High Strength
ASTM D25	(2012) Round Timber Piles
ASTM D390	(1992; R 1999) Coal-Tar Creosote for the Preservative Treatment of Piles, Poles and Timbers for Marine, Land, and Fresh Water Use
ASTM D450/D450M	(2007; E 2013; R 2013) Coal-Tar Pitch Used in Roofing, Dampproofing, and Waterproofing

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 171

Certification of Pesticide Applicators

WESTERN WOOD PRESERVERS INSTITUTE (WWPI)

WWPI Mgt Practices

(1996; R 2011) Best Management Practices for the Use of
Treated Wood in Aquatic Environments

1.2 SUBMITTALS

CITY approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. Submit the following in accordance with Section 01 33 00
SUBMITTAL PROCEDURES:

SD-03 Product Data

Piles; G

Pile driving equipment; G

Piling and cleat mounting fasteners (Stainless Steel Only)

Submit complete descriptions of pile driving equipment, including hammers, leads, driving helmets, cushion blocks, driving blocks, collars, extractors, and other appurtenances for approval prior to commencement of work.

Pile caps; G]

Pile shoes; G]

Jetting equipment; G]

Spudding equipment; G]

Predrilling equipment; G]

Preservative treated piles; G

A certified test assay analysis from an approved testing organization attesting that the piles to be used in the work have been given the preservative treatment required by these specifications shall be submitted prior to commencement of the work.

SD-08 Closeout Submittals

Job piles driving records; G

Submit pile driving records within 15 calendar days after completion of driving.

1.3 QUALITY ASSURANCE

1.3.1 Preservative Treated Piles - Timber

The Contractor shall be responsible for the quality of treated wood products. The Contractor shall provide the CITY's Representative with the inspection report of an independent inspection agency, approved by the CITY that offered products comply with applicable AWWPA standards. Identify

treatment on each piece by the quality mark of an agency accredited by the Board of Review of the American Lumber Standard Committee. Inspect all preservative-treated wood visually to ensure there are no excessive residual materials or preservative deposits. Materials shall be clean and dry or it will be rejected because of environmental concerns.

1.3.2 MSDS and CIS

Provide Materials and Safety Data Sheets (MSDS) and Consumer Information Sheets (CIS) associated with timber pile preservative treatment. Contractor shall comply with all safety precautions indicated on MSDS and CIS.

1.3.3 Pesticide Applicators

Provide certifications for all individuals (applicators) who will be working with creosote products on site. All applicators shall be certified by the State or Environmental Protection Agency (EPA) (under the provisions of 40 CFR 171) to use wood preservatives, and have completed an approved EPA training program on the use of creosote products.

1.3.4 Best Management Practices (BMPs)

The producer of the treated wood products shall provide certification that Best Management Practices (BMPs) for the use of Treated Wood in Aquatic Environments were utilized including a written description and appropriate documentation of the BMPs utilized.

1.4 DELIVERY, STORAGE, AND HANDLING

Handle and store piles in accordance with AWWA M4. Comply with paragraph entitled "MSDS and CIS." Special care shall be taken in supporting piles to prevent the including of excessive bending stresses in the piles. Piles shall be carefully handled without dropping, breaking of outer fibers, and penetrating the surface with tools. Peaveys, can't hooks, pikes, and other pointed tools shall not be used in handling treated piles.

1.5 BASIS OF BIDS

1.5.1 for Mooring Piles

Base bids on the number, circumference, and length of piles from tip to cutoff as indicated. There are (25) existing mooring piles that have been deemed in good condition that should be removed, stored, and reused. It is expected that these piles will to be reinstalled using a suitable pre-drilling method.

The length of the piles is not certain but for estimating purposed, they are assumed to be 45 feet long with 25 feet of embedment.

1.6 UNIT PRICES

1.6.1 Round Timber Piles

1.6.5.1 Payment

Payment will be made for satisfactorily driven piles which are pulled at the direction of the CITY and found to be in good condition. Payment will be made for pulled timber piles which are replaced with new piles. Where piles are pulled at the direction of the CITY and found to be damaged, no payment will be made for originally furnishing and driving such piles nor for the operation of pulling, and damaged piles shall be replaced by new piles for which payment will be made.

1.6.5.2 Measurement

Satisfactorily driven piles which are pulled at the direction of the CITY and found to be in good condition will be measured for payment at the applicable contract unit price for furnishing and driving the pile at its original position plus 50 percent of this amount to cover the cost of pulling. Pulled timber piles shall not be redriven, but replaced by new piles which will be measured for payment at the applicable contract unit price for the lengths driven. Where piles are pulled at the direction of the CITY and found to be damaged, no measurement for payment will be made for originally furnishing and driving such piles nor for the operation of pulling, but the damaged piles shall be replaced by new piles which will be measured for payment at the applicable contract unit price for the lengths driven.

1.6.5.3 Unit of Measure

Unit of measure: linear foot.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Piles

Provide Douglas fir or Southern pine clean-peeled, and treated piles conforming to ASTM D25 and other requirements as specified. Piles shall be in one piece of the length[s] as shown. Splices will not be permitted. Each treated pile shall be branded by the producer, in accordance with AWP A M6. Pile circumferences shall be as follows:

- a. Mooring Piles: Minimum butt diameter shall match existing and if measured at 3 feet from the butt end shall be 12 inches.

2.1.2 Preservative Treatment

Treat piles by the full-cell pressure process in accordance with AWP A C1 and AWP A C3 to the retention and penetration for marine piling and produce in accordance with WWPI Mgt Practices, as follows:

- a. Mooring Piles: Waterborne preservative for marine piles (ACA - Ammoniacal Copper Arsenate, ACZA - Ammoniacal Copper Zinc Arsenate, CCA - Chromated Copper Arsenate).

2.1.3 Creosote

Not Used.

2.1.4 Coal-Tar Pitch

Not Used.

2.1.5 Pile Shoes

ASTM A1011/A1011M. Steel boot or welded-plate point shoe especially fabricated for pile driving. Shoes shall be the product of a manufacturer regularly engaged in the manufacture of pile fittings. Welding procedures shall be in accordance with a nationally recognized welding code. Provide size to fit pile tip. Fabricate boot type of 3/16 inch carbon steel fully welded, with at least three straps, each with three 3/16 inch nail holes. Fabricate welded-plate point type of four 3/16 inch or 1/4 inch steel plates, fully welded and sized to adequately cover full pointed area of pile; provide each plate with one 3/16 inch or one 1/4 inch nail hole. The length of the joints formed by the intersection of the sides shall not be less than one half of the height of the shoe. Shoes shall be cleaned and painted with at least one coat of paint. The color and paint shall be the manufacturer's standard. Provide on the point of each pile.

2.1.6 Pile Caps

Carefully remove, store and reuse the plastic pile caps.

2.2 TESTS, INSPECTIONS, AND VERIFICATIONS

2.2.1 Inspection of Piles

The Contractor shall provide the necessary facilities for the proper inspection of each pile prior to extraction. Pile inspection shall occur again after removal and before storage. Piles that appear to need retreatment with preservative will be flagged prior to storage and will be retreated in an environmentally sustainable way. Piles with specified variations in characteristics shall be placed in separate lots for inspection. Piles shall be so marked or segregated into marked lots that there will be no possibility of error in assignment after they have been inspected. Piles damaged during the removal stage shall be stored in separate lots.

Piles deemed unworthy for redriving shall become the property of the contractor and shall be stored in a separate lot. All rejected piles shall be removed from the site as directed. **Contractor should be prepared to order replacement piles early in the construction process to allow adequate time for delivery to the site. Replacement piles will be paid on a linear foot basis.**

2.2.2 Inspection of the Preservative Treatment Process

Inspection of the preservative treatment process will be in accordance with AWWA M2. The Contractor shall notify the CITY where preservative treatment will be done not less than 15 days prior to the start of the treatment and shall provide the necessary facilities for the proper inspection of the treatment process. Allow the CITY unlimited access to the plant and inspection privileges for each facet of the treating process.

2.2.3 Sampling and Testing

Sampling and testing shall be performed by an approved testing organization adequately equipped to perform such services.

2.2.3.1 Sampling

Representative samples of preservatives for testing shall be obtained from storage containers using the methods described in AWWA A4. The recovery of creosote and creosote solution and oil-borne preservatives from piles for testing shall be in accordance with the methods described in AWWA A8 and AWWA A6, respectively. The analysis of wood treated with waterborne preservatives shall be done in accordance with AWWA A9.

2.2.3.2 Testing

Creosote and creosote solutions, waterborne preservatives, and oil-borne preservatives shall be tested for conformance to AWWA A1, AWWA A9, and AWWA A5, respectively. The net retention and the penetration of preservatives in piles shall be determined as specified in AWWA M2 and the additional requirements listed. The determination of the net retention of waterborne preservatives in piles which have received the dual treatment of waterborne preservatives and creosote or creosote solutions shall be made after the extraction of the creosote or creosote solutions.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Pile Driving Equipment

Pile driving equipment shall meet the following requirements.

3.1.1.1 Pile Driving Hammers

Pile driving hammers shall be steam, air or diesel drip, single-action, double-acting, differential-acting, type. The use of vibratory hammers is strictly dependent upon satisfactory driving and load testing of piles. Embedment depths shall match the existing embedment depths for the piles that are being extracted. All elevations are to remain the same. The size or capacity of hammers shall be as recommended by the manufacturer for the pile weights and soil formation to be penetrated. The pile hammer shall be of sufficient weight and energy to install the specified pile without damage into the soils expected to be encountered. The maximum driving energy of hammers shall be 12,000 foot-pounds for piles for any length. Test piles shall be driven with the same size and type hammer, operating with the same effective energy and efficiency as that to be used in driving job piles. Diesel powered hammers shall be operated at the rate recommended by the manufacturer throughout the entire driving period. Sufficient pressure shall be maintained at the hammer so that:

- a. For double-acting hammers, the number of blows per minute during and at the completion of driving of a pile is equal approximately to that at which the hammer is rated;
- b. For single-acting hammers, there is a full upward stroke of the ram; and,

- c. For differential-type hammers, there is a slight rise of the hammer base during each upward stroke.

3.1.1.2 Leads

Leads are required and shall be fixed at the top and adjustable at the bottom. Swinging leads may be allowed if site conditions merit their use and are approved.

3.1.1.3 Driving Cap or Helmet and Cushion Block

Driving cap or helmet shall be an approved design and shall be capable of protecting pile heads, minimizing energy absorption, and transmitting hammer energy uniformly and consistently to piles. Place driving helmet or cap and cushion block combination between top of pile and the ram. Driving cap shall fit snugly on the top of piles and shall employ a cushion block to prevent impact damage to piles. The cushion block may be a solid or laminated softwood block with the grain parallel to the pile axis and enclosed in a close-fitting steel housing. The thickness of the block shall be suitable for the length of pile to be driven and the character of subsurface material to be encountered. Generally, thicker blocks are required for longer piles and softer subsurface material. If block is damaged, split, highly compressed, charred or burned, or has become spongy or deteriorated, replace with new block. Under no circumstances will the use of small wood blocks, wood chips, rope, or other material permitting excessive loss of hammer energy be permitted.

3.1.1.4 Pile Collars

Collars or bands for protecting pile butts against splitting, brooming, and other damage while being driven shall be of an approved design.

3.1.1.5 Jetting Equipment

Jetting equipment shall not be used adjacent to the seawall.

3.1.2 Mooring Piles

Inspect piles when delivered and when in the leads immediately before driving. Secure piles in their proper alignment and cut piles at cutoff grade with pneumatic tools by sawing or other approved method. Pile heads at cutoff shall be sound. Counterbore holes for bolts where indicated for countersinking bolt heads and washers. After installation of bolts, fill counterbored holes with an approved bituminous material. Drill holes for drift bolts 1/8 inch smaller than bolt diameter. Drill holes for through bolts 1/16 inch larger than diameter of bolt shank. Drill holes for lag bolts not larger than body of bolt at base of tread. Fender piles shall have tops beveled outboard as indicated.

3.1.2.1 Driving Mooring Piles

Pile hammers shall be air, steam, or diesel powered, and of an approved type with a capacity at least equal to the hammer manufacturer's recommendation for the total weight of pile and character of subsurface material to be encountered. Minimum driving energy shall be specified by the engineer of

record with a range of 8,000 foot-pounds with maximum driving energy of 12,000 foot-pounds. Weight of the hammer for drop hammers shall not be less than 2,000 pounds.

3.1.2.2 Fastening

All fasteners used on this project shall be stainless steel. Use washers of the size and type specified under bolt heads and nuts which would otherwise come in contact with wood.

3.1.2.3 Tolerances in Driving

Piles shall be driven in the locations indicated. Fender piles may be manipulated a maximum of 0.50 inch per foot of pile length in a direction parallel to the pier face and 0.25 inch per foot of pile length in a direction perpendicular to the pier face. Remove and replace with new piles those damaged, mislocated, driven below the design cutoff, or driven out of alignment.

3.1.3 Jetting of Piles

Water jets shall not be permitted to assist in driving.

3.1.4 Spudding of Piles

Spudding will be permitted. Discontinue driving and withdraw the spudding mandrel approximately 15 feet above the indicated pile tip elevation. Drive pile the final 15 feet of penetration to the maximum penetration per blow established by the CITY. Obtain CITY's approval of spudding equipment, prior to commencing spudding operations.

3.1.5 Predrilling of Piles

Predrilling will be permitted. Discontinue predrilling when pile tip is approximately 15 feet above the indicated pile tip elevation. Drive pile the final 15 feet of penetration to the maximum penetration per blow established by the CITY. Obtain CITY's approval of predrilling equipment prior to commencing predrilling operations.

3.2 PROTECTION

3.2.1 Protection of Piles

Square the heads and tips of piles to the driving axis. Laterally support piles during driving, but do not unduly restrain piles from rotation in the leads. Swinging leads will be permitted. Where pile orientation is essential, take precautionary measures to maintain the orientation during driving. Handle, protect, and field treat piles in accordance with AWPA M4.

3.2.1.1 Damaged Piles

Piles pulled and found to be sound and in a satisfactory condition shall be stored and redriven. Pulled piles found to be unsound, shall be cataloged and shown to the CITY. The contractor will need to order replacement piles at that time and will be paid accordingly for those piles.

Driving of piles shall not subject them to damage. Piles which are damaged, split, broomed, or broken by reason of internal defects or by improper driving below cutoff elevation so as to impair them for the purpose intended shall be removed and replaced; a second pile may be driven adjacent thereto at the Contractor's expense. Minor damaged areas of treated piles shall be brush-coated with creosote or the same preservative used to treat the piles. The CITY may require the Contractor to pull certain selected piles after driving for test and inspection to determine the conditions of the piles. Any pile so pulled and found to be damaged to such extent as to impair its usefulness in the completed structure shall be removed from the work and the Contractor shall furnish and drive a new pile to replace the damaged pile.

3.2.1.2 On Site Application of Wood Preservatives

All on site application of wood preservatives must be performed by a person certified through an EPA approved training program for the application of wood treatment products in accordance with 40 CFR 171, regulated under 7 U.S.C.A. Sections 136 to 136y, Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). On site treatment shall also be in accordance with AWPA M4, Sections 1.5, 2.2, 2.3, and 3.1.

3.3 FIELD QUALITY CONTROL

3.3.1 Inspections

When CITY inspections result in product rejection, the Contractor shall promptly segregate and remove rejected material from the premises. The CITY may also charge the Contractor an additional cost of inspection or test when prior rejection makes reinspection or retest necessary.

-- End of Section --

SECTION 33 11 00

WATER UTILITY DISTRIBUTION PIPING

PART 1 GENERAL

1.1 SUBMITTALS

CITY approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Pipe, Fittings, Joints and Couplings; G Valves; G

Valve Boxes; G

SD-06 Test Reports

Bacteriological Samples; G

SD-08 Manufacturer's Instructions
Manufacturer's Instructions

1.2 QUALITY CONTROL

1.2.1 Regulatory Requirements

Comply with NSF/ANSI 61 and NSF 372 for materials for potable water piping, components and specialties for domestic water; comply with lead content requirements for "lead-free" plumbing as defined by the U.S. Safe Drinking Water Act effective January 2014.

Comply with NSF/ANSI 14 for plastic potable water piping and components. Provide plastic pipe and fittings, bearing the seal of the National Sanitation Foundation (NSF) for potable water service from the same manufacturer.

Comply with NFPA 24 for materials, installation, and testing of fire main piping and components.

1.3 DELIVERY, STORAGE, AND HANDLING

1.3.1 Delivery and Storage

Inspect materials delivered to site for damage. Unload and store with minimum handling and in accordance with manufacturer's instructions. Store materials on site in enclosures or under protective covering. Store plastic piping, jointing materials and rubber gaskets under cover out of

direct sunlight. Do not store materials directly on the ground. Keep inside of pipes, fittings, valves, and other accessories free of dirt and debris.

1.3.2 Handling

Handle pipe, fittings, valves, and other accessories in accordance with manufacturer's instructions and in a manner to ensure delivery to the trench in sound undamaged condition. Avoid injury to coatings and linings on pipe and fittings; make repairs if coatings or linings are damaged. Do not place other material, hooks, or pipe inside a pipe or fitting after the coating has been applied. Inspect the pipe for defects before installation. Carry, do not drag pipe to the trench. Use of pinch bars and tongs for aligning or turning pipe will be permitted only on the bare ends of the pipe. Clean the interior of pipe and accessories of foreign matter before being lowered into the trench and keep them clean during laying operations by plugging. Replace material found to be defective before or after laying with sound material without additional expense to the CITY. Store rubber gaskets that are not to be installed immediately, under cover out of direct sunlight.

Handle PVC pipe, fittings, and accessories in accordance with AWWA C605. Handle PE pipe, fittings, and accessories in accordance with AWWA M55.

PART 2 PRODUCTS

2.1 SYSTEM DESCRIPTION

2.1.1 Water Distribution Mains

Provide water distribution mains indicated as through 12 inch lines of PVC pipe. Provide water main accessories and valves as specified and where indicated.

2.2 PIPE, FITTINGS, JOINTS AND COUPLINGS

Submit manufacturer's standard drawings or catalog cuts, except submit both drawings and cuts for push-on joints. Include information concerning gaskets with submittal for joints and couplings.

2.3 VALVES

2.3.1 Rubber-Seated Butterfly Valves

Provide PVC rubber-seated butterfly valves and wafer type valves that match the performance requirements of AWWA C504. Wafer type valves not meeting laying length requirements are acceptable if supplied and installed with a spacer, providing the specified laying length. Meet all tests required by AWWA C504. Flanged-end valves are required in a pit. Provide a union or sleeve-type coupling in the pit to permit removal. Direct-bury mechanical-end valves 3 through 10 inches in diameter. Provide a valve box, means for manual operation, and an adjacent pipe joint to facilitate valve removal. Provide valve operators that restrict closing to a rate requiring approximately 60 seconds, from fully open to fully closed.

2.3.2 Valve Pits

Construct the valve pits at locations indicated or as required above and in accordance with the details shown.

2.4 DISINFECTION

Chlorinating materials are to conform to: Chlorine, Liquid: AWWA B301; Hypochlorite, Calcium and Sodium: AWWA B300.

PART 3 EXECUTION

3.1 PRECAUTIONS

3.1.1 Connections to Existing System

Perform all connections to the existing water system in the presence of the CITY.

3.1.2 Operation of Existing Valves

Do not operate valves within or directly connected to the existing water system unless expressly directed to do so by the CITY.

3.2 INSTALLATION OF PIPELINES

3.2.1 General Requirements for Installation of Pipelines

Submit manufacturer's instructions for pipeline installations. These manufacturer's instructions apply to all pipeline installation except as noted herein.

3.2.1.1 Location of Water Lines

Terminate the work covered by this section at a point approximately 5 feet from the building, unless otherwise indicated.

Do not lay water lines in the same trench with gas lines, fuel lines, electric wiring, or any other utility. Where nonferrous metallic pipe, e.g. copper tubing, cross any ferrous piping, provide a minimum vertical separation of 12 inches between pipes.

3.2.1.1.1 Water Piping Installation Parallel With Sewer Piping

3.2.1.1.1.1 Normal Conditions

Lay water piping at least 10 feet horizontally from a sewer or sewer manhole whenever possible. Measure the distance edge-to-edge. Provide at least 18 inches above the top (crown) of the sewer piping and the bottom (invert) of the water piping. The sewer piping is to be constructed of AWWA-compliant water pipe and pressure tested in place without leakage prior to backfilling where this vertical separation cannot be obtained. Shop drawings for the waste water disposal method are required. Test the sewer manhole in place to ensure watertight construction.

3.2.1.1.2 Installation of Water Piping Crossing Sewer Piping

- a. Normal Conditions: Provide a separation of at least 18 inches between the bottom of the water piping and the top of the sewer piping in cases where water piping crosses above sewer piping.

- b. Unusual Conditions: When local conditions prevent a vertical separation described above, construct sewer piping passing over or under water piping of AWWA-compliant ductile iron water piping, pressure tested in place without leakage prior to backfilling. Protect water piping passing under sewer piping by providing a vertical separation of at least 18 inches between the bottom of the sewer piping and the top of the water piping; adequate structural support for the sewer piping to prevent excessive deflection of the joints and the settling on and breaking of the water piping; and that the length, minimum 20 feet, of the water piping be centered at the point of the crossing so that joints are equidistant and as far as possible from the sewer piping.

3.2.1.2 Connections to Existing Water Lines

Make connections to existing water lines after coordination with the facility and with a minimum interruption of service on the existing line. Make connections to existing lines under pressure in accordance with the recommended procedures of the manufacturer of the pipe being tapped and as indicated on the utility plan.

3.2.2 Disinfection

Disinfection of systems supplying nonpotable water is not required.

Prior to disinfection, provide disinfection procedures, proposed neutralization and disposal methods of waste water from disinfection procedures as part of the disinfection submittal. Disinfect new water piping and existing water piping affected by Contractor's operations in accordance with AWWA C651. Fill piping systems with solution containing minimum of 50 parts per million of available chlorine and allow solution to stand for minimum of 24 hours. Flush solution from the systems with domestic water until maximum residual chlorine content is within the range of 0.2 and 0.5 parts per million, or the residual chlorine content of domestic water supply. Obtain at least two consecutive bacteriological samples from new water piping. Analyze samples by a certified laboratory, and submit the results of the bacteriological samples. Obtain approval by the CITY prior to the new water piping being placed into service.

3.3 FIELD QUALITY CONTROL

3.3.1 Field Tests and Inspections

Notify the CITY a minimum of five days in advance of hydrostatic testing. Coordinate the proposed method for disposal of waste water from hydrostatic testing. Perform field tests, and provide labor, equipment, and incidentals required for testing. Provide documentation that all items of work have been constructed in accordance with the Contract documents.

3.3.2 Testing Procedure

3.3.2.1 Hydrostatic Testing

Test the water system in accordance with the applicable CITY standard.

3.3.2.2 Leakage Testing

For leakage test, use a hydrostatic pressure not less than the maximum working pressure of the system. Leakage test may be performed at the same time and at the same test pressure as the pressure test.

3.4 CLEANUP

Upon completion of the installation of water lines and appurtenances, remove all debris and surplus materials resulting from the work.

- End of Section -

SECTION 33 40 00

STORM DRAINAGE UTILITIES

PART 1 GENERAL

1.1 MEASUREMENT AND PAYMENT

1.1.1 Pipe Culverts and Storm Drains

The length of pipe installed will be measured along the centerlines of the pipe from end to end of pipe. Pipe will be paid for at the contract unit price for the number of linear feet of culverts or storm drains placed in the accepted work.

1.1.2 Walls and Headwalls

Walls and headwalls will be measured by the number of cubic yards of reinforced concrete, plain concrete, or masonry used in the construction of the walls and headwalls. Wall and headwalls will be paid for at the contract unit price for the number of walls and headwalls constructed in the completed work.

1.2 SUBMITTALS

CITY approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data Placing Pipe

Submit printed copies of the manufacturer's recommendations for installation procedures of the material being placed, prior to installation.

SD-04 Samples

Pipe for Culverts and Storm Drains

1.3 DELIVERY, STORAGE, AND HANDLING

1.3.1 Delivery and Storage

Materials delivered to site shall be inspected for damage, unloaded, and stored with a minimum of handling. Materials shall not be stored directly on the ground. The inside of pipes and fittings shall be kept free of dirt and debris. Before, during, and after installation, plastic pipe and fittings shall be protected from any environment that would result in damage or deterioration to the material. Keep a copy of the manufacturer's instructions available at the construction site at all times and follow these

instructions unless directed otherwise by the CITY. Solvents, solvent compounds, lubricants, elastomeric gaskets, and any similar materials required to install plastic pipe shall be stored in accordance with the manufacturer's recommendations and shall be discarded if the storage period exceeds the recommended shelf life. Solvents in use shall be discarded when the recommended pot life is exceeded.

1.3.2 Handling

Materials shall be handled in a manner that ensures delivery to the trench in sound, undamaged condition. Pipe shall be carried to the trench, not dragged.

PART 2 PRODUCTS

2.1 PIPE FOR CULVERTS AND STORM DRAINS

Pipe for culverts and storm drains shall be of the sizes indicated and shall conform to the requirements specified.

2.1.1 Concrete Pipe

Manufactured in accordance with and conforming to ASTM C76, or ASTM C655. 2.2
MISCELLANEOUS MATERIALS

2.2.1 Concrete

Unless otherwise specified, concrete and reinforced concrete shall conform to the requirements for concrete under Section 03 30 00.00 10 CAST-IN-PLACE CONCRETE. The concrete mixture shall have air content by volume of concrete, based on measurements made immediately after discharge from the mixer, of 5 to 7 percent when maximum size of coarse aggregate exceeds 1-1/2 inches. Air content shall be determined in accordance with ASTM C231/C231M. Concrete covering deposited directly against the ground shall have a thickness of at least 3 inches between steel and ground. Expansion-joint filler material shall conform to ASTM D1751, or ASTM D1752, or shall be resin-impregnated fiberboard conforming to the physical requirements of ASTM D1752.

2.2.2 Mortar

Mortar for pipe joints, connections to other drainage structures, and brick or block construction shall conform to ASTM C270, Type M, except that the maximum placement time shall be 1 hour. The quantity of water in the mixture shall be sufficient to produce a stiff workable mortar. Water shall be clean and free of harmful acids, alkalis, and organic impurities. The mortar shall be used within 30 minutes after the ingredients are mixed with water. The inside of the joint shall be wiped clean and finished smooth. The mortar head on the outside shall be protected from air and sun with a proper covering until satisfactorily cured.

2.2.3 Brick

Brick shall conform to ASTM C62, Grade SW; ASTM C55, Grade S-I or S-II; or ASTM C32, Grade MS. Mortar

for jointing and plastering shall consist of one part portland cement and two parts fine sand. Lime may be added to the mortar in a quantity not more than 25 percent of the volume of cement. The joints shall be filled completely and shall be smooth and free from surplus mortar on the inside of the structure. Brick structures shall be plastered with 1/2 inch of mortar over the entire outside surface of the walls. For square or rectangular structures, brick shall be laid in stretcher courses with a header course every sixth course. For round structures, brick shall be laid radially with every sixth course a stretcher course.

PART 3 EXECUTION

3.1 EXCAVATION FOR PIPE CULVERTS, STORM DRAINS, AND DRAINAGE STRUCTURES

Excavation of trenches, and for appurtenances and backfilling for culverts and storm drains, shall be in accordance with the applicable portions of Section 31 00 00 EARTHWORK and the requirements specified below.

3.1.1 Trenching

The width of trenches at any point below the top of the pipe shall be not greater than the outside diameter of the pipe plus 12 inches to permit satisfactory jointing and thorough tamping of the bedding material under and around the pipe. Sheet piling and bracing, where required, shall be placed within the trench width as specified, without any overexcavation. Where trench widths are exceeded, redesign with a resultant increase in cost of stronger pipe or special installation procedures will be necessary. Cost of this redesign and increased cost of pipe or installation shall be borne by the Contractor without additional cost to the CITY.

3.1.2 Removal of Unstable Material

Where wet or otherwise unstable soil incapable of properly supporting the pipe, as determined by the CITY, is unexpectedly encountered in the bottom of a trench, such material shall be removed to the depth required and replaced to the proper grade with select granular material, compacted as provided in paragraph BACKFILLING. When removal of unstable material is due to the fault or neglect of the Contractor while performing shoring and sheet piling, water removal, or other specified requirements, such removal and replacement shall be performed at no additional cost to the CITY.

3.2 BEDDING

The bedding surface for the pipe shall provide a firm foundation of uniform density throughout the entire length of the pipe.

3.2.1 Concrete Pipe Requirements

When no bedding class is specified or detailed on the drawings, concrete pipe shall be bedded in granular material minimum 4 inch in depth in trenches with soil foundation. Depth of granular bedding in trenches with rock foundation shall be 1/2 inch in depth per foot of depth of fill, minimum depth of bedding shall be 8 inch up to maximum depth of 24 inches. The middle third of the granular bedding shall be loosely placed. Bell holes and depressions for joints shall be removed and formed so entire barrel of pipe is uniformly supported. The bell hole and depressions for the joints shall be

not more than the length, depth, and width required for properly making the particular type of joint.

3.3 BACKFILLING

3.3.1 Backfilling Pipe in Fill Sections

For pipe placed in fill sections, backfill material and the placement and compaction procedures shall be as specified below. The fill material shall be uniformly spread in layers longitudinally on both sides of the pipe, not exceeding 6 inches in compacted depth, and shall be compacted by rolling parallel with pipe or by mechanical tamping or ramming. Prior to commencing normal filling operations, the crown width of the fill at a height of 12 inches above the top of the pipe shall extend a distance of not less than twice the outside pipe diameter on each side of the pipe or 12 feet, whichever is less.

3.3.2 Compaction

3.3.2.1 General Requirements

Cohesionless materials include gravels, gravel-sand mixtures, sands, and gravelly sands. Cohesive materials include clayey and silty gravels, gravel-silt mixtures, clayey and silty sands, sand-clay mixtures, clays, silts, and very fine sands. When results of compaction tests for moisture-density relations are recorded on graphs, cohesionless soils will show straight lines or reverse-shaped moisture-density curves, and cohesive soils will show normal moisture-density curves.

3.3.2.2 Minimum Density

Backfill over and around the pipe and backfill around and adjacent to drainage structures shall be compacted at the approved moisture content to the following applicable minimum density, which will be determined as specified below.

- a. Under airfield and heliport pavements, paved roads, streets, parking areas, and similar-use pavements including adjacent shoulder areas, the density shall be not less than 90 percent of maximum density for cohesive material and 95 percent of maximum density for cohesionless material, up to the elevation where requirements for pavement subgrade materials and compaction shall control.
- b. Under unpaved or turfed traffic areas, density shall not be less than 90 percent of maximum density for cohesive material and 95 percent of maximum density for cohesionless material.
- c. Under nontraffic areas, density shall be not less than that of the surrounding material.

- End of Section -

Attachment A
Proposal Checklist

PROPOSAL CHECKLIST

1. _____ LETTER OF TRANSMITTAL (Not Included)

2. _____ TECHNICAL PROPOSAL - PACKAGE NO. 1

- PART I - TECHNICAL STATEMENT - QUALIFICATIONS
- PART II – TECHNICAL STATEMENT - EXPERIENCE
- PART III – TECHNICAL STATEMENT - PROJECT APPROACH
- PART IV – TECHNICAL STATEMENT - FINANCIAL INFORMATION
- OTHER FORMS LISTED BELOW

Bidders shall execute and include the following with
Package No. 1:

- Indemnification Form – Attachment K
- Anti-Kickback Affidavit – Attachment L
- Public Entity Crimes Form – Attachment M
- Non-Collusion Declaration and Compliance - Attachment N
- Florida Trench Safety Act Compliance – Attachment O
- Cone of Silence Affidavit – Attachment P
- Equal Benefits for Domestic Partners Affidavit – Attachment Q

Failure to include the above forms may result in a
determination that the proposal is non-responsive.

3. _____ COST PROPOSAL - PACKAGE NO. 2

(SEPARATE FROM PACKAGE NO. 1 & SEALED)

- COST PROPOSAL
- BID BOND
- PRELIMINARY SCHEDULE OF VALUES

Attachment B
Technical Proposal - Package No. 1

PACKAGE NO. 1 - TECHNICAL PROPOSAL

For Design/Build Project
TRUMAN ANNEX / NOAA SEAWALL
KEY WEST, FLORIDA
RFP 004-17

NAME OF PROPOSER: _____

ADDRESS OF PROPOSER: _____

TO: City of Key West

Gentlemen:

The signer of this affidavit guarantees the truth and accuracy of all statements and information submitted herein in support of its proposal to furnish design, furnish all materials, equipment, and labor, and to perform all work in accordance with the Request for Proposal (RFP) and in accordance with the design criteria, contract, general and supplementary conditions included within the RFP entitled "Request for Proposal for Design/Build of Truman Annex / NOAA Seawall."

The undersigned hereby authorizes and requests any public official, engineer, architect, surety company, bank depository, material or equipment manufacturer or distributor or any person, firm or corporation to furnish any pertinent information requested by the City or its representatives deemed necessary to verify the statements made, information submitted, or regarding the standing and general reputation of the applicant.

The undersigned has not been disqualified by any public agency in Florida except as is explained as follows:

The undersigned further affirms that, if false information is furnished in support of its bid proposal, it can and will be prosecuted to the fullest extent of the law for perjury.

Name of Organization

Sworn to and subscribed before
me this _____ day of _____, 20__.

BY: _____

Notary Public-State of _____.

Title of Person Signing
(If Corporation, Affix Seal)

My commission expires _____

(Printed, typed, or stamped
commissioned name of notary public)

Personally known _____

Or Produced identification _____
(Type of identification)

Part I – Technical Statement - Qualifications

1. Legal Name, Address, and Telephone Number:

2. Check one: Corporation _____; Partnership _____; Individual _____

3. If a Corporation, State:

Date of Incorporation: _____

State in which Incorporated: _____

Name and Title of Principal Officers

Date of Assuming Position

_____	_____
_____	_____
_____	_____

If an Out-of-State Corporation, currently authorized to do business in Florida, give date of such authorization.

4. If Partnership:

Date of Organization: _____

Nature of Partnership (General, Limited, or Association):

Name and Address of Partners:

Age of Partners

_____	_____
_____	_____
_____	_____
_____	_____

5. If an Individual, State – Name and Address of Owner:

6. Enumerate State, County, or other Public Agencies in which your organization is qualified to perform work by some means of prequalification:

<u>Agency</u>	<u>Trade in Which Qualified</u>	<u>Expiration Date</u>	<u>Approved Amount</u>
_____	_____	_____	_____
_____	_____	_____	_____

7. Describe your organizational structure, including the number of permanent employees engaged in cost estimating, purchasing, expediting, detailing, and architecture, engineering, field supervision, field engineering, and layout:

(Use extension sheet if necessary)
(Include copies of Licenses/Certifications)

8. How many years has your organization been authorized to do business in Florida? _____
9. Has any officer or partner of your organization ever been an officer or partner of some other organization that failed to complete a construction contract? _____. If within the last five (5) years, state name of individual, other organization, and reason therefore:
- _____
- _____
10. Has any officer or partner of your organization ever failed to complete a construction contract handled in his own name? _____. If within the last five (5) years, state name of individual, name of owner, and reason therefore:
- _____
- _____
- _____
11. Has your organization, or any officer or partner thereof, ever been party to any criminal litigation as a result of construction methods, costs, etc? _____.

If yes, state case number, case name, and provide pertinent details, including judgment:

(Attach extension sheet if necessary)

12. Has your organization, or any officer or partner thereof, ever been party to any civil litigation as result of construction methods, costs, etc? _____.

If yes, state case number, case name, and provide pertinent details, including judgment:

(Attach extension sheet if necessary)

13. Provide description of Design/Build Project Team:

- 13a. Constructor:

Legal Name, Address, and Telephone Number:

Check one: Corporation _____; Partnership _____; Individual _____

If a Corporation, State:

Date of Incorporation: _____

State in which Incorporated: _____

Name and Title of Principal Officers

Date of Assuming Position

_____	_____
_____	_____
_____	_____

If an Out-of-State Corporation, currently authorized to do business in Florida, give date of such authorization.

If Partnership:

Date of Organization: _____

Nature of Partnership (General, Limited, or Association):

Name and Address of Partners:

Age of Partnership

_____	_____
_____	_____
_____	_____
_____	_____

13b: Designer:

Legal Name, Address, and Telephone Number:

Check one: Corporation _____; Partnership _____; Individual _____

If a Corporation, State:

Date of Incorporation: _____

State in which Incorporated: _____

Name and Title of Principal Officers

Date of Assuming Position

_____	_____
_____	_____
_____	_____

If an Out-of-State Corporation, currently authorized to do business in Florida, give date of such authorization.

If Partnership:

Date of Organization: _____

Nature of Partnership (General, Limited, or Association):

Name and Address of Partners:

Age of Partnership

13c: Major Subcontractor(s):

Legal Name, Address, and Telephone Number:

Check one: Corporation _____; Partnership _____; Individual _____

If a Corporation, State:

Date of Incorporation: _____

State in which Incorporated: _____

Name and Title of Principal Officers

Date of Assuming Position

If an Out-of-State Corporation, currently authorized to do business in Florida, give date of such authorization.

If Partnership:

Date of Organization: _____

Nature of Partnership (General, Limited, or Association):

Name and Address of Partners:

Age of Partnership

14. List all Architects, Engineers, and Surveyors to be used for the Project.
(Submit proof of license or certification.)

Name	Address	License Number
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

15. Identify Project Manager by name and state qualifications and experience:

Constructor:

Design Firm:

Major Subcontractor:

2. List the Design Contracts your organization has underway at this time:

Name of Project	Prime Contractor Name and Address	Date of Contract	Contract \$ Amount	Owner Name and Address	Scope of Work	Are Permitting Services Provided?

(Use extension sheet if necessary)

3. List the Construction Contracts your organization has underway at this time:

Name of Project	Prime Contractor Name and Address	Date of Contract	Contract \$ Amount Complete	Design Architect/Engineer Name and Address	Owner Name and Address	Scope of Work

(Use extension sheet if necessary)

4. List the Design Contracts your organization has completed in the past five (5) years with relevance to this proposed Design/Build project.

Name of Project	Prime Contractor Name and Address	Date of Contract	Contract \$ Amount	Owner Name and Address	Scope of Work	Were Permitting Services Provided?

(Use extension sheet if necessary)

5. List the Construction Contracts your organization has completed in the past five (5) years with relevance to this proposed Design/Build project.

Name of Project	Prime Contractor Name and Address	Date of Contract	Contract \$ Amount Complete	Design Architect/Engineer Name and Address	Owner Name and Address	Scope of Work

(Use extension sheet if necessary)

6. Statement on firm familiarity with local conditions:

7. List other projects firm has constructed or has under construction in the Florida Keys/Monroe County:

8. Statement on experience in providing design/build services in Florida:

9. Statement on corporate safety program, safety record, and OSHA violations, including handling of violators, for both Proposer and Subcontractors.

Part III - Technical Statement - Project Approach

The following statements shall be addressed by the Proposer on separate paper as required in the order presented herewith.

- A. Statement of Project scope and requirements and design approach.
- B. Management structure for project staffing including design/builder administrative and supervisory staff and proposed subcontractors.
- C. Statement on Management Process, which will be used during design phase and construction phase.
- D. Statement of resources, capacity to perform and Mobilization Plan.
- E. Statement regarding approach to Schematic Site Plan, grading and level changes.
- F. Statement on Construction Phasing approach.
- G. Statement on quality and sufficiency of proposed staffing and organizational structure, including project organization charge and identification of key project team members.
- H. Statement of proposed design process with review schedule and scope of each deliverable.
- I. Statement of proposed Design/Build Milestones with time schedule.
- J. Statement of construction systems and materials proposed for the exterior of the proposed buildings.
- K. Statement on design and construction Quality Control Program of Proposer.
- L. Design areas where Design/Builder would suggest alternate methods, materials, or systems.

Part IV - Technical Statement - Financial Information

1. State number of years the company has been in business. _____
2. Statement on credit rating of Proposer:
 - a. Give total contract value of work accomplished by your organization in each of the last three years.

20__ : _____ 20__ : _____ 20__ : _____
 - b. Give contract value of work now under contract with your organization: \$ _____
3. Strength of latest financial statement:
4. Statement on any bankruptcies, value of judgment or liens outstanding against your organization:
5. Statement on ability to secure performance and payment bonds:

Give names of Surety Companies and agent under which you have functioned within last three years:

20__ : _____

20__ : _____

20__ : _____
6. Estimate your maximum bonding capacity \$ _____.

How much is unencumbered and available at this date? _____
7. Statement on bonding capacity committed to current and pending projects:
8. What is the largest (dollar cost) project ever performed by your organization?

Attachment C
Cost Proposal - Package No. 2

PACKAGE NO. 2 - COST PROPOSAL

for

TRUMAN ANNEX / NOAA SEAWALL
KEY WEST, FLORIDA

NOTE TO PROPOSER: Use ink, preferably BLACK, for completing this proposal form.

To: City Clerk, City of Key West

Address: 1300 White Street
Key West, Florida 33040

Project Title: Truman Annex / NOAA Seawall
Key West, Florida

CITY Project No.: RFP 004-17

PROPOSER'S person to contact for additional information on the
Proposal:

Name: _____

Telephone Number: _____

BIDDER'S DECLARATION AND UNDERSTANDING

The undersigned hereinafter called the Design/Build Proposer, declares that the only persons or parties interested in this Proposal are those names herein, that this Proposal is, in all respects, fair and without fraud, that it is made without any connection or collusion with any person submitting another Proposal on this Contract.

The Proposer further declares that the Design/Build Proposer has carefully examined the Request for Proposal for design and construction of the Project, that the Proposer attended the Pre-proposal Meeting, that the Proposer has personally inspected the site, that the Proposer has satisfied himself as to the scope of the Project, including, but not limited to required design work, permitting conditions, conditions of construction work involved, quantities of equipment, materials, and building systems as well as the detailed requirements of the Contract, and that this Proposal is made according to the provisions and under the terms of the Contract. Furthermore, the Proposer acknowledges all information presented in the Instructions to Proposers.

The Proposer further agrees that the Proposer has exercised his own judgment regarding interpretation of the Design Criteria information and has utilized all data, which the Proposer believes pertinent from CITY and other sources in arriving at his conclusions.

Contract Execution and Bonds

The Design/Build Proposer agrees that upon receiving notice of City's intent to accept this Proposal the Bidder will, within 15 working days after Notice of Award, sign the Contract, submit the executed Performance and Payment Bonds, and will, to the extent of his Proposal, furnish all design and machinery, tools, apparatus, and other means of construction and do the work and furnish all materials necessary to complete all work as specified or indicated in the Design Criteria and Contract and General and Supplementary Conditions.

Certificates of Insurance

The Design/Build Proposer further agrees to furnish to the City, before signing of the Contract, the certificates of insurance as specified in the Request for Proposal Documents. The CITY shall be listed as additionally insured on all Insurance Certificates.

Start of Project and Contract Completion Time

The Design/Build Proposer further agrees to begin work within ten (10) calendar days after the date of the Notice to Proceed and that construction shall be substantially complete and also completed and ready for final payment and acceptance by, the CITY as set forth in the Design/Build contract

Liquidated Damages

Liquidated damages, in the amount and in accordance with the terms stated in the Agreement, shall be paid by the Proposer for each day from the time specified for the completion of the Contract until final acceptance of the Work in accordance with the Agreement. This is estimated as fixed damages to the CITY for failure to complete the Work

in the time specified. This charge shall be made, unless the CITY shall grant an extension of time for the completion of the Work.

Addenda

The Design/Build Proposer hereby acknowledges that he has received Addenda No's _____, _____, _____, _____ (Bidder shall insert No. of each Addendum received) and agrees that all Addenda issued are hereby made part of the Contract Documents, and the Bidder further agrees that the Proposal includes all impacts resulting from said Addenda.

Sales and Use Taxes

The Design/Build Proposer agrees that all sales and use taxes are included in the stated bid prices for the work, unless provision is made herein for the Proposer to separately itemize the amount of sales tax.

Lump Sum Work

The Design/Build Proposer further proposes to accept as full payment for the work proposed herein the amounts computed under the provisions of the Contract Documents and based on the following lump sum amounts, it being expressly understood that the amounts are independent of the exact quantities involved. The Design/Build Proposer agrees that the amounts represent a true measure of the labor and materials required to perform the work, including all allowances for overhead and profit for each type of work called for in these Contract Documents. The amounts shall be shown in both words and figures. In case of a discrepancy, the amount shown in words shall govern.

Preliminary Schedule of Values

Preliminary Schedule of Values prepared in accordance with General Conditions, Paragraph 2.04.B.3 shall be attached to this Cost Proposal Package. Final Schedule of Values shall be developed in accordance with the Contract subject to approval of the City.

Public Entity Crimes

"A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids 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 Section 287.017, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list." See Attachment M.

Florida Trench Safety Act

The Design/Build Proposer further acknowledges that, included in the various items of the Proposal and in the total bid price are costs for complying with the Florida Trench Safety Act (90-96, Laws of Florida) effective October 1, 1990. These costs shall not be paid for in a separate bid item. See Attachment O.

Permits

Design / Build Proposer shall obtain and pay for any permits required for execution of the work. Separate permits will be required by the City of Key West Building Department. No permits will be waived.

The CITY has received Permits from FDEP Permit: 44-0341846-001-EE and ACOE Permit: SAJ-2016-00621 (NW-CGM)/SER-2016-18029. Permits enclosed as Appendices ii and iii respectively.

The Design/Builder shall apply for a building permit and substantially comply with all permit approvals and/or modify these permits, as necessary, to incorporate any changes in design concepts or operational procedures incorporated during the design.

Total Base Bid Amount

The Design/Build Proposer agrees to accept as full payment for the Work proposed under this Project, as herein specified and as shown on the Drawings and Engineering Design Standards, the following Total Base Bid amount and building permit allowance:

1. Administrative NTP No. 1 (includes furnishing a full progress schedule in accordance with technical specifications section, submittals schedule, and schedule of values)

1 Lump Sum \$ _____

2. Design NTP No. 2 (includes design reaching 100% submittal and securing all Permits)

1 Lump Sum \$ _____

3. Construction NTP No. 3 (Includes mobilization, installing sheet pile wall With tie-back anchors and concrete cap, electrical, plumbing, stormwater piping, and dock/wood piling removal and replacement)

1 Lump Sum \$ _____

TOTAL OF BASE BID ITEMS 1 THROUGH 3 LISTED ABOVE:

Total of lump sum items 1 - 3 \$ _____

_____ Dollars & _____ Cents
(amount written in words)

Alternates:

Listed below are alternate options that will be considered by the City. These options, if accepted by the City will be additions to or deductions from the Total Base Bid Amount stated above. Acceptance of alternates will be at the sole discretion of the City.

ALTERNATE A – TARGUARD Coal Tar Epoxy (Lump Sum)

Under this alternate bid item, the Design/Builder must achieve coating the top 25 feet of steel sheet pile sheets on both sides with a 16-Mil minimum thickness of TARGUARD Coal Tar Epoxy.

Acceptance of Alternate A – TARGUARD Coal Tar Epoxy would increase the Total Base Bid Price.

1 Lump Sum \$ _____

ALTERNATE B – Seawall Length Adjustment (Unit Price)

Under this alternate bid item, the Design/Builder will reduce the overall wall length by the City selected footage. This unit price deduction per foot of wall would be inclusive all associated material, labor, and overhead cost.

Acceptance of Alternate B – Overall Seawall Length Adjustment would decrease the Total Base Bid Price.

1 Lineal Foot of Seawall \$ _____

ALTERNATE C – TARGUARD Coal Tar Epoxy Adjustment

Under this alternate bid item, the Design/Builder will reduce the overall wall length by the City selected footage, thus reducing the required TARGUARD Coal Tar Epoxy coating. This unit price deduction per foot of wall coating would be inclusive all TARGUARD Coal Tar Epoxy associated material, labor, and overhead cost.

Acceptance of Alternate C – TARGUARD Coal Tar Epoxy Adjustment would decrease the Total Base Bid Price:

1 Lineal Foot of Seawall \$ _____

SURETY

The Performance and Payment Bonding will be furnished by a Surety. The Surety who will provide the Payment and Performance Bonding will be_____

Whose address is _____
Street

_____ City State Zip Code

PROPOSER

The name of the Design/Build Proposer submitting this Proposal is _____

_____, doing business at

_____ Street City State Zip Code

which is the address to which all communications concerned with this Proposal and with the Contract shall be sent.

The names of the principal officers of the corporation submitting this Proposal, or of the partnership, or of all persons interested in this Proposal as principals are as follows:

If Sole Proprietor or Partnership

IN WITNESS hereto the undersigned has set his (its) hand this _____ day of _____, 20__.

Signature of Design/Build Proposer: _____

Title: _____

If Corporation

IN WITNESS WHEREOF the undersigned corporation has caused this instrument to be executed and its seal affixed by its duly authorized officers this _____ day of _____, 20__.

(SEAL)

Name of Corporation

By _____

Title _____

Attest _____

Secretary

Attachment D
Bid Bond

STATE OF FLORIDA)
)
COUNTY OF)

KNOW TO ALL MEN BY THESE PRESENTS, that we,

hereinafter called the PRINCIPAL, and

hereinafter called SURETY, are held and firmly bound unto City of Key West, hereinafter called OWNER, in the sum of

_____ DOLLARS (\$ _____) lawful money of the United States of America, for the payment of which well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, by these presents.

THE CONDITION OF THIS BOND IS SUCH THAT:

WHEREAS, the PRINCIPAL contemplates submitting or has submitted a bid to the OWNER for the furnishing of all design, labor, materials, equipment, machinery, tools, apparatus, means of transportation for, and the performance of the work covered in the Request for Proposal, entitled:

Truman Annex / NOAA Seawall, Key West, Florida

WHEREAS, it was a condition precedent to the submission of said bid that a cashier's check, certified check, or bid bond in the amount of 5 percent of the total bid to be submitted with said bid as a guarantee that the PRINCIPAL, would, if notified of OWNER'S intent to award the Contract to the PRINCIPAL, enter into a written Contract with the OWNER for the performance of said Contract, within 15 consecutive calendar days after written notice having been given of the award of the Contract.

NOW, THEREFORE, the conditions of this obligation are such that if the PRINCIPAL accepts within 15 consecutive calendar days after written notice of such intended award executes and delivers to the OWNER the written Contract with the OWNER and furnishes the Performance and Payment Bonds, each in an amount equal to 100 percent of the total bid, satisfactory to the OWNER, then this obligation shall be void; otherwise the sum herein stated shall be due and payable to the OWNER and the SURETY herein agrees to pay said sum immediately upon demand of the OWNER in good and lawful money of the United States of America, as liquidated damages for failure thereof of said PRINCIPAL.

IN WITNESS WHEREOF, the said
as PRINCIPAL herein, has caused these presents to be signed in its name by its and
attested by its
under its corporate seal, and the said
as SURETY herein, has caused these presents to be signed in its name by its
corporate seal, this _____ day of _____ A.D., 20__.

Signed, sealed and delivered in
the presence of:

Principal-Contractor

By _____

Title _____

As to Principal

Surety

By

Attorney-in-Fact

(Power-of-Attorney to be attached)

By

As to Surety

Resident Agent

END OF SECTION

Attachment E
Contract

CONTRACT

THIS AGREEMENT, made and entered into on the _____ day of 20___, by and between _____ the “**DESIGN/BUILDER**” and the “**CITY OF KEY WEST, FLORIDA**” the “**CITY**”.

WITNESSETH:

That the DESIGN/BUILDER, for the consideration hereinafter fully set out, hereby agrees with the CITY as follows:

1. That the DESIGN/BUILDER shall furnish materials as required, and perform all of the work in manner and form as provided by the following enumerated Contract Documents, which are attached hereto and made a part hereof, as if fully contained here:

Notice to DESIGN/BUILDERS; Information and Instructions to Proposers; General Conditions; Supplementary Conditions; Design Criteria; Specifications; Technical Proposal; Cost Proposal; Addenda; and the Drawings. As contained in:

Truman Annex / NOAA Seawall

CITY Project No. RFP 004-17

2. Contractor shall be instructed to commence the Work by written instructions in the form of a Notice to Proceed issued by the City. Contractor shall commence scheduling activities, permit applications and other preconstruction work within five (5) calendar days after the Project Initiation Date, which shall be the same as the date of the first Notice to Proceed. The first Notice to Proceed and Purchase Order will not be issued until Contractor's submission to City of all required documents (including but limited to: Payment and Performance Bonds, and Insurance Certificate) and after execution of the Contract by both parties.

Time is of the essence throughout this Contract. To assist in the management of the work items with the contract, the City will issue three Notice to Proceeds (NTPs) to the Contractor. The first notice to proceed will be for administrative items (Administrative NTP). The second notice to proceed will be for design work (Design NTP). The third notice to proceed will be for construction work (Construction NTP).

Administrative NTP (No. 1)

The Administrative NTP includes the receipt and acceptance of a full progress schedule in accordance with technical specifications section, submittals schedule, and schedule of values as a condition precedent to the issuance of a second Notice to Proceed. The Contractor shall submit all necessary documents required by this provision within fourteen (14) calendar days of the issuance of the first Notice to

Proceed.

Design NTP (No. 2)

The Design NTP shall reach 100% submittal and securing all permits within sixty (60) calendar days from the issuance of the first Notice to Proceed.

Construction NTP (No. 3)

The third Notice to Proceed will be issued within fifteen (15) calendar days after completing Phase 2 – Design. Phase 3 - Construction shall be substantially completed, as defined by Article 1.01.A.43 of the General Condition, within ninety (90) calendar days from the issuance of the Construction Notice to Proceed (No. 3), commences to run as provided in Article 2.02.A, of the General Conditions, and completed and ready for final payment in accordance with Article 13.08, of the General Conditions within thirty (30) calendar days from the date of Substantial Completion.

Liquidated Damages will be calculated from the issuance of the Administration NTP and will start accruing one hundred eighty (180) calendar days after the issuance of the Administration NTP (No. 1) until the substantial completion of the Construction Phase work.

3. Liquidated Damages: The DESIGN/BUILDER recognizes that time is of the essence of the CITY Contract and that the CITY will suffer financial loss if the work is not completed within the times specified in paragraph 2 above, plus any extensions thereof allowed in accordance with Article 11, of the General Conditions.

The parties also recognize the delays, expense and difficulties involved in proving in a legal proceeding the actual loss suffered by the CITY if the work is not completed on time. Accordingly, instead of requiring any such proof, the CITY and DESIGN/BUILDER agree that as liquidated damages for delay (but not as a penalty) DESIGN/BUILDER shall pay the CITY (\$1,000.00) for each day that expires after the time specified for substantial completion until the work is substantially complete. After Substantial Completion, if DESIGN/BUILDER shall neglect, refuse or fail to complete the remaining the work within the contract time or any proper extension thereof granted by the CITY, DESIGN/BUILDER shall pay the CITY (\$500.00) for each day that expires after the time specified for completion and readiness for final payment. Sundays and legal holidays shall be excluded in determining days in default.

4. That the CITY hereby agrees to pay to the DESIGN/BUILDER for the faithful performance of this Contract, subject to additions and deductions as provided in the Contract Documents, in lawful money of the United States, the amount of:

(\$ _____), based on the estimated quantities and Unit or Lump Sum Prices contained herein.

5. That on or before the 30th day of each calendar month, the CITY shall make partial payments to the DESIGN/BUILDER on the basis of a duly certified and approved estimate of work performed during the preceding calendar month by the CITY, LESS the retainage provided in the Contract Documents, which is to be withheld by the CITY until all work within a particular part has been performed strictly in accordance with this Contract and until such work has been accepted by the CITY.

The amount of retainage with respect to progress payments will be 10% of the Contract Price or as otherwise stipulated in the Agreement. After 95% substantial completion of the construction, the amount of retainage withheld from each subsequent progress payment shall be five (5%) percent. "Ninety-Five Percent or Substantial Completion" of the Work is defined as that point in time where 95% of the overall value of the Work items incorporated and which will remain in place subsequent to final completion of the Work have been completed, based upon the schedule of values contained in the Contract. As such, and by way of example, the value of CONTRACTOR'S mobilization, general conditions, supervision or like items which do not involve permanent incorporation of Work do not apply to the determination of "Ninety-Five Percent or Substantial Completion" of the Work for purposes of establishing entitlement to a reduction of retainage.

6. That upon submission by the DESIGN/BUILDER, of evidence satisfactory to the CITY that all payrolls, material bills, and other costs incurred by the Contractor, in connection with the construction of the work have paid in full, final payment on account of this Contract shall be made within 60 days after the completion by the DESIGN/BUILDER, of all work covered by this Contract and the acceptance of such work by the CITY.
7. It is further mutually agreed between the parties hereto that if, at any time after the execution of the Contract and the Surety Bonds, hereto attached for its faithful performance and payment, the CITY shall deem the Surety or Sureties upon any such bond to be unsatisfactory or if, for any reason any such bond ceases to be adequate to cover the performance of the work, the DESIGN/BUILDER shall, at its expense, within 5 days after the receipt of notice from the CITY so to do, furnish an additional bond or bonds in such form and amount and with such Surety or Sureties as shall be satisfactory to the CITY. In such event, no further payment to the DESIGN/BUILDER shall be deemed to be due under this Contract until such new or additional security for the faithful performance of the work shall be furnished in manner and form satisfactory to the CITY.
8. No additional work or extras shall be done unless the same shall be duly authorized by appropriate action by the CITY and written notice shall be delivered to DESIGN/BUILDER directing DESIGN/BUILDER to proceed with such additional work or extras.
9. That the DESIGN/BUILDER shall:

Furnish Payment and Performance Bonds which, comply with Chapter 255, Florida Statutes, and other applicable law.

10. Recovery of Attorney Fees:

In the event of any suit, action or proceedings at law or in equity, by either of the parties hereto against the other by reason of any matter or thing arising out of this Agreement, the prevailing party shall recover not only its legal costs, but reasonable attorneys' fees including appellate, bankruptcy and post-judgment collection proceedings for the maintenance or defense of the action or suit, as the case may be. In the event City determines that it needs the services of an attorney to investigate or address any dispute arising from this Agreement City shall be entitled to recover its reasonable attorney fees whether or not suit be brought.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and date first above written, in two (2) counterparts, each of which shall, without proof or accounting for the other counterpart be deemed an original Contract.

ATTEST:

City Clerk

DESIGN/BUILDER

By: _____

Title: _____

CITY OF KEY WEST:

By: _____

Title: _____

Attachment F
Performance Bond

PERFORMANCE BOND
City of Key West

BOND NO. _____

AMOUNT: _____

KNOW ALL MEN BY THESE PRESENTS, that in accordance with Florida Statutes Section 255.05, _____ with offices at hereinafter called the DESIGN/BUILDER (Principal), and

_____ with offices at _____ a corporate duly organized and existing under and by virtue of the laws of the State of hereinafter called the SURETY, and authorized to transact business within the State of Florida, as SURETY, are held and firmly bound unto CITY OF KEY WEST, represented by its _____, as CITY (Obligee), in the sum of:

_____ DOLLARS (\$_____), lawful money of the United States of America, for the payment of which, well and truly be made to the CITY, the DESIGN/BUILDER and the SURETY bind themselves and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the DESIGN/BUILDER has executed and entered into a certain Contract hereto attached, with the CITY, dated _____, 20__, to furnish at his own cost, charges, and expense all the necessary materials, equipment, and/or labor in strict and express accordance with said Contract and the Contract Documents as defined therein, all of which is made a part of said Contract by certain terms and conditions in said Contract more particularly mentioned, which Contract, consisting of the various Contract Documents is made a part of this Bond as fully and completely as if said Contract Documents were set forth herein;

NOW THEREFORE, the conditions of this obligation are such that if the above bounden DESIGN/BUILDER shall in all respects comply with the terms and conditions of said Contract and his obligation thereunder, including the Contract Documents and shall indemnify, defend and save harmless the above CITY against and from all costs, expenses, damages, attorney's fees, including appellate proceedings, injury or loss of whatever kind and however arising including without limitation delay damages to which said CITY may be subject by reason of any wrongdoing, misconduct, want of care or skill, negligence, failure of performance, breach, failure to petition within the prescribed time, or default, including patent

infringements, on the part of said DESIGN/BUILDER, his agents or employees, in the execution or performance of said Contract; then this obligation shall be void; otherwise, to remain in full force and effect for the term of said Contract, including any and all guarantee periods as specifically mentioned in said Contract Documents; AND, the said Surety for value received, hereby stipulates and agrees that no change involving any extension of time, or addition to the terms of the Contract Documents, or to the work to be performed, or materials to be furnished thereunder shall affect said obligation of said Surety on this Bond, and the said Surety does hereby waive notice of any such changes, extension of time, alterations, or additions of the terms of the Contract Documents, or to the work. Claimant shall give written notice to the Design/Builder and to the Surety as required by Florida Statutes, Section 255.05. Any actions against the Design/Builder or the Surety shall be brought within the time specified by Section 255.05.

IN WITNESS WHEREOF, the above parties bounded together have executed this instrument this _____ day of _____, 20__, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

DESIGN/BUILDER

By

(SEAL)

ATTEST

SURETY

By

(SEAL)

ATTEST

Attachment G
Payment Bond

PAYMENT BOND
City of Key West

BOND NO. _____

AMOUNT: _____

KNOW ALL MEN BY THESE PRESENTS, that in accordance with Florida Statutes Section 255.05, _____ with offices at hereinafter called the DESIGN/BUILDER, (Principal), and

_____ with offices at _____ a corporation duly organized and existing under and by virtue of the laws of the State of _____, hereinafter called the SURETY, and authorized to transact business within the State of Florida, as SURETY, are held and firmly bound CITY OF KEY WEST, represented by its _____, as City (Obligee), in the sum of:

_____ DOLLARS (\$ _____), lawful money of the United States of America, for the payment of which, well and truly be made to the CITY, and the DESIGN/BUILDER and the SURETY bind themselves and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the DESIGN/BUILDER has executed and entered into a certain Contract hereto attached, with the CITY, dated _____, 20____, to furnish at his own cost, charges, and expense the necessary materials, equipment, and/or labor in strict and express accordance with said Contract and the Contract Documents as defined therein, all of which is made a part of said Contract by certain terms and conditions in said Contract more particularly mentioned, which Contract, consisting of the various Contract Documents is made a part of this Bond as fully and completely as if said Contract Documents were set forth herein;

NOW THEREFORE, the conditions of this obligation are such that if the above bounden DESIGN/BUILDER shall in all respects comply with the terms and conditions of said Contract and his obligation thereunder, including the Contract Documents and further that if said DESIGN/BUILDER shall promptly make payments to all persons supplying materials, equipment, and/or labor used directly or indirectly by said Design/Builder or Subcontractors in the prosecution of the work provided for in said Contract in accordance with Florida Statutes, Section 255.05; then this obligation shall be void; otherwise, to remain in full force and effect for the term of said Contract, including any and all guarantee periods as specifically mentioned in said Contract Documents;

AND, the said SURETY for value received, hereby stipulates and agrees that no change involving any extension of time, or addition to the terms of the Contract or to the work to be performed, or materials to be furnished thereunder, or in the Contract Documents shall affect said obligation of said SURETY on this Bond, and the said SURETY does hereby waive notice of any such changes, extension of time, alternations, or additions of the terms of the Contract, or to the work, o to the Contract Documents. Claimant shall give written notice to the Design/Builder and to the SURETY as required by Florida Statutes, Section 255.05. Any actions against the Design/Builder or the SURETY shall be brought within the time specified by Section 255.05.

IN WITNESS WHEREOF, the above parties bounded together have executed this instrument this _____ day of _____, 20____, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

DESIGN/BUILDER

By

(SEAL)

ATTEST

SURETY

By

(SEAL)

ATTEST

Attachment H
General Conditions of the Contract (EJCDC)

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the Controlling Law.

STANDARD GENERAL CONDITIONS OF THE CONTRACT BETWEEN OWNER AND DESIGN/BUILDER

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by



PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
a practice division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

AMERICAN COUNCIL OF ENGINEERING COMPANIES

AMERICAN SOCIETY OF CIVIL ENGINEERS

These General Conditions have been prepared for use with either one of the two Agreements between Owner and Design/Builder (Nos. D-520 and D-525, 2002 Editions) of the Engineers Joint Contract Documents Committee. Their provisions are interrelated and a change in one may necessitate a change in the others. The suggested language and instructions contained in the Guide to Use of EJCDC Design/Build Documents (No. D-001, 2002 Edition) is also carefully interrelated with the language of these General Conditions. The Guide also contains comments concerning the use of the General Conditions.

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1420 King Street, Alexandria, VA 22314-2794

American Council of Engineering Companies
1015 15th Street N.W., Washington, DC 20005

American Society of Civil Engineers
1801 Alexander Bell Drive, Reston, VA 20191-4400

TABLE OF CONTENTS

	Page
ARTICLE 1 – DEFINITIONS AND TERMINOLOGY	1
1.01 Defined Terms.....	1
1.02 Terminology.....	3
ARTICLE 2 – PRELIMINARY MATTERS.....	4
2.01 Delivery of Bonds.....	4
2.02 Commencement of Contract Times; Notice to Proceed	4
2.03 Starting the Work	4
2.04 Before Starting the Work	4
2.05 Initial Conference	4
2.06 Initial Acceptance of Schedules.....	4
ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE	5
3.01 Intent.....	5
3.02 Reference Standards	5
3.03 Resolving Discrepancies	5
3.04 Amending and Supplementing Contract Documents.....	5
3.05 Reuse of Documents	5
3.06 Electronic Data.....	6
ARTICLE 4 – AVAILABILITY OF LANDS; DIFFERING SITE CONDITIONS; REFERENCE POINTS; HAZARDOUS ENVIRONMENTAL CONDITIONS.....	6
4.01 Availability of Lands	6
4.02 Differing Site Conditions	6
4.03 Reference Points.....	6
4.04 Hazardous Environmental Condition at Site	6
ARTICLE 5 – BONDS AND INSURANCE.....	7
5.01 Performance, Payment and Other Bonds	7
5.02 Licensed Sureties and Insurers	7
5.03 Certificates of Insurance	8
5.04 Design/Builder's Liability Insurance.....	8
5.05 Owner's Liability Insurance	8
5.06 Property Insurance.....	9
5.07 Waiver of Rights	9
5.08 Receipt and Application of Insurance Proceeds	10
5.09 Acceptance of Bonds and Insurance; Option to Replace.....	10
5.10 Partial Utilization, Acknowledgment of Property Insurance.....	10
ARTICLE 6 – DESIGN/BUILDER'S RESPONSIBILITIES	10
6.01 Design Professional Services	10
6.02 Supervision and Superintendence of Construction	11
6.03 Labor, Working Hours.....	11
6.04 Services, Materials, and Equipment.....	11
6.05 Progress Schedule.....	12
6.06 Concerning Subcontractors, Suppliers and Others.....	12
6.07 Patent Fees and Royalties.....	12
6.08 Permits.....	13
6.09 Laws or Regulations	13
6.10 Taxes.....	13
6.11 Use of Site and Other Areas	13
6.12 Record Documents	13
6.13 Safety and Protection	14
6.14 Safety Representative	14
6.15 Hazard Communication Programs.....	14
6.16 Emergencies	14
6.17 Submittals	14
6.18 Continuing the Work	14
6.19 Post-Construction Phase	15
6.20 Design/Builder's General Warranty and Guarantee	15
6.21 Indemnification	15

ARTICLE 7 – OTHER CONSTRUCTION	15
7.01 Related Work at Site.....	15
7.02 Coordination.....	16
ARTICLE 8 – OWNER'S RESPONSIBILITIES	16
8.01 General.....	16
8.02 Insurance.....	17
8.03 Limitations on Owner's Responsibilities.....	17
8.04 Undisclosed Hazardous Environmental Condition	17
8.05 Resident Project Representation	17
8.06 Owner's Consultant.....	17
ARTICLE 9 – CHANGES IN THE WORK; CLAIMS	17
9.01 Authorized Changes in the Work.....	17
9.02 Unauthorized Changes in the Work.....	17
9.03 Claims.....	17
9.04 Execution of Change Orders	18
9.05 Notice to Sureties	18
ARTICLE 10 – COST OF THE WORK; CASH ALLOWANCES; UNIT PRICE WORK.....	18
10.01 Cost of the Work	18
10.02 Cash Allowances	20
10.03 Unit Prices.....	20
ARTICLE 11 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES.....	20
11.01 Change of Contract Price	20
11.02 Change of Contract Times.....	21
ARTICLE 12 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIV CONSTRUCTION.....	21
12.01 Notice of Defects.....	21
12.02 Access to Construction.....	21
12.03 Tests and Inspections.....	21
12.04 Uncovering Construction	22
12.05 Owner May Stop Construction	22
12.06 Correction or Removal of Defective Construction	22
12.07 Correction Period.....	22
12.08 Acceptance of Defective Construction.....	23
12.09 Owner May Correct Defective Construction	23
ARTICLE 13 – PAYMENTS TO DESIGN/BUILDER AND COMPLETION	23
13.01 Schedule of Values	23
13.02 Application for Progress Payment	23
13.03 Progress Payments.....	24
13.04 Design/Builder's Warranty of Title.....	24
13.05 Substantial Completion.....	24
13.06 Partial Utilization.....	25
13.07 Final Inspection	25
13.08 Final Payment.....	25
13.09 Final Completion Delayed	25
13.10 Waiver of Claims.....	26
ARTICLE 14 – SUSPENSION OF WORK AND TERMINATION.....	26
14.01 Owner May Suspend Work.....	26
14.02 Owner May Terminate for Cause	26
14.03 Owner May Terminate for Convenience.....	26
14.04 Design/Builder May Stop Work or Terminate.....	27
ARTICLE 15 – DISPUTE RESOLUTION	27
ARTICLE 16 – MISCELLANEOUS.....	27
16.01 Giving Notice	27
16.02 Computation of Times	27
16.03 Cumulative Remedies	27
16.04 Survival of Obligations.....	27
16.05 Controlling Law.....	28

STANDARD GENERAL CONDITIONS OF THE CONTRACT BETWEEN OWNER AND DESIGN/BUILDER

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

A. Wherever used in the Contract Documents and printed with initial or all capital letters, the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

1. Addenda – Written or graphic instruments issued prior to the opening of Proposals which clarify, correct or change the Request for Proposals or the Contract Documents.

2. Agreement – The written instrument which is evidence of the agreement between Owner and Design/Builder covering the Work.

3. Application for Payment – The form which is to be used by Design/Builder in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. Asbestos – Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. Bonds – Performance and payment bonds and other instruments of security.

6. Change Order – A written order which is signed by Design/Builder and Owner which authorizes an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

7. Claim – A demand or assertion by Owner or Design/Builder seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a claim.

8. Conceptual Documents – The drawings and specifications and/or other graphic or written materials, criteria and information concerning Owner's requirements for the Project, such as design objectives and constraints, space, capacity and performance requirements, flexibility and expandability, including those items enumerated in the

Request for Proposals which show or describe the character and scope of, or relate to, the Work to be performed or furnished and which have been prepared by or for Owner.

9. Construction – The result of performing or furnishing of labor, the furnishing and incorporating of materials and equipment into the Work and the furnishing of services (other than Design Professional Services) and documents, all as required by the Contract Documents.

10. Construction Subagreement – A written agreement between Design/Builder and a construction Subcontractor for provision of Construction.

11. Contract – The entire and integrated written agreement between Owner and Design/Builder concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. Contract Documents – Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents.

13. Contract Price – The moneys payable by Owner to Design/Builder for completion of the Work in accordance with the Contract Documents.

14. Contract Times – The numbers of days or the dates stated in the Agreement to (i) achieve Substantial Completion, and (ii) complete the Work so that it is ready for final payment in accordance with paragraph 13.08.

15. Design/Builder – The individual or entity with whom Owner has entered into the Agreement.

16. Design Subagreement – A written agreement between Design/Builder and a design professional for provision of Design Professional Services.

17. Design Professional Services – Services related to the preparation of Drawings, Specifications, and other design submittals specified by the Contract Documents and required to be performed by licensed design professionals, as well as other services provided by or for licensed design professionals during Bidding/Negotiating, Construction, or Operational phases.

18. Drawings – Those portions of the Contract Documents prepared by or for Design/Builder and approved by Owner consisting of drawings, diagrams,

illustrations, schedules and other data which show the scope, extent, and character of the Work.

19. Effective Date of the Agreement – The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

20. Field Order – A written order issued by Owner which orders minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

21. Hazardous Environmental Condition – The presence at the Site of Asbestos, Hazardous Waste, PCB's, Petroleum Products or Radioactive Materials in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto on connection with the Work.

22. Hazardous Waste – The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

23. Laws or Regulations – Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities and courts having jurisdiction.

24. Liens – Charges, security interests or encumbrances upon real property or personal property.

25. Milestone – A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

26. Notice of Award – The written notice by Owner to the successful proposer stating that upon compliance by the successful proposer with the conditions precedent included therein, within the time specified, Owner will sign and deliver the Agreement.

27. Notice to Proceed – A written notice given by Owner to Design/Builder fixing the date on which the Contract Times will commence to run and on which Design/Builder shall start to perform the Work.

28. Owner – The individual or entity with whom Design/Builder has entered into the Agreement and for whom the Work is to be performed.

29. Owner's Consultant – An individual or entity with whom the Owner may contract to furnish services to Owner with respect to the Project and who is identified as such in the Supplementary Conditions.

30. Partial Utilization – Use by Owner of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

31. PCBs – Polychlorinated biphenyls.

32. Petroleum – Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Wastes and crude oils.

33. 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.

34. Proposal – The documents submitted by Design/Builder in response to the Request for Proposals setting forth the design concepts, proposed prices, and other conditions for the Work to be performed.

35. Radioactive Material – Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. Request for Proposals – The document prepared by or for Owner specifying and describing Owner's objectives and the procedure to be followed in preparing and submitting a Proposal and awarding a contract.

37. Resident Project Representative – The authorized representative of Owner who may be assigned to the Site or any part thereof.

38. Schedule of Values – A schedule prepared by Design/Builder and acceptable to Owner indicating that portion of the Contract Price to be paid for each major component of the Work.

39. Site – Lands or other areas designated in the Contract Documents as being furnished by Owner upon which Construction is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for use of Design/Builder.

40. Specifications – The part of the Contract Documents prepared by or for Design/Builder and approved by Owner consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

41. Subcontractor – An individual or entity other than a Supplier having a direct contract with Design/Builder or with any other Subcontractor for the performance of a part of the Work.

42. Submittal – A written or graphic document prepared by or for Design/Builder which is required by the Contract Documents to be submitted to Owner by Design/Builder. Submittals may include Drawings, Specifications, progress schedules, shop drawings, samples, cash flow projections, and Schedules of Values. Submittals other than Drawings and Specifications are not Contract Documents.

43. Substantial Completion – The time at which the Work (or a specified part) has progressed to the point where it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

44. Supplementary Conditions – The part of the Contract Documents which amends or supplements these General Conditions.

45. Supplier – A manufacturer, fabricator, supplier, distributor, materialman or vendor having a direct contract with Design/Builder or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Design/Builder or any Subcontractor.

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

47. Work – The entire construction or the various separately identifiable parts thereof required to be performed or furnished under the Contract Documents. Work includes and is the result of performing or furnishing Design Professional Services and Construction required by the Contract Documents.

48. Work Change Directive – A written directive to Design/Builder, issued on or after the Effective Date of the Agreement and signed by Owner ordering an addition, deletion or revision in the Work, or responding to differing site conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times, but is evidence that the parties expect that the change directed or documented by a Work Change Directive 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 Times.

1. The word "day" shall constitute a calendar day of 24 hours measured from midnight to the next midnight.

2. The word "defective," when modifying the word "Construction" refers to Construction that is unsatisfactory, faulty, or deficient in that it 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 Owner's final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion) provided that the defect was not caused by Owner.

3. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

4. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials or equipment or equipment complete and ready for intended use.

5. The words "perform" or "provide" when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

6. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Design/Builder, "provide" is implied.

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

1.02 Terminology

A. Intent of Certain Terms or Adjectives:

ARTICLE 2 – PRELIMINARY MATTERS

2.01 Delivery of Bonds

A. When Design/Builder delivers the executed Agreements to Owner, Design/Builder shall also deliver to Owner such Bonds as Design/Builder may be required to furnish in accordance with paragraph 5.01.A.

2.02 Commencement of Contract Times; Notice to Proceed

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement, or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within thirty days after the Effective Date of the Agreement. Unless agreed to in writing by Owner and Design/Builder, the Contract Times will commence to run no later than the ninetieth day after the last day for receipt of the Proposal or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.03 Starting the Work

A. Design/Builder shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.04 Before Starting the Work

A. Design/Builder's Review of Contract Documents: Before undertaking each part of the Work, Design/Builder shall carefully study and compare those Contract Documents prepared by Owner and check and verify pertinent figures therein and all applicable field measurements. Design/Builder shall promptly report in writing to Owner any conflict, error, ambiguity, or discrepancy which Design/Builder may discover and shall obtain a written interpretation or clarification from Owner before proceeding with any Work affected thereby; however, Design/Builder shall not be liable to Owner for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Design/Builder knew or reasonably should have known thereof.

B. Preliminary Schedules: Within 10 days after commencement of the Contract Times (unless otherwise specified in the Contract Documents), Design/Builder shall submit the following to Owner for its timely review:

1. A preliminary progress schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. A preliminary schedule of Submittals which will list each required Submittal and the times for submitting, reviewing and processing each Submittal;

3. A preliminary Schedule of Values for all of the Work which will include quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work; and

4. A preliminary cash flow projection estimating that portion of the Contract Price to be due during each month of performance.

C. Evidence of Insurance: Before any Work at the Site is started, Design/Builder and Owner shall each deliver to the other, certificates of insurance as required by paragraph 5.03 which Design/Builder and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.05 Initial Conference

A. Within twenty days after the Contract Times start to run, Design/Builder will arrange a conference attended by Owner and Design/Builder and others as appropriate to establish a working understanding among the parties as to the Work and to discuss the design concepts, schedules referred to in paragraph 2.04.B, procedures for handling Submittals, processing Applications for Payment, maintaining required records, items required pursuant to paragraph 8.01.A.6 and other matters.

2.06 Initial Acceptance of Schedules

A. At least ten days before submission of the first Application for Payment (unless otherwise provided in the Contract Documents), Design/Builder will arrange a conference attended by Design/Builder, Owner and others as appropriate to review for acceptability the schedules submitted in accordance with paragraph 2.04.B. Design/Builder shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Design/Builder until the acceptable schedules are submitted to Owner.

1. The progress schedule will be acceptable to Owner if it provides an orderly progression of the Work to completion within any specified Milestones and the Contract Times. Such acceptance will not impose on Owner responsibility for the progress schedule, for sequencing, scheduling or progress of the Work nor interfere with nor relieve Design/Builder from Design/Builder's full responsibility therefor.

2. Design/Builder's schedule of Submittals will be acceptable to Owner if it provides a workable

arrangement for reviewing and processing the required Submittals.

3. Design/Builder's Schedule of Values will be acceptable to Owner as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 Intent

A. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be designed and constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be furnished and performed whether or not specifically called for at no additional cost to Owner.

3.02 Reference Standards

A. Standards, Specifications, Codes, Laws or Regulations.

1. Reference to standards, specifications, manuals or codes of any technical society, organization or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect on the last day for receipt of Proposals except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual, code, or instruction of a Supplier shall be effective to change the duties and responsibilities of Owner, Design/Builder, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall it be effective to assign to Owner any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 Resolving Discrepancies

A. In the event of a discrepancy between the Conceptual Documents on the one hand and the Proposal or Drawings or Specifications on the other hand, the Conceptual

Documents will control except when Owner has approved a Submittal pursuant to paragraph 6.17.B.

B. Except as otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

1. The provisions of any such standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

2. The provisions of any such Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 Amending and Supplementing Contract Documents

A. 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:

1. Owner's approval of required Submittals (pursuant to paragraph 6.17.B);
2. A Work Change Directive;
3. A Change Order;
4. A Field Order.

3.05 Reuse of Documents

A. All documents including Drawings and Specifications prepared or furnished by Design/Builder pursuant to this Agreement are for Design/Builder's own use, and Design/Builder shall retain an ownership and property interest therein whether or not the Project is completed. Owner may make and retain copies for information and reference in connection with the use and occupancy of the Project by Owner and others. However, such documents are not intended or represented to be suitable for reuse by Owner or others on extensions of the Project or on any other project. Any reuse or any continued use after any termination without written verification or adaptation by Design/Builder for the specific purpose intended will be at Owner's sole risk and without liability or legal exposure to Design/Builder and Owner shall indemnify and hold harmless Design/Builder and Subcontractors from all claims, damages, losses and expenses including attorneys' fees arising out of or resulting therefrom. Any such verification or adaptation will entitle Design/Builder to further compensation at rates to be agreed upon by Owner and Design/Builder.

3.06 Electronic Data

A. Copies of data furnished by Owner to Design/Builder or Design/Builder to Owner that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; DIFFERING SITE CONDITIONS; REFERENCE POINTS; HAZARDOUS ENVIRONMENTAL CONDITIONS

4.01 Availability of Lands

A. Owner shall furnish the Site. Owner shall notify Design/Builder of any encumbrances or restrictions not of general application but specifically related to use of the Site which Design/Builder will have to comply in performing the Work. Unless otherwise provided in the Contract Documents, Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Design/Builder and Owner are unable to agree on entitlement to or the amount or extent of any adjustments in the Contract Price or the Contract Times as a result of any delay in Owner's furnishing the Site, Design/Builder may make a Claim therefor as provided in Article 9.

B. Upon reasonable written request, Owner shall furnish Design/Builder with a current statement of record legal title and legal description of the lands upon which the Construction is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's lien against such lands in accordance with applicable Laws or Regulations.

C. Design/Builder shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 Differing Site Conditions

A. Design/Builder shall promptly, and before the conditions are disturbed, give a written notice to Owner of (i) subsurface or latent physical conditions at the Site which differ materially from those indicated in the Contract Documents, or (ii) 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 called for by the Contract Documents.

B. Owner will investigate the Site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the Design/Builder's cost of, or the time required for, performing any part of the Work, whether or not changed as a result of the conditions, an equitable adjustment shall be made under this clause and the Contract Price or Times modified in writing by Change Order in accordance with Article 9.

C. No request by Design/Builder for an equitable adjustment under paragraph 4.02 shall be allowed unless Design/Builder has given the written notice required; provided that the time prescribed in 9.03.A for giving written notice may be extended by Owner.

D. The provisions of this paragraph 4.02 are not intended to apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

4.03 Reference Points

A. Design/Builder shall be responsible for laying out the Work and shall protect and preserve the reference points and property monuments established by Owner pursuant to paragraph 8.01.A.6.e, and shall make no changes or relocations without the prior written approval of Owner. Design/Builder shall report to Owner whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 Hazardous Environmental Condition at Site

A. Design/Builder will not be responsible for any Hazardous Environmental Condition encountered at the Site which was not identified in the Contract Documents to be within the scope of the Work. Design/Builder shall be responsible for materials creating a Hazardous Environmental Condition created by any materials brought to the Site by Design/Builder, Subcontractors, Suppliers or anyone else for whom Design/Builder is responsible.

B. If Design/Builder encounters a Hazardous Environmental Condition, Design/Builder shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Construction in connection with such condition and in any area affected thereby (except in an emergency as required by paragraph 6.16); and (iii) notify Owner (and thereafter confirm such notice in writing). Owner shall promptly determine the necessity of retaining a qualified expert to evaluate such condition or take corrective action, if any.

C. Design/Builder shall not be required to resume Construction in connection with such Hazardous Environmental Condition or in any such affected area until after Owner has obtained any required permits related thereto and delivered to Design/Builder written notice (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Construction, or (ii) specifying any special conditions under which such

Construction may be resumed safely. If Owner and Design/Builder cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of such Construction stoppage or such special conditions under which Construction is agreed to be resumed by Design/Builder, either party may make a Claim therefor as provided in Article 9.

D. If after receipt of such special written notice Design/Builder does not agree to resume Construction based on a reasonable belief it is unsafe, or does not agree to resume such Construction under such special conditions, then Owner may order such portion of the Work that is related to such Hazardous Environmental Condition to be deleted from the Work. If Owner and Design/Builder cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Article 9. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

E. To the fullest extent permitted by Laws or Regulations, Owner shall indemnify and hold harmless Design/Builder, Subcontractors, Suppliers and the officers, directors, partners, employees, agents, other consultants and subcontractors of each and any of them from and against all claims, costs, losses and damages (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) arising out of or resulting from such Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Contract Documents to be included in the scope of the Work, and (iii) was not created by Design/Builder or by anyone for whom Design/Builder is responsible. Nothing in this paragraph 4.04.E shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

F. To the fullest extent permitted by Laws or Regulations, Design/Builder shall indemnify and hold harmless Owner, Owner's Consultant and the officers, directors, partners, employees, agents, other consultants and subcontractors of each and any of them from and against all claims, costs, losses and damages (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) arising out of or resulting from such Hazardous Environmental Condition created by Design/Builder or anyone for whom Design/Builder is responsible. Nothing in this paragraph 4.04.F shall obligate Design/Builder to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

ARTICLE 5 – BONDS AND INSURANCE

5.01 Performance, Payment and Other Bonds

A. Design/Builder shall furnish performance and payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all Design/Builder's obligations to furnish, provide and pay for Work and related materials under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. Design/Builder shall also furnish such other Bonds as are required by the Contract Documents.

B. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 by the Audit Staff, Bureau of Government Financial Operations, U.S. Department of the Treasury. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

C. If the surety on any Bond furnished by Design/Builder is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.01.B and 5.02, Design/Builder shall within twenty days thereafter substitute another Bond and surety, both of which shall comply with the requirements of paragraphs 5.01.B and 5.02.

5.02 Licensed Sureties and Insurers

A. All Bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Design/Builder shall be obtained from surety or insurance companies that are duly licensed or authorized in the

jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 Certificates of Insurance

A. Design/Builder shall deliver to Owner, with copies to each additional insured indicated in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Design/Builder is required to purchase and maintain. Owner shall deliver to Design/Builder, with copies to each additional insured indicated in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Design/Builder or any other additional insured) which Owner is required to purchase and maintain.

5.04 Design/Builder's Liability Insurance

A. Design/Builder shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Design/Builder's performance of the Work and Design/Builder's other obligations under the Contract Documents, whether it is to be performed by Design/Builder, any Subcontractor or Supplier or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. Claims under workers' compensation, disability benefits and other similar employee benefit acts;
2. Claims for damages because of bodily injury, occupational sickness or disease, or death of Design/Builder's employees;
3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than Design/Builder's employees;
4. Claims for damages insured by reasonably available personal injury liability coverage which are sustained (i) by any person as a result of an offense directly or indirectly related to the employment of such person by Design/Builder, or (ii) by any other person for any other reason;
5. Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
6. Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by paragraph 5.04.A shall:

1. With respect to insurance required by paragraphs 5.04.A.3 through 5.04.A.6 inclusive, (subject to any customary exclusion in respect of professional liability) include as additional insureds Owner and Owner's Consultants and any other persons or entities indicated in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, and employees, agents, and other consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. Include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. Include completed operations insurance;

4. Include contractual liability insurance covering Design/Builder's indemnity obligations under paragraphs 6.11.A.3 and 6.21;

5. Contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days' prior written notice has been given to Owner and each other additional insured indicated in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Design/Builder pursuant to paragraph 5.03 will so provide);

6. Remain in effect at least until final payment and at all times thereafter when Design/Builder may be correcting, removing or replacing defective Construction in accordance with paragraphs 12.06 and 12.07; and

7. With respect to completed operations insurance, and any other insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and Design/Builder shall furnish Owner and each other additional insured indicated in the Supplementary Conditions to whom a certificate of insurance has been issued evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter).

5.05 Owner's Liability Insurance

A. In addition to the insurance required to be provided by Design/Builder under paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense

Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 Property Insurance

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Construction at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws or Regulations). This insurance will:

1. Include the interests of Owner, Owner's Consultant, Design/Builder, Subcontractors, and any other individuals or entities indicated in the Supplementary Conditions, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

2. Be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss and damage to the Construction, temporary buildings, falsework and all materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws or Regulations, water damage, and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

3. Include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. Cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Construction, provided that such materials and equipment have been included in an Application for Payment approved by Owner;

5. Allow partial utilization in accordance with paragraph 13.06;

6. Include testing and startup; and

7. Be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner and Design/Builder with thirty days' written notice to each other additional insured to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such boiler and machinery insurance or additional property insurance as may

be required by the Supplementary Conditions or Laws or Regulations which will include the interests of Owner, Owner's Consultants, Design/Builder, Subcontractors, and any other individuals or entities indicated in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained by Owner in accordance with paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days' prior written notice has been given to Design/Builder and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance to protect the interests of Design/Builder, Subcontractors, Suppliers, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount, will be borne by Design/Builder, Subcontractor or others suffering any such loss and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If Design/Builder requests in writing that other special insurance be included in the property insurance policies provided under paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Design/Builder by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Design/Builder whether or not such other insurance has been procured by Owner.

5.07 Waiver of Rights

A. Owner and Design/Builder intend that all policies purchased in accordance with paragraph 5.06 will protect Owner, Owner's Consultant, Design/Builder, Subcontractors, Suppliers, and all other individuals or entities indicated in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. Owner and Design/Builder waive all rights against each other and their respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition,

waive all such rights against Owner's Consultant, Subcontractors, Suppliers, and all other individuals or entities indicated in the Supplementary Conditions to be listed as insureds or additional insureds under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Design/Builder, Subcontractors, and Suppliers and the officers, directors, employees and agents of any of them for:

1. Loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property caused by, arising out of or resulting from fire or other peril whether or not insured by Owner; and

2. Loss or damage to the completed Project or any part thereof caused by, arising out of, or resulting from fire or other insured peril or cause or loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to paragraph 13.06, after Substantial Completion pursuant to paragraph 13.05, or after final payment pursuant to paragraph 13.08.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Design/Builder, Subcontractors, Owner's Consultant, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them.

5.08 Receipt and Application of Insurance Proceeds

A. Any insured loss under the policies of insurance required by paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of paragraph 5.08.B. Owner shall deposit in a separate account any money so received, and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached the damaged Construction shall be repaired or

replaced, the moneys so received applied on account thereof and the Work and the cost thereof covered by an appropriate Change Order.

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the

parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 Acceptance of Bonds and Insurance; Option to Replace

A. If either Owner or Design/Builder has any objection to the coverage afforded by or other provisions of the Bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of their not complying with the Contract Documents, the objecting party shall so notify the other party in writing within ten days after receipt of the certificates (or other evidence requested) required by paragraph 2.04.C. Owner and Design/Builder shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the Bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent Bonds or insurance to protect such other party's interests at the expense of the party who was supposed to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 Partial Utilization, Acknowledgment of Property Insurance

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in paragraph 13.06, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – DESIGN/BUILDER'S RESPONSIBILITIES

6.01 Design Professional Services

A. Standard of Care. The standard of care for Design Professional Services performed or furnished under this Agreement will be the care and skill ordinarily used by members of the engineering profession practicing under similar conditions at the same time and locality.

B. Preliminary Design Phase. After the Contract Times commence to run, Design/Builder shall:

1. Consult with Owner to understand Owner's requirements for the Project and review available data;
2. Advise Owner as to the necessity of Owner's providing or obtaining from others additional reports, data, or services of the types provided in paragraph 8.01.A.6.a-g and assist Owner in obtaining such reports, data, or services;
3. Identify and analyze requirements of governmental authorities having jurisdiction to approve the portions of the Project designed or specified by Design/Builder with whom consultation is to be undertaken in connection with the Project;
4. Obtain such additional geotechnical and related information which it deems necessary for performance of the Work;
5. On the basis of the Conceptual Documents and Design/Builder's Proposal, prepare preliminary design documents consisting of final design criteria, preliminary drawings, outline specifications, and written descriptions of the Project;
6. Furnish the preliminary design documents to and review them with Owner within the times indicated in the schedules described in paragraphs 2.06.A.1 and 2.06.A.2; and
7. Identify any variations in the preliminary design documents from the Contract Documents in accordance with 6.17.B.

C. Final Design Phase. After written acceptance by Owner of the preliminary design phase documents Design/Builder shall:

1. On the basis of the accepted Preliminary Design Phase documents, prepare final Drawings showing the scope, extent, and character of the Construction to be performed and furnished by Design/Builder and Specifications (which will be prepared, where appropriate, in general conformance with the sixteen division format of the Construction Specifications Institute);
2. Provide technical criteria, written descriptions and design data required for obtaining approvals of such governmental authorities as have jurisdiction to review or approve the final design of the Project, and assist Owner in consultations with appropriate authorities;
3. Furnish the above documents, Drawings, and Specifications to and review them with Owner within the

times indicated in the schedules described in paragraphs 2.06.A.1 and 2.06.A.2; and

4. Identify any deviations from other Contract Documents in accordance with paragraph 6.17.B.

6.02 Supervision and Superintendence of Construction

A. Design/Builder shall supervise, inspect and direct the Construction competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to provide the Construction in accordance with the Contract Documents. Design/Builder shall be solely responsible for the means, methods, techniques, sequences and procedures of Construction. Design/Builder shall be responsible to see that the completed Construction complies accurately with the Contract Documents and shall keep Owner advised as to the quality and progress of the Construction.

B. At all times during the progress of Construction, the Design/Builder shall assign a competent resident superintendent thereto, who shall not be replaced without written notice to Owner except under extraordinary circumstances. The superintendent will be Design/Builder's representative at the Site and shall have authority to act on behalf of Design/Builder. All communications given to or received from the superintendent shall be binding on Design/Builder.

6.03 Labor, Working Hours

A. Design/Builder shall provide competent, suitably qualified personnel to perform the Work as required by the Contract Documents. Design/Builder shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for 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 Construction at the Site shall be performed during regular working hours, and Design/Builder will not permit overtime work or the performance of Construction on Saturday, Sunday or any legal holiday without Owner's written consent, which will not be unreasonably withheld.

6.04 Services, Materials, and Equipment

A. Unless otherwise specified in the Contract Documents, Design/Builder shall furnish or cause to be furnished and assume full responsibility for 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 Work.

B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and

guarantees specifically called for by the Contract Documents shall expressly run to the benefit of Owner. If reasonably required by Owner, Design/Builder shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise provided in the Contract Documents.

6.05 Progress Schedule

A. Design/Builder shall adhere to the progress schedule established in accordance with paragraph 2.06.A as it may be adjusted from time to time as provided below:

1. Design/Builder shall submit to Owner for acceptance proposed adjustments in the progress schedule that will not change the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect.

2. Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of Article 11.02. Such adjustments may only be made by a Change Order or .

6.06 Concerning Subcontractors, Suppliers, and Others

A. Design/Builder shall not employ any Subcontractor, Supplier, or other individual or entity against whom Owner may have reasonable objection. Design/Builder shall not be required to employ any Subcontractor, Supplier or other individual or entity to furnish or perform any of the Work against whom Design/Builder has reasonable objection.

B. Design/Builder shall be fully responsible to Owner for all acts and omissions of the Subcontractors, Suppliers and other individuals or entities performing or furnishing any of the Work just as Design/Builder is responsible for Design/Builder's own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner and any such Subcontractor, Supplier, or other individual or entity, nor shall it create any obligation on the part of Owner to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws or Regulations.

C. Design/Builder shall be solely responsible for scheduling and coordinating Subcontractors, Suppliers and other individuals and entities performing or furnishing any of the Work under a direct or indirect contract with Design/Builder.

D. Design/Builder shall require all Subcontractors, Suppliers and such other individuals and entities performing

or furnishing any of the Work to communicate with the Owner through Design/Builder.

E. All Work performed for Design/Builder by a Subcontractor or Supplier will be pursuant to an appropriate Design Subagreement or Construction Subagreement between Design/Builder and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.06, the agreement between the Design/Builder and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Design/Builder, Owner's Consultant, and all other additional insureds (and their officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) for all losses and damages caused by any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Design/Builder will obtain the same.

6.07 Patent Fees and Royalties

A. Design/Builder shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Conceptual Documents for use in the performance of the Construction and if to the actual knowledge of Owner its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Conceptual Documents.

B. To the fullest extent permitted by Laws or Regulations, Design/Builder shall indemnify and hold harmless Owner and Owner's Consultant, and the officers, directors, partners, employees or agents, and other consultants of each and any of them from and against all claims, costs, losses and damages (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) arising out of or resulting from any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product or device not identified in the Conceptual Documents.

C. To the fullest extent permitted by Laws or Regulations, Owner shall indemnify and hold harmless Design/Builder and its officers, directors, partners, employees or agents, Subcontractors and Suppliers from and against all claims, costs, losses and damages (including but not limited to

all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) arising out of or resulting from any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product or device required by the Conceptual Documents.

6.08 Permits

A. Unless otherwise provided in the Contract Documents, Design/Builder shall obtain and pay for all necessary permits, licenses, and approvals of governmental authorities having jurisdiction over the Work. Owner shall assist Design/Builder, when necessary, in obtaining such permits, licenses and approvals. Design/Builder shall pay all governmental charges and inspection fees necessary for the performance of the Work, which are applicable on the last day for receipt of Proposals. Design/Builder shall pay all charges of utility owners for connections to the Work, and Owner shall pay all charges of such utility owners for capital costs related thereto.

6.09 Laws or Regulations

A. Design/Builder shall give all notices required by and comply with all Laws or Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, Owner shall not be responsible for monitoring Design/Builder's compliance with any Laws or Regulations.

B. If Design/Builder performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Design/Builder shall bear all costs arising therefrom.

C. Changes in Laws or Regulations not known on the date of receipt of Proposals having an effect on the cost or time of performance may be the subject of a change in Contract Price or Contract Times.

6.10 Taxes

A. Design/Builder shall pay all sales, consumer, use, and other similar taxes required to be paid by Design/Builder in accordance with the Laws or Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas.

1. Design/Builder shall confine construction equipment, the storage of materials and equipment, and the operations of construction workers to the Site and other areas permitted by Laws or Regulations, and shall not unreasonably encumber the Site and other areas with

construction equipment or other materials or equipment. Design/Builder shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any adjacent land or areas, resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of Work, Design/Builder shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws or Regulations, Design/Builder shall indemnify and hold harmless Owner, Owner's Consultants and anyone directly or indirectly employed by any of them from and against all claims, costs, losses and damages (including, but not limited to, fees of engineers, architects, attorneys and other professionals and court and arbitration or other dispute resolution costs) arising out of or resulting from any claim brought by any such owner or occupant against Owner, or any other party indemnified hereunder to the extent caused by or based upon Design/Builder's performance of the Construction.

B. Removal of Debris. During the performance of the Construction, Design/Builder shall keep the premises free from accumulations of waste materials, rubbish, and other debris resulting from the Construction. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws or Regulations.

C. Cleaning. Prior to Substantial Completion, Design/Builder shall clean the Site and make it ready for utilization by Owner. At completion of Construction, Design/Builder shall remove all tools, appliances, construction equipment, temporary construction and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. Loading Structures. Design/Builder shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Design/Builder subject any part of the Construction or adjacent property to stresses or pressures that will endanger it.

6.12 Record Documents

A. Design/Builder shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Field Orders and Work Change Directives in good order and annotated to show all changes made during performance of the Work. These record documents together with all approved Submittals will be available to Owner for reference. Upon completion of the Work, these record documents and Submittals, including a

reproducible set of record drawings, will be delivered to Owner.

6.13 Safety and Protection

A. Design/Builder shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Design/Builder shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

1. All persons on the Site or who may be affected by the Work;
2. All Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
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.

B. Design/Builder shall comply with applicable Laws or Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Design/Builder shall notify owners of adjacent property and of underground facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. All damage, injury, or loss to any property referred to in paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Design/Builder, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Design/Builder.

D. Design/Builder's duties and responsibilities for safety and for protection of the construction shall continue until such time as all the Work is completed and Owner has issued a notice to Design/Builder in accordance with paragraph 13.08.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 Safety Representative

A. Design/Builder shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 Hazard Communication Programs

A. Design/Builder shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 Emergencies

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Design/Builder is obligated to act to prevent threatened damage, injury or loss. Design/Builder shall give Owner prompt written notice if Design/Builder believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If a change in the Contract Documents is required because of the action taken by Design/Builder in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 Submittals

A. Owner will review and approve Submittals in accordance with the schedule of required Submittals accepted by Owner as required by paragraph 2.06.A. Owner's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the construction, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Owner's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

B. Owner's review and approval of Submittals shall not relieve Design/Builder from responsibility for any variation from the requirements of the Contract Documents unless Design/Builder has in a separate written communication at the time of submission called Owner's attention to each such variation and Owner has given written approval.

C. Construction prior to Owner's review and approval of any required Submittal will be at the sole risk of Design/Builder.

6.18 Continuing the Work

A. Design/Builder shall continue the Work and adhere to the progress schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending

resolution of any disputes or disagreements, except as Design/Builder and Owner may otherwise agree in writing.

6.19 Post-Construction Phase

A. Design/Builder shall:

1. Provide assistance in connection with the start-up, testing, refining and adjusting of any equipment or system.
2. Assist Owner in training staff to operate and maintain the Work.
3. Assist Owner in developing systems and procedures for control of the operation and maintenance of and record keeping for the Work.

6.20 Design/Builder's General Warranty and Guarantee

A. Design/Builder warrants and guarantees to Owner that all Construction will be in accordance with the Contract Documents and will not be defective. Design/Builder's warranty and guarantee hereunder excludes defects or damage caused by:

1. Abuse, modification or improper maintenance or operation by persons other than Design/Builder, Subcontractors, or Suppliers or any other individual for whom Design/Builder is responsible; or
2. Normal wear and tear under normal usage.

B. Design/Builder's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Design/Builder's obligation to perform the Work in accordance with the Contract Documents:

1. Observations by Owner;
2. The making of any progress or final payment;
3. The issuance of a certificate of Substantial Completion;
4. Use or occupancy of the Work or any part thereof by Owner;
5. Any acceptance by Owner or any failure to do so;
6. Any review and approval of a Submittal;
7. Any inspection, test or approval by others; or

8. Any correction of defective Construction by Owner.

6.21 Indemnification

A. To the fullest extent permitted by Laws or Regulations, Design/Builder shall indemnify and hold harmless Owner, Owner's Consultants, and the officers, directors, partners, employees, agents, other consultants and subcontractors of each from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) arising out of or resulting from the performance of Construction, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom) but only to the extent caused by any negligent act or omission of Design/Builder, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform or furnish any of the Work.

B. In any and all claims against Owner, Owner's Consultant or any of their respective consultants, agents, officers, directors, partners or employees by any employee (or the survivor or personal representative of such employee) of Design/Builder, any Subcontractor, any Supplier, any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.21.A shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for Design/Builder or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts or other employee benefit acts.

C. The indemnification obligations of Design/Builder under paragraph 6.21.A shall not extend to the liability of Owner's Consultant, and their officers, directors, partners, employees, agents, other consultants, and subcontractors arising out of the preparation or approval of maps, drawings, opinions, reports, surveys, designs, or specifications.

ARTICLE 7 – OTHER CONSTRUCTION

7.01 Related Work at Site

A. Owner may perform other Work related to the Project at the Site by Owner's employees, or let other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. Written notice thereof will be given to Design/Builder prior to starting any such other work; and

2. Design/Builder may make a Claim therefor as provided in Article 9 if Design/Builder believes that such performance will involve additional expense to Design/Builder or requires additional time and the parties are unable to agree as to the amount or extent thereof.

B. Design/Builder shall afford each other contractor who is a party to such a direct contract and each utility owner (and Owner, if Owner is performing the additional work with Owner's employees) proper and safe access to the Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly connect and coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, Design/Builder shall do all cutting, fitting, and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. Design/Builder shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of Owner and the others whose work will be affected. The duties and responsibilities of Design/Builder under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Design/Builder in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Design/Builder's Work depends upon work performed or services provided by others under this Article 7, Design/Builder shall inspect such other work and appropriate instruments of service and promptly report to Owner in writing any delays, defects or deficiencies in such other work or services that render it unavailable or unsuitable for the proper execution and results of Design/Builder's Work. Design/Builder's failure so to report will constitute an acceptance of such other work as fit and proper for integration with Design/Builder's Work except for latent or nonapparent defects and deficiencies in such other work.

7.02 Coordination

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. The individual or entity who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified;

2. The specific matters to be covered by such authority and responsibility will be itemized; and

3. The extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility in respect of such coordination.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 General

A. Owner shall do the following in a timely manner so as not to delay the services of Design/Builder:

1. Designate in writing a person to act as Owner's Representative with respect to the services to be rendered under this Agreement. Such person shall have complete authority to transmit instructions, receive information, interpret and define Owner's policies, make decisions with respect to performance of the Work, and shall provide such other services as may be agreed upon;

2. Provide such legal services as Owner may require with regard to legal issues pertaining to the Project including any that may be raised by Design/Builder;

3. If requested in writing by Design/Builder, furnish reasonable evidence satisfactory to Design/Builder that sufficient funds are available and committed for the entire cost of the Project. Unless such reasonable evidence is furnished, Design/Builder is not required to commence or continue any Work, or may, if such evidence is not presented within a reasonable time, stop Work upon 15 days notice to the Owner;

4. Make payments to Design/Builder promptly when they are due as provided in paragraph 13.03 and 13.08;

5. Furnish the Site as set forth in paragraph 4.01.A;

6. Furnish to Design/Builder, as required for performance of Design/Builder's Services the following, all of which Design/Builder may use and rely upon in performing services under this Agreement:

a. Environmental assessment and impact statements;

b. Property, boundary, easement, right-of-way, topographic, and utility surveys;

c. Property descriptions;

d. Zoning, deed, and other land use restrictions;

e. Engineering surveys to establish reference points for design and construction which in Owner's judgment are necessary to enable Design/Builder to proceed with the Work;

f. Assistance to Design/Builder in filing documents required to obtain necessary permits, licenses, and approvals of governmental authorities having jurisdiction over the Project;

g. Permits, licenses, and approvals of government authorities Owner is specifically required to obtain by the Contract Documents; and

h. All subsurface data at or contiguous to the Site which Owner may have obtained.

7. Review Submittals subject to Owner review pursuant to paragraph 6.17.A; and

8. Provide information known to or in the possession of Owner relating to the presence of materials and substances at the Site which could create a Hazardous Environmental Condition.

8.02 Insurance

A. Owner's responsibilities in respect of purchasing and maintaining liability and property insurance are set forth in Article 5.

8.03 Limitations on Owner's Responsibilities

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Design/Builder's means, methods, techniques, sequences, or procedures of construction or the safety precautions and programs incident thereto, or for any failure of Design/Builder to comply with Laws or Regulations applicable to the furnishing or performance of the Work. Owner will not be responsible for Design/Builder's failure to perform the Work in accordance with the Contract Documents.

8.04 Undisclosed Hazardous Environmental Condition

A. Owner's responsibility in respect of undisclosed Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Materials uncovered or revealed at the Site is set forth in paragraph 4.04.

8.05 Resident Project Representation

A. Owner may furnish a Resident Project Representative to observe the performance of Construction. The duties, responsibilities and limitations of authority of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions.

8.06 Owner's Consultant

A. Owner's Consultant, if any, has no duties, responsibilities, or authorities with respect to Design/Builder, unless so provided in the Supplementary Conditions.

ARTICLE 9 – CHANGES IN THE WORK; CLAIMS

9.01 Authorized Changes in the Work

A. Without invalidating the Agreement and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work within the general scope of the Contract by a Change Order or a Work Change Directive. Upon receipt of any such document, Design/Builder shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

9.02 Unauthorized Changes in the Work

A. Design/Builder shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in paragraph 3.04, except in the case of an emergency as provided in paragraph 6.16 or in the case of uncovering Construction as provided in paragraph 12.04.

9.03 Claims

A. Notice. If Owner and Design/Builder are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or an adjustment of the Contract Times that should be allowed as a result of any order of Owner pursuant to paragraph 9.01.A or other occurrence for which the Contract Documents provide that such adjustment(s) may be made, a Claim may be made therefor. Written notice of intent to make such a Claim shall be submitted to the other party promptly and in no event more than 15 days after the start of the occurrence or event giving rise to the Claim.

B. Documentation. Substantiating documentation shall be submitted by the claiming party within 30 days after delivery of the notice required by paragraph 9.03.A.

C. Decision. The other party shall render a decision on the Claim no more than 30 days after the receipt of the substantiating documentation required by paragraph 9.03.B. This decision will be final and binding unless the claiming party gives notice of intention to exercise its rights under Article 15 within 30 days of receipt of the decision and exercises such rights within 30 days of giving the notice of intent.

D. Time Limit Extension. The time limits of paragraphs 9.03.B and 9.03.C may be extended by mutual agreement.

9.04 Execution of Change Orders

A. Owner and Design/Builder shall execute appropriate Change Orders covering:

1. Changes in the Work which are (i) ordered by Owner pursuant to paragraph 9.01, (ii) required because of acceptance of defective Construction under paragraph 12.08 or Owner's correction of defective Work under paragraph 12.09 or (iii) agreed to by the parties; and

2. Changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive.

9.05 Notice to Sureties

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be Design/Builder's responsibility. The amount of each applicable Bond will be adjusted to reflect the effect of any such change.

ARTICLE 10 – COST OF THE WORK; CASH ALLOWANCES; UNIT PRICE WORK

10.01 Cost of the Work

A. Costs Included. The term Cost of the Work means the sum of all costs necessarily incurred and paid by Design/Builder in the proper performance of the Work. When the value of Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Design/Builder will be only those additional or incremental costs required because of the change of the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in paragraph 10.01.B:

1. Payroll costs for employees in the direct employ of Design/Builder in the performance of the Work under schedules of job classifications agreed upon by Owner and Design/Builder.

a. Such employees shall include without limitation superintendents, foremen, and other personnel employed full-time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by Owner.

b. Such employees shall also include engineers, engineering technicians, architects, and others providing Design Professional Services. For purposes of this paragraph 10.01.A.1, Design/Builder shall be entitled to payment for such employees an amount equal to salary costs times a factor, both as designated in the Agreement, for all services performed or furnished by such employees engaged on the Project.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Design/Builder unless Owner deposits funds with Design/Builder with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Design/Builder shall make provisions so that they may be obtained.

3. Payments made by Design/Builder to Subcontractors (excluding payments for Design Professional Services pursuant to paragraph 10.01.A.4) for Work performed or furnished by Subcontractors. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Design/Builder's Cost of the Work and fee.

4. Payments made by Design/Builder for Design Professional Services provided or furnished under a Design Subagreement.

5. Costs of special consultants (including but not limited to testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

6. Supplemental costs including the following items:

a. The proportion of necessary transportation, travel and subsistence expenses of Design/Builder's employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the Site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Design/Builder.

c. Rentals of all construction or engineering equipment and machinery and the parts thereof whether rented from Design/Builder or others in accordance with rental agreements approved by Owner, and the costs of transportation, loading, unloading, installation, dismantling and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which Design/Builder is liable, imposed by Laws or Regulations.

e. Deposits lost for causes other than negligence of Design/Builder, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses, damages, and related expenses caused by damage to the Work not compensated by insurance or otherwise, sustained by Design/Builder in connection with the furnishing and performance of the Work provided they have resulted from causes other than the negligence of Design/Builder, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Design/Builder's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expressage, and similar petty cash items in connection with the Work.

i. Cost of premiums for all Bonds and insurance Design/Builder is required by the Contract Documents to purchase and maintain.

B. Costs Excluded. The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Design/Builder's officers, executives, principals (of partnerships and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by Design/Builder whether at the Site or in Design/Builder's principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 10.01.A.1, all of which are to be considered administrative costs covered by the Design/Builder's fee.

2. Expenses of Design/Builder's principal and branch offices other than Design/Builder's office at the Site.

3. Any part of Design/Builder's capital expenses, including interest on Design/Builder's capital employed for the Work and charges against Design/Builder for delinquent payments.

4. Costs due to the negligence of Design/Builder, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 10.01.A.

C. Design/Builder's Fee. When all the Work is performed on the basis of cost-plus, Design/Builder's fee shall be as set forth in the Agreement. When the value of the Work covered by a Change Order is determined on the basis of Cost of the Work, Design/Builder's fee shall be determined as set forth in paragraph 11.01.C.

D. Documentation. Whenever the cost of any Work is to be determined pursuant to paragraph 10.01.A and 10.01.B, Design/Builder will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Owner an itemized cost breakdown together with supporting data.

10.02 Cash Allowances

A. The Contract Price includes all allowances so named in the Contract Documents. Design/Builder shall cause the Work so covered to be performed for such sums as may be acceptable to Owner. Design/Builder agrees that:

1. The allowances include the cost to Design/Builder (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. Except as set forth in the Contract Documents, Design/Builder's costs for unloading and handling on the Site, labor, installation costs, overhead, profit, and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

B. Prior to final payment, an appropriate Change Order will be issued to reflect actual amounts due Design/Builder on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

10.03 Unit Prices

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all of Unit Price Work an amount equal to the sum of the established unit prices for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Design/Builder will be made by Owner.

B. Each unit price will be deemed to include an amount considered by Design/Builder to be adequate to cover Design/Builder's overhead and profit for each separately identified item.

C. Design/Builder or Owner may make a Claim for an adjustment in the Contract Price in accordance with Article 9 if:

1. the quantity of any item of Unit Price Work performed by Design/Builder differs materially and significantly from the estimated quantity of such item indicated in the Contract Documents;

2. there is no corresponding adjustment with respect to any other item of Work; and

3. Design/Builder believes that it is entitled to an increase in Contract Price as a result of having incurred

additional expense or Owner believes it is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 11 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

11.01 Change of Contract Price

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice delivered by the party making the Claim to the other party promptly in accordance with paragraph 9.03.A.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. Where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraph 10.03); or

2. Where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 11.01.C.2); or

3. Where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under paragraph 11.01.B.2, on the basis of the Cost of the Work (determined as provided in paragraph 10.01) plus a Design/Builder's Fee for overhead and profit (determined as provided in paragraph 11.01.C).

C. Design/Builder's Fee: The Design/Builder's fee for overhead and profit on Change Orders shall be determined as follows:

1. A mutually acceptable fixed fee; or

2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. For costs incurred under paragraphs 10.01.A.1.a and 10.01.A.2, the Design/Builder's fee shall be 15 percent;

b. For costs incurred under paragraph 10.01.A.3 10.01.A.4, 10.01.A.5 and 10.01.A.6, the Design/Builder's fee shall be five percent;

c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraphs 11.01.C.1 and 11.01.C.2.a is that the Subcontractor who actually performs or furnishes Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under paragraphs 10.01.A.1 and 10.01.A.2 and that any higher tier Subcontractor and Design/Builder will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. The amount of credit to be allowed by Design/Builder to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Design/Builder's fee by an amount equal to five percent of such net decrease; and

e. When both additions and credits are involved in any one change, the adjustment in Design/Builder's fee shall be computed on the basis of the net change in accordance with paragraphs 11.01.C.2.a through 11.01.C.2.d, inclusive.

11.02 Change of Contract Times

A. The Contract Times (or Milestones) may only be changed by a Change Order. Any Claim for an adjustment of the Contract Times (or Milestones) shall be based on written notice pursuant to paragraph 9.03.A.

B. Delays Beyond Design/Builder's Control. Where Design/Builder is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of Design/Builder, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in paragraph 11.02.A. Delays beyond the control of Design/Builder shall include, but not be limited to, acts or neglect by Owner, governmental agencies, acts or neglect of utility owners or other contractors performing other construction work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

C. If Owner or other contractor or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Design/Builder shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Design/Builder's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Design/Builder's ability to complete the Work within the Contract Times.

D. If Design/Builder is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Design/Builder, then Design/Builder shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Design/Builder's ability to complete the Work within the Contract Times. Such an adjustment shall be Design/Builder's sole and exclusive remedy for the delays described in this Paragraph 11.02.C.

E. Owner and Owner's Consultant shall not be liable to Design/Builder for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Design/Builder on or in connection with any other project or anticipated project.

F. Design/Builder shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Design/Builder. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Design/Builder.

ARTICLE 12 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE CONSTRUCTION

12.01 Notice of Defects

A. Owner shall give Design/Builder prompt written notice of all defective Construction of which Owner has actual knowledge. All defective Construction may be rejected, corrected or accepted as provided in this Article 12.

12.02 Access to Construction

A. Owner, Owner's Consultants, other representatives and personnel of Owner, independent testing laboratories and governmental agencies with jurisdictional interests will have access to the Site and the Construction at reasonable times for their observation, inspecting, and testing. Design/Builder shall provide them proper and safe conditions for such access and advise them of Design/Builder's Site safety procedures and programs so that they may comply therewith as applicable.

12.03 Tests and Inspections

A. If the Contract Documents or Laws or Regulations of any public body having jurisdiction require any part of the Construction specifically to be inspected, tested or approved, Design/Builder shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, pay all

costs in connection therewith, and furnish Owner the required certificates of inspection or approval. Design/ Builder shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's acceptance of materials or equipment to be incorporated in the Work or of materials, mix designs, or equipment submitted for approval prior to Design/Builder's purchase thereof for incorporation in the Work.

B. Design/Builder shall give Owner reasonable notice of the planned schedule for all required inspections, tests, or approvals.

C. If any Construction (or the construction work of others) that is required to be inspected, tested, or approved is covered by Design/Builder without written concurrence of Owner, it must, if requested by Owner, be uncovered for observation at Design/Builder's expense unless Design/Builder has given Owner timely notice of Design/Builder's intention to cover the same and Owner has not acted with reasonable promptness in response to such notice.

12.04 Uncovering Construction

A. If any Construction is covered contrary to the written request of Owner, it must, if requested by Owner, be uncovered for Owner's observation and recovered at Design/Builder's expense.

B. If Owner considers it necessary or advisable that covered Construction be observed by Owner or inspected or tested by others, Design/Builder, at Owner's request, shall uncover, expose or otherwise make available for observation, inspection or testing as Owner may require, that portion of the Construction in question, furnishing all necessary labor, material and equipment. If it is found that such Construction is defective, Design/Builder shall pay all costs and damages caused by or resulting from such uncovering, exposure, observation, inspection and testing and of satisfactory replacement or reconstruction, (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals, all court or arbitration or other dispute resolution costs, and all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Article 9. If, however, such Construction is not found to be defective, Design/Builder shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Design/Builder may make a Claim therefor as provided in Article 9.

12.05 Owner May Stop Construction

A. If Construction is defective, or Design/Builder fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform Construction in such a way that the completed Construction will conform to the Contract Documents, Owner may order Design/Builder to stop Construction or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop Construction will not give rise to any duty on the part of Owner to exercise this right for the benefit of Design/Builder or any other party.

12.06 Correction or Removal of Defective Construction

A. Owner will have authority to disapprove or reject defective Construction and will have authority to require special inspection or testing of the Construction whether or not the Construction is fabricated, installed or completed. If required by Owner, Design/Builder shall promptly, as directed, either correct all defective Construction, whether or not fabricated, installed or completed, or, if the Construction has been rejected by Owner, remove it from the Site and replace it with non-defective Construction. Design/Builder shall bear all direct, indirect, and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and all court, arbitration, or other dispute resolution costs) arising out of or relating to such correction or removal.

12.07 Correction Period

A. If within one year after the date of Substantial Completion of the entire Work 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 or by any specific provision of the Contract Documents, any Construction is found to be defective, Design/Builder shall promptly, without cost to Owner and in accordance with Owner's written instructions, (i) correct such defective Construction, or, if it has been rejected by Owner, remove it from the Site and replace it with Construction that is not defective, and (ii) satisfactorily correct or remove and replace any damage to other Construction or the work of others resulting therefrom. If Design/Builder does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Construction corrected or the rejected Construction removed and replaced, and all costs, losses, and damages caused by or resulting from such removal and replacement (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals, all court or arbitration or other dispute resolution costs, and all costs of repair or replacement of work of others) will be paid by Design/Builder.

B. In special circumstances where a particular item of equipment is placed in continuous service before Substantial

Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Conceptual Documents.

C. Where defective Construction (and damage to other Construction resulting therefrom) has been corrected, removed or replaced under this paragraph 12.07, the correction period hereunder with respect to such Construction will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

12.08 Acceptance of Defective Construction

A. If, instead of requiring correction or removal and replacement of defective Construction, Owner prefers to accept it, Owner may do so. Design/Builder shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Construction. If any

such acceptance occurs prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents, and Owner shall be entitled to an appropriate decrease in the Contract Price reflecting the diminished value of the Construction so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Article 9. If the acceptance occurs after final payment, an appropriate amount will be paid by Design/Builder to Owner.

12.09 Owner May Correct Defective Construction

A. If Design/Builder fails within a reasonable time after written notice from Owner to correct defective Construction or to remove and replace rejected Construction as required by Owner in accordance with paragraphs 12.06.A or 12.07.A, or if Design/Builder fails to perform the Construction in accordance with the Contract Documents, or if Design/Builder fails to comply with any other provision of the Contract Documents, Owner may, after seven days' written notice to Design/Builder, correct and remedy any such deficiency.

B. In exercising the rights and remedies under this paragraph 12.09 Owner shall proceed expeditiously. In connection with such corrective and remedial action, Owner may exclude Design/Builder from all or part of the Site, take possession of all or part of the Construction, and suspend Design/Builder's services related thereto, take possession of Design/Builder's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Construction all materials and equipment stored at the Site or for which Owner has paid Design/Builder but which are stored elsewhere. Design/Builder shall allow Owner, Owner's Consultant, Owner's representatives, agents, employees, and other contractors access to the Site to enable Owner to exercise the rights and remedies under this paragraph.

C. All costs, losses, and damages (included but not limited to fees and charges of engineers, architects, attorneys and other professionals, all court or arbitration or other dispute resolution costs and all costs of repair or replacement of work of others) incurred or sustained by Owner in exercising such rights and remedies under this paragraph 12.09 will be charged against Design/Builder and a Change Order will be issued incorporating the necessary revisions in the Contract Documents, and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Article 9.

D. Design/Builder shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this paragraph 12.09.

ARTICLE 13 – PAYMENTS TO DESIGN/BUILDER AND COMPLETION

13.01 Schedule of Values

A. The Schedule of Values established as provided in paragraph 2.06.A will serve as the basis for progress payments. Progress payments on account of Unit Price Work will be based on the number of units completed.

13.02 Application for Progress Payment

A. On or about the date established in the Agreement for submission of each application for progress payment (but not more often than once a month), Design/Builder shall submit to Owner for review an Application for Payment filled out and signed by Design/Builder covering the Work completed as of the date indicated on the Application and accompanied by supporting documentation as required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect Owner's interest therein, all of which will be satisfactory to Owner.

B. Beginning with the second Application for Payment, each Application shall include an affidavit of Design/Builder stating that all previous progress payments received on account of the Work have been applied on account to discharge Design/Builder's legitimate obligations associated with prior Applications for Payment.

C. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

13.03 Progress Payments

A. Procedure. Progress payments shall be made by the Owner to the Design/Builder according to the following procedure:

1. Owner will, within ten days of receipt of each Application for Payment, either indicate in writing its acceptance of the Application and state that the Application is being processed for payment, or return the Application to Design/Builder indicating in writing its reasons for refusing to accept the Application. Not more than ten days after accepting such Application the amount will become due and when due will be paid by Owner to Design/Builder.

2. If Owner should fail to pay Design/Builder at the time the payment of any amount becomes due, then Design/Builder may, at any time thereafter, upon serving written notice that he will stop the Work within seven days after receipt of the notice by Owner, and after such seven day period, stop the Work until payment of the amount owing has been received. Written notice shall be deemed to have been duly served if sent by certified mail to the last known business address of Owner.

3. Payments due but unpaid shall bear interest at the rate specified in the Agreement.

4. No Progress Payment nor any partial or entire use or occupancy of the Project by Owner shall constitute an acceptance of any Work not in accordance with the Contract Documents.

B. Reduction in or Refusal to Make Payment. Owner may refuse to make the whole or any part of any such payment, or because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any previous payment, to the extent that is reasonably necessary to protect Owner from loss because:

1. the Construction is defective, or completed Construction has been damaged requiring correction or replacement; or

2. the Contract Price has been reduced by Change Order; or

3. Owner has been required to correct defective Construction or complete Work in accordance with paragraph 12.09.A; or

4. Owner has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.02.A.; or

5. Claims have been made against Owner on account of Design/Builder's performance or furnishing of the Work; or

6. Liens have been filed in connection with the Work, except where Design/Builder has delivered a specific Bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or

7. There are other items entitling Owner to a set off against the amount for which application is made.

C. If Owner refuses to make payment of the full amount requested by Design/Builder, Owner must give Design/Builder immediate written notice stating the reasons for such action and promptly pay Design/Builder any amount remaining after deduction of the amount withheld. Owner shall promptly pay Design/Builder the amount withheld or any adjustment thereto agreed to when Design/Builder corrects to Owner's satisfaction the reason for such action.

13.04 Design/Builder's Warranty of Title

A. Design/Builder warrants and guarantees that title to all Construction, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

13.05 Substantial Completion

A. When Design/Builder considers the Work ready for its intended use Design/Builder shall notify Owner in writing that the Work is substantially complete (except for items specifically listed by Design/Builder as incomplete) and request that Owner issue a certificate of Substantial Completion. Promptly thereafter, Owner and Design/Builder shall make an inspection of the Work to determine the status of completion. If Owner does not consider the Work substantially complete, Owner will notify Design/Builder in writing giving the reasons therefor. If Owner considers the Work substantially complete, Owner will prepare and deliver to Design/Builder a certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a list of items to be completed or corrected before final payment. At the time of delivery of the certificate of Substantial Completion Owner will deliver to Design/Builder a written determination as to division of responsibilities pending final payment between Owner and Design/Builder with respect to security, operation, safety, protection of Construction, maintenance, heat, utilities, insurance and warranties and guarantees.

B. Owner will have the right to exclude Design/Builder from the Site after the date of Substantial Completion, but Owner will allow Design/Builder reasonable access to complete or correct items on the list of items to be completed.

13.06 Partial Utilization

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Construction which (i) has specifically been identified in the Contract Documents, or (ii) Owner and Design/Builder agree constitute a separately functioning and usable part of the Construction that can be used by Owner for its intended purpose without significant interference with Design/Builder's performance of the remainder of the Construction, subject to the following:

1. Owner at any time may request Design/Builder in writing to permit Owner to use or occupy any such part of the Construction which Owner believes to be ready for its intended use and substantially complete. If Design/Builder agrees that such part of the Work is substantially complete, Design/Builder will certify to Owner that such part of the Construction is substantially complete and request Owner to issue a certificate of Substantial Completion for that part of the Construction. Design/Builder at any time may notify Owner in writing that Design/Builder considers any such part of the Work ready for its intended use and substantially complete and request Owner to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, Owner and Design/Builder shall make an inspection of that part of the Work to determine its status of completion. If Owner does not consider that part of the Work to be substantially complete, Owner will notify Design/Builder in writing giving the reasons therefor. If Owner considers that part of the Work to be substantially complete, the provisions of paragraph 13.05 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

2. No use or occupancy of part of the Construction will be accomplished prior to compliance with the requirements of paragraph 5.10 regarding property insurance.

13.07 Final Inspection

A. Upon written notice from Design/Builder that the entire Work or an agreed portion thereof is complete, Owner will make a final inspection with Design/Builder and will notify Design/Builder in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Design/Builder shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

13.08 Final Payment

A. Application for Payment.

1. After Design/Builder has completed all such corrections to the satisfaction of Owner and delivered in

accordance with the Contract Documents all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance, certificates of inspection, record documents (as provided in paragraph 6.12) and other documents, Design/Builder may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (unless previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by paragraph 5.04.B.7; (ii) consent of the surety, if any, to final payment; and (iii) complete and legally effective releases or waivers (satisfactory to Owner) of all Liens arising out of or filed in connection with the Work.

3. In lieu of such releases or waivers of Liens specified in paragraph 13.08.A.2 and as approved by Owner, Design/Builder may furnish receipts or releases in full and an affidavit of Design/Builder that: (i) the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and (ii) all payrolls, material and equipment bills and other indebtedness connected with the Work for which Owner or Owner's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Design/Builder may furnish a Bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. Final Payment and Acceptance. If Owner is satisfied that the Work has been completed and Design/Builder's other obligations under the Contract Documents have been fulfilled, Owner will, within ten days after receipt of the final Application for Payment, give written notice to Design/Builder that the Work is acceptable. Otherwise, Owner will return the Application to Design/Builder, indicating in writing the reasons for refusing to process final payment, in which case Design/Builder shall make the necessary corrections and resubmit the Application.

C. Payment Becomes Due. Thirty days after the presentation to Owner of the acceptable Application and accompanying documentation, in appropriate form and substance and with Owner's notice of acceptability, the amount will become due and will be paid by Owner to Design/Builder.

13.09 Final Completion Delayed

A. If, through no fault of Design/Builder, final completion of the Work is significantly delayed, Owner shall, upon receipt of Design/Builder's final Application for Payment, 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 Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.01.A, 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 Design/Builder to Owner 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.

13.10 Waiver of Claims

A. The making and acceptance of final payment will constitute:

1. A waiver of all Claims by Owner against Design/Builder, except Claims arising from unsettled Liens, from defective Construction appearing after final inspection pursuant to paragraph 13.07, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Design/Builder's continuing obligations under the Contract Documents; and

2. A waiver of all Claims by Design/Builder against Owner other than those previously made in writing and still unsettled.

ARTICLE 14 – SUSPENSION OF WORK AND TERMINATION

14.01 Owner May Suspend Work

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 days by notice in writing to Design/Builder which will fix the date on which Work will be resumed. Design/Builder shall resume the Work on the date so fixed. Design/Builder shall be allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Design/Builder makes a Claim therefor as provided in Article 9.

14.02 Owner May Terminate for Cause

A. The occurrence of any one or more of the following events justifies termination for cause:

1. Design/Builder's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.06.A as adjusted from time to time pursuant to paragraph 6.05).

2. Design/Builder's disregard of Laws or Regulations of any public body having jurisdiction.

3. Design/Builder's violation in any substantial way of provisions of the Contract Documents.

B. If one or more of the events identified in paragraph 14.02.A occur, Owner may, after giving Design/Builder (and the surety, if any) seven days' written notice, terminate the services of Design/Builder, take possession of any completed Drawings and Specifications prepared by or for Design/Builder (subject to the indemnification provisions of paragraph 3.05.A), exclude Design/Builder from the Site, and take possession of the Work and of all Design/Builder's tools, appliances, construction equipment and machinery at the Site and use the same to the full extent they could be used by Design/Builder (without liability to Design/Builder for trespass or conversion), incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Design/Builder but which are stored elsewhere, and finish the Work as Owner may deem expedient. In such case Design/Builder shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all costs, losses and damages sustained by Owner arising out of or resulting from completing the Work (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) such excess will be paid to Design/Builder. If such costs, losses and damages exceed such unpaid balance, Design/Builder shall pay the difference to Owner. Such costs, losses and damages incurred by Owner will be incorporated in a Change Order. When exercising any rights or remedies under this paragraph Owner shall not be required to obtain the lowest price for the Work performed.

C. Notwithstanding paragraph 14.02.B, Design/Builder's services will not be terminated if Design/Builder begins, within seven days of receipt of notice of intent to terminate, to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

D. Where Design/Builder's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Design/Builder then existing or which may thereafter accrue. Any retention or payment of moneys due Design/Builder by Owner will not release Design/Builder from liability.

14.03 Owner May Terminate for Convenience

A. Upon seven days' written notice to Design/Builder, Owner may, without cause and without prejudice to any other right or remedy of Owner, elect to terminate the Contract. In such case, Design/Builder shall be paid (without duplication of any items) for:

1. Completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. Expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. Amounts paid in settlement of terminated contracts with Subcontractors, Suppliers and others (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs incurred in connection with termination of contracts with Subcontractors, Suppliers and others); and

4. Reasonable expenses directly attributable to termination.

B. Design/Builder shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

14.04 Design/Builder May Stop Work or Terminate

A. If, through no act or fault of Design/Builder, the Work is suspended for a period of more than 90 days by Owner or under an order of court or other public authority, or Owner fails to act on any Application for Payment within thirty days after it is submitted or Owner fails for thirty days to pay Design/Builder any sum finally determined to be due, then Design/Builder may, upon seven days' written notice to Owner, and provided Owner does not remedy such suspension or failure within that time, terminate the Agreement and recover from Owner payment on the same terms as provided in paragraph 14.03.A. In lieu of terminating the Agreement and without prejudice to any other right or remedy, if Owner has failed for 30 days to pay Design/Builder any sum finally determined to be due, Design/Builder may upon seven days' written notice to Owner stop the Work until payment is made of all such amounts due Design/Builder, including interest thereon. The provisions of this paragraph 14.04.A are not intended to preclude Design/Builder from making Claim under Article 9 for an increase in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Design/Builder's stopping Work as permitted by this paragraph.

ARTICLE 15 – DISPUTE RESOLUTION

15.01 Methods and Procedures

A. Dispute resolution methods and procedures, if any, shall be as set forth in the Supplementary Conditions. If no such method and procedure has been set forth, Owner and Design/Builder may exercise such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any dispute.

ARTICLE 16 – MISCELLANEOUS

16.01 Giving Notice

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by certified mail, postage prepaid, to the last business address known to the giver of the notice.

16.02 Computation of Times

A. When any period of 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 on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

16.03 Cumulative Remedies

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by:

1. Laws or Regulations; or
2. any special warranty or guarantee; or
3. other provisions of the Contract Documents.

B. The provisions of paragraph 16.03.A will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

16.04 Survival of Obligations

A. All representations, indemnifications, warranties and guarantees made in, required by or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive

final payment, completion and acceptance of the Work and termination or completion of the Contract.

16.05 *Controlling Law*

A. The Contract Documents will be construed in accordance with the law of the place of the Project.

Attachment I
Supplementary Conditions of the Contract

SUPPLEMENTARY CONDITIONS

OF THE STANDARD GENERAL CONDITIONS OF THE CONTRACT BETWEEN OWNER AND DESIGN/BUILDER

The following are modifications made to the Standard General Conditions of the Contract between OWNER (CITY OF KEY WEST) and DESIGN/BUILDER which are stated as part of the Supplementary Conditions.

SC-1.01. Add the following new paragraph immediately after paragraph 1.01.A.6:

1.01.A.6.a The word "CITY" shall mean the Board of City Commissioners, City of Key West, Florida, or their duly authorized representative(s), for whom the Work is being performed. The term "Owner" and, where used in the Contract Documents, refer to the CITY.

SC-1.01. Add the following new paragraph immediately after paragraph 1.01.A.14:

1.01.A.14.a The word "day" shall mean calendar day of 24 hours measured from midnight to the next midnight.

SC-2.04. DELETE paragraph 2.04.B.1 in its entirety and insert the following in its place:

2.04.B.1 Preliminary Progress schedule will be submitted as part of the DESIGN/BUILDER proposal. Initial detailed Progress Schedule will be submitted by DESIGN/BUILDER within 10 days after Notice to Proceed. An initial progress schedule indicating the times (number of days or dates) for starting and completing the various stages of the Work including each Milestone specified in the Contract Documents;

The initial progress schedule, beginning with Notice to Proceed, for minimum duration of 90 days, and a summary of balance of Project through Final Completion.

Activities shown are to include but are not limited to:

- a. Notice to Proceed.
- b. Permits.
- c. Design Activities 60 percent, 90 percent and final design submittal.
- d. Allowance of 14 days for CITY to review 60 percent and 90 percent design.
- e. Submittals with 10 days CITY review time. DESIGN/BUILDER may use schedule of Shop Drawings and Samples.
- f. Early Procurement activities for long lead equipment and materials.
- g. Initial site work/soil investigation/surveying.
- h. Earthwork.
- i. Specified Work sequences and construction constraints.
- j. Contract Milestones and Completion Dates.
- k. Major structural, electrical, and plumbing work.
- l. System startup summary.
- m. Project closeout summary.
- n. Demobilization summary.

SC-3.05. DELETE paragraph 3.05 in its entirety.

SC-4.02. Amend paragraph 4.02.B second sentence as follows:

4.02.B. DELETE "...any part of the Work, whether or not changed as a result of the conditions,..." and REPLACE with "...a controlling item of work,..."

SC-4.02. Amend paragraph 4.02.C first sentence as follows:

4.02.C. ADD a period after the word "required" and DELETE the remainder of the sentence.

SC-4.02. ADD the following new paragraphs immediately after Paragraph 4.02.D:

4.02.E. The following reports of explorations and tests of subsurface conditions at or contiguous to the Site are known to Owner:

1. Report dated July 15, 2015, prepared by Andersen Andre Consulting Engineers Incorporated, entitled: "Subsurface Soil Exploration and Preliminary Geotechnical Engineering Evaluation Proposed Seawall Replacement – Truman Waterfront Key West, Monroe County, Florida."

SC-4.04. DELETE paragraph 4.04.E in its entirety.

SC-5.04. ADD the following new paragraphs immediately after paragraph 5.04.B.7:

5.04.B.8. The DESIGN/BUILDER will not be permitted to commence work governed by this Contract (including pre-staging of personnel and material) until satisfactory evidence of the required insurance has been furnished to CITY as specified below. Delays in the commencement of work, resulting from the failure of the DESIGN/BUILDER to provide satisfactory evidence of the required insurance, shall not extend deadlines specified in this Contract and any penalties and failure to perform assessments shall be imposed as if the Work commenced on the specified date and time, except for the DESIGN/BUILDER'S failure to provide satisfactory evidence.

The DESIGN/BUILDER shall maintain the required insurance throughout the entire term of this Contract and any extensions specified in any attached schedules. Failure to comply with this provision may result in the immediate suspension of all work until the required insurance has been reinstated or replaced. Delays in the completion of the Work resulting from the failure of the DESIGN/BUILDER to maintain the required insurance shall not extend deadlines specified in this Contract and any penalties and failure to perform assessments shall be imposed as if the Work had not been suspended, except for the DESIGN/BUILDER'S failure to maintain the required insurance.

- X Certificates of Insurance or
- X A Certified copy of the actual insurance policy.

CITY, at its sole option, has the right to request a certified copy of any or all insurance policies required by this Contract.

All insurance policies must be provided by companies authorized to conduct business in the State of Florida and have a Best Rating of no less than A-VII.

All insurance policies must specify that they are not subject to cancellation, non-renewal, material change, or reduction in coverage unless a minimum of thirty (30) days prior notification is given to CITY by the insurer. The acceptance and/or approval of the DESIGN/BUILDER'S insurance shall not be construed as relieving the DESIGN/BUILDER from any liability or obligation assumed under this Contract or imposed by law.

The City, its employees and officials will be included as Additional Insured on all policies, except for Workers Compensation and Vehicle Liability.

In addition, CITY will be named as an Additional Insured and Loss Payee on all policies covering Authority-owned property.

The Design/Builder will be solely responsible for all deductibles or self-insured retentions contained in the Design/Builder's insurance policies.

5.04.B.9 DESIGN/BUILDERS: The DESIGN/BUILDER shall not commence Work under this Contract until they have obtained all the insurance required hereunder and such insurance has been reviewed by the CITY, nor shall the DESIGN/BUILDER allow any Subcontractor to commence work on a subcontract until insurance specified below has been obtained. Review of the insurance by the CITY shall not relieve or decrease the liability of the DESIGN/BUILDER hereunder.

5.04.B.10 Prior to the commencement of the Work governed by this Contract, the DESIGN/BUILDER shall obtain Workers Compensation Insurance with limits sufficient to respond to Florida Statute 440.

In addition, the DESIGN/BUILDER shall obtain Employers Liability Insurance with limits of not less than:

\$1,000,000 Bodily Injury by Accident.

\$1,000,000 Bodily Injury by Disease, policy limits.

\$1,000,000 Bodily Injury by Disease, each employee. Coverage shall be maintained throughout the entire term of the Contract.

5.04.B.11 Prior to the commencement of the Work governed by this Contract, the DESIGN/BUILDER shall obtain Marine General Liability Insurance covering all work performed under this contract. Coverage shall be maintained throughout the life of the Contract and shall include, as a minimum:

- a. Bodily Injury.
- b. Property Damage.
- c. Products and Completed Operations (without limitations).
- d. Blanket Contractual Liability.
- e. Personal Injury Liability.
- f. Expanded Definition of Property Damage.
- g. Watercraft Liability.

The minimum limits acceptable shall be:

\$2,000,000 Combined Single Limit (CSL).

The period for which claims may be reported should extend for a minimum of twelve (12) months following the acceptance of the Work by CITY.

If an Umbrella or Excess policy is used to satisfy the above required limits of liability, the terms and conditions of the Umbrella or Excess policy must be no less restrictive than the underlying primary liability policy.

5.04.B.12 Recognizing that the Work governed by this Contract requires the use of vehicles, the DESIGN/BUILDER, prior to the commencement of the Work, shall obtain Vehicle Liability Insurance. Coverage shall be maintained throughout the life of the Contract and include, as a minimum, liability coverage for owned, non-owned, and hired vehicles. The minimum limits acceptable shall be:

\$1,000,000 Combined Single Limit (CSL).

5.04.B.13 The DESIGN/BUILDER, prior to the commencement of the Work, shall obtain Professional Liability with minimum limits of \$1,000,000 for professional services rendered in accordance with this contract. The DESIGN/BUILDER shall maintain such insurance for at least two (2) years from the termination of this contract and during this two (2) year period the DESIGN/BUILDER shall use his/her/their best efforts to ensure that there is no change of the retroactive date on this insurance coverage. If there is a change that reduces or restricts the coverage carried during the contract, the DESIGN/BUILDER shall notify City Risk Management within thirty (30) days of the change.

5.04.B.14 The Design/Builder will be required to maintain Jones Act coverage that will respond to the Federal Jones Act (46 U.S.C.A subsection 688). The limits of such coverage shall be no less than \$1,000,000.

5.04.B.15 The Design/Builder will be required to maintain USL&H coverage that will respond to the Federal Longshoremen and Harbor Workers Act (33 USC sections 901-950). The limits of such coverage shall be no less than \$1,000,000.

SC-5.06. DELETE SC-5.06 in its entirety.

SC-5.07. Add the following new paragraph immediately after 5.07.A:

5.07.B. The DESIGN/BUILDER covenants and agrees to indemnify and hold harmless the CITY from any and all claims for bodily injury (including death), personal injury, and property damage (including property owned by CITY) and any other losses, damages, and expenses (including attorney's fees) which arise out of, in connection with, or by reason of services provided by the DESIGN/BUILDER or any of its Subcontractor(s) in any tier, occasioned by the negligence, errors, or other wrongful act or omission of the DESIGN/BUILDER or its Subcontractor(s) in any tier, their employees, or agents.

In the event the completion of the project (to include the work of others) is delayed or suspended as a result of the DESIGN/BUILDER's failure to purchase or maintain the required insurance, the DESIGN/BUILDER shall indemnify the CITY from any and all increased expenses resulting from such delay.

The first ten dollars (\$10.00) of remuneration paid to the DESIGN/BUILDER is for the indemnification provided for above.

The extent of liability is in no way limited to, reduced, or lessened by the insurance requirements contained elsewhere within this agreement.

SC-6.01. Amend paragraph 6.01.A, as follows: DELETE "...under similar conditions at the same time and locality." and REPLACE with "...in this specialized field."

SC-6.01. ADD the following new paragraph immediately after paragraph 6.01.B.7:

6.01.B.8. Preliminary Design Phase shall mean a 60 percent Deliverable Design Package. At a minimum, 60% completion level is when all basic criteria are covered. Drawings should show all major aspects of the project with most of the detail information provided. A table of contents with Division one specifications shall be included.

DESIGN/BUILDER shall provide a detailed list of drawings and specifications to be included as a part of their Preliminary Design Package in their Project Management Plan. Preliminary Design Package will be reviewed by CITY within calendar 14 days and this review will be shown on Progress Schedule.

SC-6.01 ADD the following new paragraph immediately after paragraph 6.01.C.4:

6.01.C.5. Final Design Phase shall mean a 90 percent Deliverable Design Package. At a minimum, 90% completion level is when the Design is complete. The document has been through the internal QA process and all details are provided. Drawings and specifications shall be at a level of completion that will allow the Project to be constructed. DESIGN/BUILDER shall provide a detailed list of drawings and specifications to be included as a part of their Final Design Package in their Project Management Plan. Final Design review by the CITY will be completed within 14 calendar days and review will be incorporated into the construction documents to begin the permit process/construction phase.

SC-6.05. ADD the following new paragraph immediately after paragraph 6.05.A.2:

6.05.A.3. Initial Progress Schedule shall be updated monthly as part of the application for payment process. Failure to do so may cause CITY to withhold all or part of the monthly progress payment until the initial progress schedule is updated in a manner acceptable to Resident Project Representative (RPR). Monthly update will reflect actual progress and occurrences to date, including weather delays. When accepted by the RPR, the initial progress schedule will become the baseline schedule. Subsequent revisions will be considered as Updated Progress Schedules. Updated Progress Schedules shall revise established content and format of initial progress schedule in a form approved by the RPR.

SC-6.06. DELETE the second sentence of paragraph 6.06.E in its entirety.

SC-6.09. DELETE paragraph 6.09.C in its entirety.

SC-6.10. ADD the following paragraph immediately after paragraph 6.10.A

6.10.B At the City's option, the City may directly purchase materials from Design/Builder selected vendors under a tax exempt status through an Owner Direct Purchase Program. Additional Owner Direct Purchase Program information is available as an Attachment in this RFP.

SC-6.17. ADD the following new paragraphs immediately after paragraph 6.17.C:

6.17.D. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to the CITY for review under the circumstances described below.

6.17.D.1 "Or-Equal" Items: If in CITY's sole discretion an item of material or equipment proposed by DESIGN/BUILDER is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by CITY as an "or-equal" item, in which case review and approval of the proposed item may, in CITY's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:

6.17.D.1.a. in the exercise of reasonable judgment CITY determines that:

6.17.D.1.a.1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

6.17.D.1.a.2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole,

6.17.D.1.a.3) it has a proven record of performance and availability of responsive service.

6.17.D.1.b. DESIGN/BUILDER certifies that, if approved and incorporated into the Work:

6.17.D.1.b.1) there will be no increase in cost to the OWNER or increase in Contract Times, and

6.17.D.1.b.2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

6.17.E. Substitute Items:

6.17.E.1. If in CITY's sole discretion an item of material or equipment proposed by DESIGN/BUILDER does not qualify as an "or-equal" item under Paragraph 6.16.D.1, it will be considered a proposed substitute item.

6.17.E.2. DESIGN/BUILDER shall submit sufficient information as provided below to allow CITY to determine that the item of material or equipment proposed is essentially equivalent to that named

and an acceptable substitute therefore. Requests for review of proposed substitute items of material or equipment will not be accepted by CITY from anyone other than DESIGN/BUILDER.

6.17.E.3. The requirements for review by CITY will be as set forth in Paragraph 6.16 as supplemented to the General Conditions and as CITY may decide is appropriate under the circumstances.

6.17.E.4. DESIGN/BUILDER shall make written application to CITY for review of a proposed substitute item of material or equipment that DESIGN/BUILDER seeks to furnish or use. The application:

6.17.E.4.a. shall certify that the proposed substitute item will:

6.17.E.4.a.1) perform adequately the functions and achieve the results called for by the general design;

6.17.E.4.a.2) be similar in substance to that specified, and

6.17.E.4.a.3) be suited to the same use as that specified.

6.17.E.4.b. will state:

6.17.E.4.b.1) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time;

6.17.E.4.b.2) whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for other work on the Project) to adapt the design to the proposed substitute item; and

6.17.E.4.b.3) whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.

6.17.E.4.c. will identify:

6.17.E.4.c.1) all variations of the proposed substitute item from that specified, and

6.17.E.4.c.2) available engineering, sales, maintenance, repair, and replacement services,

6.17.E.4.d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change,

6.17.F. Substitute Construction Methods or Procedures: If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, DESIGN/BUILDER may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by RPR. DESIGN/BUILDER shall submit sufficient information to allow RPR, in RPR's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by RPR will be similar to those provided in Paragraph 6.17.D.1.

6.17.G. CITY's Evaluation: RPR may require DESIGN/BUILDER to furnish additional data about

the proposed substitute item. RPR will be the sole judge of acceptability. No “or equal” or substitute will be ordered, installed or utilized until RPR’s, as representative for CITY, review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an “or equal.” RPR will advise DESIGN/BUILDER in writing of any negative determination.

6.17.H. Special Guarantee: CITY may require DESIGN/BUILDER to furnish at DESIGN/BUILDER’s expense a special performance guarantee or other surety with respect to any substitute.

6.17.I. RPR’s Cost Reimbursement: RPR will record RPR’s costs in evaluating a substitute proposed or submitted by DESIGN/BUILDER pursuant to paragraph 6.17.D.1 whether or not RPR approves a substitute item so proposed or submitted by DESIGN/ BUILDER. DESIGN/BUILDER shall reimburse CITY for the charges of RPR for evaluating each such proposed substitute. DESIGN/BUILDER shall also reimburse CITY for the charges of RPR for making changes in the Contract Documents (or in the provisions of any other direct contract with CITY resulting from the acceptance of each proposed substitute.

6.17.J. DESIGN/BUILDER’s Expense: DESIGN/BUILDER shall provide all data in support of any proposed substitute or “or-equal” at DESIGN/BUILDER expense.

SC-6.21. DELETE paragraphs 6.21.A, 6.21.B, and 6.21.C in their entirety and insert the following:

6.21.A Contractor agrees to protect, defend, indemnify, save and hold harmless The City of Key West, all its Departments, Agencies, Boards, Commissions, officers, agents, City’s Consultants, servants and employees, including volunteers, from and against any and all claims, debts, demands, expense and liability arising out of injury or death to any person or the damage, loss of destruction of any property which may occur or in any way grow out of any act or omission of the Contractor, its agents, servants, and employees, or any and all costs, expense and/or attorney fees incurred by the City as a result of any claim, demands, and/or causes of action except of those claims, demands, and/or causes of action arising out of the negligence of The City of Key West, all its Departments, Agencies, Boards, Commissions, officers, agents, servants and employees. The Contractor agrees to investigate, handle, respond to, provide defense for and defend any such claims, demand, or suit at its sole expense and agrees to bear all other costs and expenses related thereto, even if it (claims, etc.) is groundless, false or fraudulent. The City of Key West does not waive any of its sovereign immunity rights, including but not limited to, those expressed in Section 768.28, Florida Statutes.

6.21.B These indemnifications shall survive the term of this agreement. In the event that any action or proceeding is brought against the City of Key West by reason of such claim or demand, Contractor shall, upon written notice from the City of Key West, resist and defend such action or proceeding by counsel satisfactory to the City of Key West.

6.21.C The indemnification provided above shall obligate Contractor to defend at its own expense to and through appellate, supplemental or bankruptcy proceeding, or to provide for such defense, at the City of Key West’s option, any and all claims of liability and all suits and actions of every name and description covered above which may be brought against the City of Key West whether performed by Contractor, or persons employed or utilized by Contractor.

6.21.D The Contractor’s obligation under this provision shall not be limited in any way by the agreed upon Contract Price as shown in this agreement, or the Contractor’s limit of or lack of sufficient

insurance protection.

SC-7.02. DELETE paragraph 7.02 in its entirety.

SC-8.01. DELETE paragraph 8.01.A.3 in its entirety.

SC-9.03. Amend paragraph 9.03.A, second sentence: DELETE "...to the other party..." and ADD "...by the DESIGN/BUILDER to the OWNER..."

SC-9.03. Amend paragraph 9.03.B, first sentence: DELETE "...claiming party..." and ADD "...DESIGN/BUILDER..."

SC-9.03. Amend paragraph 9.03.C, first sentence: DELETE "...other party..." and ADD "...OWNER..." and in the second sentence, DELETE "...claiming party..." and ADD "...DESIGN/BUILDER..."

SC-9.03. ADD the following new paragraphs immediately following 9.03.D:

9.03.E. If the DESIGN/BUILDER fails to complete activity by its latest scheduled completion date and this failure is anticipated to extend Contract Times (or Milestones), DESIGN/BUILDER shall, within 7 days of such failure, submit a written statement as to how DESIGN/BUILDER intends to correct nonperformance and return to acceptable current progress schedule. Actions by DESIGN/BUILDER to complete the Work within Contract Times (or Milestones) will not be justification for adjustment to Contract Price or Contract Times.

9.03.F. OWNER may order DESIGN/BUILDER to increase plant, equipment, labor force or working hours if DESIGN/BUILDER fails to:

9.03.F.1 Complete a Milestone activity by its completion date.

9.03.F.2 Satisfactorily execute the Work as necessary to prevent delay to overall completion of Project, at no additional cost to OWNER.

SC-9.04. ADD the following new paragraphs immediately following 9.04.A:

9.04.B. Change Order shall be prepared and executed in accordance with City of Key West Change Order Ordinance, Section 2-845. In case of conflicts, the City's Change Order Ordinance shall take precedence.

SC-10.02. DELETE paragraph 10.02 in its entirety.

SC-11.01. Amend paragraph 11.01.A, second sentence: DELETE "...party making the claim to the other party..." and REPLACE with "...DESIGN/BUILDER to the OWNER..."

SC-11.01. ADD the following new paragraphs immediately following 11.01.C.

11.01.D. The following instruments may cause a change in the Contract Price: Proposal Requests:

11.01.D.1. OWNER may, in anticipation of ordering an addition, deletion, or revision to the Work, request DESIGN/BUILDER to prepare a detailed proposal of cost and times to perform contemplated change.

11.01.D.2. Proposal request will include reference number for tracking purposes and detailed description of and reason for proposed change, and such additional information as appropriate and as may be required for DESIGN/BUILDER to accurately estimate cost and time impact on Project.

11.01.D.3. Proposal request is for information only; DESIGN/BUILDER is neither authorized to execute proposed change nor to stop Work in progress as result of such request.

11.01.D.4. DESIGN/BUILDER's written proposal shall be transmitted to OWNER promptly, but not later than 14 days after DESIGN/BUILDER's receipt of OWNER's written request. Proposal shall remain firm for a maximum period of 45 days after receipt by OWNER.

11.01.D.5. OWNER's request for proposal or DESIGN/BUILDER's failure to submit such proposal within the required time period will not justify a claim for an adjustment in Contract Price or Contract Times (or Milestones).

11.01.E. Claims:

11.01.E.1. Include, at a minimum:

11.01.E.1.a. Specific references including (i) Drawing numbers, (ii) Specification section and article/paragraph number, and (iii) Submittal type, Submittal number, date reviewed, OWNER's comment, as applicable, with appropriate attachments.

11.01.E.1.b. Stipulated facts and pertinent documents, including photographs and statements.

11.01.E.1.c. Interpretations relied upon.

11.01.E.1.d. Description of (i) nature and extent of claim, (ii) who or what caused the situation, (iii) impact to the Work and work of others, and (iv) discussion of claimant's justification for requesting a change to price or times or both.

11.01.E.1.e. Estimated adjustment in price claimant believes it is entitled to with full documentation and justification.

11.01.E.1.f. Requested Change in Contract Times: Include at least (i) progress schedule documentation showing logic diagram for request, (ii) documentation that float times available for Work have been used, and (iii) revised activity logic with durations including sub-network logic revisions, duration changes, and other interrelated schedule impacts, as appropriate.

11.01.E.1.g. Documentation as may be necessary as set forth below for Work Change Directive, and as OWNER may otherwise require.

11.01.F. Work Change Directives:

11.01.F.1. Procedures:

11.01.F.1.a. OWNER will:

11.01.F.1.a.1) Initiate, including a description of the Work involved and any attachments.

11.01.F.1.a.2) Affix signature, demonstrating approval of the changes involved on five copies.

11.01.F.1.a.3) Return three copies to DESIGN/BUILDER.

11.01.F.1.b. Upon completion of Work covered by the Work Change Directive or when final Contract Times and Contract Price is determined, DESIGN/ BUILDER shall submit documentation for inclusion in a Change Order.

11.01.F.1.c. DESIGN/BUILDER's documentation shall include but not be limited to:

11.01.F.1.c.1) Appropriately detailed records of Work performed to enable determination of value of the Work.

11.01.F.1.c.2) Full information required to substantiate resulting change in Contract Times and Contract Price for Work. On request of OWNER, provide additional data necessary to support documentation.

11.01.F.1.c.3) Support data for Work performed on a unit price or Cost of the Work basis with additional information such as:

11.01.F.1.c.3.a. Dates Work was performed, and by whom.

11.01.F.1.c.3.b. Time records, wage rates paid, and equipment rental rates.

11.01.F.1.c.3.c. Invoices and receipts for materials, equipment, and subcontracts, all similarly documented.

11.01.F.2 Effective Date of Work Change Directive: Date of signature by OWNER, unless otherwise indicated thereon.

11.01.G. Change Orders or Written Amendments:

11.01.G.1 Procedure:

11.01.G.1.a. OWNER will prepare six copies of proposed Change Order or Written Amendment request to DESIGN/BUILDER for signature.

11.01.G.1.b. DESIGN/BUILDER shall, upon receipt, either: (i) promptly sign copies, retaining one for its file, and return remaining five copies to OWNER for OWNER's signature, or (ii) return unsigned five copies with written justification for not executing Change Order or Written Amendment.

11.01.G.1.c. Upon receipt of DESIGN/BUILDER-executed Change Order or Written Amendment, OWNER will promptly either:

11.01.G.1.c.1) Execute Change Order or Written Amendment, retaining three copies for its file and returning two copies to DESIGN/BUILDER.

11.01.G.1.d. Upon receipt of OWNER-executed Change Order, DESIGN/BUILDER shall:

11.01.G.1.d.1) Perform Work covered by Change Order or Written Amendment.

11.01.G.1.d.2) Revise Schedule of Values to adjust Contract Price and submit with next Application for Payment.

11.01.G.1.d.3) Revise progress schedule to reflect changes in Contract Times, if any, and to adjust times for other items of Work affected by change.

11.01.G.1.d.4) Enter changes in Project record documents after completion of change related Work.

11.01.G.2. In signing a Change Order or Written Amendment, OWNER and DESIGN/BUILDER acknowledge and agree that:

11.01.G.2.a. Stipulated compensation (Contract Price or Contract Times, or both) set forth includes payment for (i) the Cost of the Work covered by the Change Order or Written Amendment, (ii) DESIGN/BUILDER's fee for overhead and profit, (iii) interruption of progress schedule, (iv) delay and impact, including cumulative impact, on other Work under the Contract Documents, and (v) extended overheads.

11.01.G.2.b. Change Order or Written Amendment constitutes full mutual accord and satisfaction for the change to the Work;

11.01.G.2.c. Unless otherwise stated in the Change Order or Written Amendment, all requirements of the original Contract Documents apply to the Work covered by the Change Order or Written Amendment.

SC-11.02. Amend paragraph 11.02.B, first sentence: DELETE "...any part..." and REPLACE with "...a controlling item..."

SC-12.07. Amend paragraph 12.07.A, first sentence: DELETE "...prescribed..." and REPLACE with "...provided..."

SC-13.03. Amend paragraph 13.03.A.1, first sentence (in two places): DELETE "...ten..." and REPLACE with "...twenty-one..."

SC-13.09. DELETE paragraph 13.09.A in its entirety.

SC-13.10. DELETE paragraph 13.10.A.1 in its entirety.

SC-14.01. Amend paragraph 14.01.A, third sentence: DELETE "...an adjustment in the Contract Price or ..."

SC-14.01. Amend paragraph 14.01.A, third sentence: DELETE "...Times, or both ..." and REPLACE with "...Time ..."

SC-14.02. Amend paragraph 14.02.A.1, first sentence: DELETE "DESIGN/BUILDER's persistent failure to perform ..." and REPLACE with "DESIGN/BUILDER fails to prosecute and complete ..."

SC-14.02. DELETE paragraph 14.02.B in its entirety and insert the following in its place:

14.02.B To the extent permitted by Laws and Regulations, OWNER may, after giving DESIGN/BUILDER (and the surety, if any) seven days' written notice:

1. Terminate the services of DESIGN/BUILDER
2. Exclude DESIGN/BUILDER from the Site
3. Take possession of the Work and of all DESIGN/BUILDER's tools, appliances, construction equipment and machinery at the Site
4. Use the same to the full extent they could be used by DESIGN/BUILDER (without liability to DESIGN/BUILDER for trespass or conversion)
5. Incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid DESIGN/BUILDER but which are stored elsewhere
6. Finish the Work as OWNER may deem expedient.

In such case, DESIGN/BUILDER shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all costs, losses and damages sustained by OWNER arising out of or resulting from completing the Work (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) such excess will be paid to DESIGN/BUILDER. If such costs, losses and damages exceed such unpaid balance, DESIGN/BUILDER shall pay the difference to OWNER. Such costs, losses and damages incurred by OWNER will be incorporated in a Change Order, provided that when exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

SC-14.02. ADD the following new paragraphs immediately following 14.02.D:

14.02.E. DESIGN/BUILDER shall do no work following written notice specified in paragraph 14.02.B unless specifically directed to do so by CITY.

SC-15.01. Amend paragraph 15.01A, second sentence, DELETE “If no such method and procedure has been set forth, ...”

SC-16.05. ADD the following new paragraphs immediately after paragraph 16.05:

16.06 Establishment of the Work Day

16.06.A. The Work shall be performed Monday through Friday between the hours of 8:00 a.m. and 5:00 p.m. excluding CITY legal holidays. The CITY legal holidays currently are New Year’s Day, Martin Luther King Day, President’s Day, Memorial Day, Independence Day, Labor Day, Veteran’s Day, Thanksgiving Day, Friday After Thanksgiving and Christmas Day. The CITY may change such legal holidays at any time without formal notice to the DESIGN/BUILDER and it shall be the DESIGN/BUILDER’s responsibility to determine and observe all CITY legal holidays.

Sound levels produced from tools and equipment in commercial construction, demolition, drilling, or reasonably similar activities. However, such sound levels are limited to the hours of 8:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 5:00 p.m. on Saturday. The tools and equipment must be muffled and maintained equal to the functional standards of the industry.

16.06.B. If the DESIGN/BUILDER desires to carry on work at night or outside the regular hours, they shall give timely notice to the CITY to allow satisfactory arrangements to be made for observing the work in progress.

END OF SECTION

Attachment J
Local Vendor Certification Pursuant to City of Key West Ordinance
09-22
Section 2-798

LOCAL VENDOR CERTIFICATION PURSUANT TO CITY OF KEY WEST ORDINANCE 09-22
SECTION 2-798

The undersigned, as a duly authorized representative of the vendor listed herein, certifies to the best of his/her knowledge and belief, that the vendor meets the definition of a "Local Business." For purposes of this section, "local business" shall mean a business which:

- a) Principle address as registered with the FL Department of State located within 30 miles of the boundaries of the city, listed with the chief licensing official as having a business tax receipt with its principle address within 30 miles of the boundaries of the city for at least one (1) year immediately prior to the issuance of the solicitation;
- b) Maintains a workforce of at least 50 percent of its employees from the city or within 30 miles of its boundaries; and
- c) Having paid all current license taxes and any other fees due the city at least 24 hours prior to the publication of the call for bids or request for proposals.
 - Not a local vendor pursuant to Ordinance 09-22 Section 2-798
 - Qualifies as a local vendor pursuant to Ordinance 09-22 Section 2-798

If you qualify, please complete the following in support of the self certification & submit copies of your County and City business licenses. Failure to provide the information requested will result in denial of certification as a local business.

Business Name: _____ Phone: _____ Current

Local Address: _____ Fax: _____ (P.O Box numbers may not be used to establish status)

Length of time at this address: _____

 Signature of Authorized Representative Date

NOTARY

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20__.

By _____, of _____

(Name of officer or agent, title of officer or agent) Name of corporation acknowledging)

or has produced _____ as identification.

Signature of Notary

Return Completed form with
Supporting documents to: City
of Key West Purchasing

Print, Type or Stamp Name of Notary

Title or Rank

Attachment K
Indemnification Form

CITY OF KEY WEST INDEMNIFICATION FORM

DESIGN-BUILDER agrees to protect, defend, indemnify, save and hold harmless The City of Key West, all its Departments, Agencies, Boards, Commissions, officers, City's Consultant, agents, servants and employees, including volunteers, from and against any and all claims, debts, demands, expense and liability arising out of injury or death to any person or the damage, loss of destruction of any property which may occur or in any way grow out of any act or omission of the DESIGN-BUILDER, its agents, servants, and employees, or any and all costs, expense and/or attorney fees incurred by the City as a result of any claim, demands, and/or causes of action except of those claims, demands, and/or causes of action arising out of the negligence of The City of Key West, all its Departments, Agencies, Boards, Commissions, officers, agents, servants and employees. The DESIGN-BUILDER agrees to investigate, handle, respond to, provide defense for and defend any such claims, demand, or suit at its sole expense and agrees to bear all other costs and expenses related thereto, even if it (claims, etc.) is groundless, false or fraudulent. The City of Key West does not waive any of its sovereign immunity rights, including but not limited to, those expressed in Section 768.28, Florida Statutes.

These indemnifications shall survive the term of this agreement. In the event that any action or proceeding is brought against the City of Key West by reason of such claim or demand, DESIGN-BUILDER shall, upon written notice from the City of Key West, resist and defend such action or proceeding by counsel satisfactory to the City of Key West.

The indemnification provided above shall obligate DESIGN-BUILDER to defend at its own expense to and through appellate, supplemental or bankruptcy proceeding, or to provide for such defense, at the City of Key West's option, any and all claims of liability and all suits and actions of every name and description covered above which may be brought against the City of Key West whether performed by DESIGN- BUILDER, or persons employed or utilized by DESIGN-BUILDER.

The DESIGN-BUILDER's obligation under this provision shall not be limited in any way by the agreed upon Contract Price as shown in this agreement, or the DESIGN- BUILDER's limit of or lack of sufficient insurance protection.

DESIGN-BUILDER: _____

COMPANY SEAL

Address

Signature

Print Name

Date

Title

NOTARY FOR THE DESIGN-BUILDER

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20____.

By _____, of _____

(Name of officer or agent, title of officer or agent) Name of corporation acknowledging)

or has produced _____ as identification.

Signature of Notary

Return Completed form with
Supporting documents to: City
of Key West Purchasing

Print, Type or Stamp Name of Notary

Title or Rank

Attachment L
Anti-Kickback Affidavit

ANTI-KICKBACKAFFIDAVIT

STATE OF FLORIDA)
 : SS
COUNTY OF MONROE)

I, the undersigned hereby duly sworn, depose and say that no portion of the sum herein Bid will be paid to any employees of the City of Key West as a commission, kickback, reward or gift, directly or indirectly by me or any member of my firm or by an officer of the corporation.

BY: _____

Sworn and subscribed before me this

_____ day of _____, 20__.

NOTARY PUBLIC, STATE OF FLORIDA AT LARGE

My Commission Expires: _____

Attachment M
Public Entity Crimes Form

SWORN STATEMENT UNDER SECTION 287.133(3)(a) FLORIDA
STATUTES, ON PUBLIC ENTITY CRIMES

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

1. This sworn statement is submitted with RFP, Bid or Contract No. _____ for

2. This sworn statement is submitted by ____ (Name of entity submitting sworn statement)
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. My name is _____ and my relationship to
(Please print name of individual signing)

the entity named above is _____.
4. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including but not limited to, any Bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, material misrepresentation.
5. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(l)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication guilt, in any federal or state trial court of record relating to charges brought by indictment information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.
6. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means

1. A predecessor or successor of a person convicted of a public entity crime: or
2. An entity under the control of any natural person who is active in the management of t entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.
7. I understand that a "person" as defined in Paragraph 287.133(1)(8), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which Bids or applies to Bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.
8. Based on information and belief, the statement, which I have marked below, is true in relation to the entity submitting this sworn statement. (Please indicate which statement applies.)

Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, nor any affiliate of the entity have been charged with and convicted of a public entity crime subsequent to July 1, 1989.

The entity submitting this sworn statement, or one or more of the officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989, AND (Please indicate which additional statement applies.)

There has been a proceeding concerning the conviction before a hearing of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer did not place the person or affiliate on the convicted vendor list. (Please attach a copy of the final order.)

The person or affiliate was placed on the convicted vendor list. There has been a subsequent proceeding before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer determined that it was in the public interest to remove

the person or affiliate from the convicted vendor list. (Please attach a copy of the final order.)

___The person or affiliate has not been put on the convicted vendor list. (Please describe any action taken by or pending with the Department of General Services.)

(Signature)

(Date)

STATE OF _____

COUNTY OF _____

PERSONALLY APPEARED BEFORE ME, the undersigned authority,

_____ who, after first being sworn by me, affixed his/her signature in the
(Name of individual signing)

space provided above on this _____ day of _____, 20__.

My commission expires:

NOTARY PUBLIC

Attachment N
Non-Collusion Declaration and Compliance

NON-COLLUSION DECLARATION AND COMPLIANCE WITH 49 CFR §29

ITEM/SEGMENT NO.: _____
F.A.P. NO.: _____
PARCEL NO.: _____
COUNTY OF: _____
BID LETTING OF: _____, _____

I, _____, hereby
(NAME)
declare that I am _____ of _____
(TITLE) (FIRM)
Of _____
(CITY AND STATE)

and that I am the person responsible within my firm for the final decision as to the price(s) and amount of this Bid on this Project.

I further declare that:

1. The prices(s) and amount of this bid have been arrived at independently, without consultation, communication or agreement, for the purpose of restricting competition with any other contractor, bidder or potential bidder.
2. Neither the price(s) nor the amount of this bid have been disclosed to any other firm or person who is a bidder or potential bidder on this project, and will not be so disclosed prior to the bid opening.
3. No attempt has been made or will be made to solicit, cause or induce any other firm or person to refrain from bidding on this project, or to submit a bid higher than the bid of this firm, or any intentionally high or non-competitive bid or other form of complementary bid.
4. The bid of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary bid.
5. My firm has not offered or entered into a subcontract or agreement regarding the purchase of materials or services from any firm or person, or offered, promised or paid cash or anything of value to any firm or person, whether in connection with this or any other project, in consideration for an agreement or promise by any firm or person to refrain from bidding or to submit a complementary bid on this project.
6. My firm has not accepted or been promised any subcontract or agreement regarding the sale of materials or services to any firm or person, and has not been promised or paid cash or anything of value by any firm or person, whether in connection with this or any other project, in consideration for my firm's submitting a complementary bid, or agreeing to do so, on this project.
7. I have made a diligent inquiry of all members, officers, employees, and agents of my firm with responsibilities relating to the preparation, approval or submission of my firm's bid on this project and have been advised by each of them that he or she has not participated in any communication, consultation, discussion, agreement, collusion, act or

other conduct inconsistent with any of the statements and representations made in this Declaration.

8. As required by Section 337.165, Florida Statutes, the firm has fully informed the City of Key West in writing of all convictions of the firm, its affiliates (as defined in Section 337.165(l)(a), Florida Statutes), and all directors, officers, and employees of the firm and its affiliates for violation of state or federal antitrust laws with respect to a public contract or for violation of any state or federal law involving fraud, bribery, collusion, conspiracy or material misrepresentation with respect to a public contract. This includes disclosure of the names of current employees of the firm or affiliates who were convicted of contract crimes while in the employ of another company.

9. I certify that, except as noted below, neither my firm nor any person associated therewith in the capacity of owner, partner, director, officer, principal, investigator, project director, manager, auditor, and/or position involving the administration of Federal funds:

(a) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions, as defined in 49 CFR §29.110(a), by any Federal department or agency;

(b) has within a three-year period preceding this certification been convicted of or had a civil judgment rendered against him or her for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a Federal, State or local government transaction or public contract; violation of Federal or State antitrust statutes; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property;

(c) is presently indicted for or otherwise criminally or civilly charged by a Federal, State or local governmental entity with commission of any of the offenses enumerated in paragraph 9(b) of this certification; and

(d) has within a three-year period preceding this certification had one or more Federal, State or local government public transactions terminated for cause or default..

10. I(We), certify that I(We), shall not knowingly enter into any transaction with any subcontractor, material supplier, or vendor who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this contract by any Federal Agency unless authorized by the Department.

Where I am unable to declare or certify as to any of the statements contained in the above stated paragraphs numbered (1) through (10), I have provided an explanation in the "Exceptions" portion below or by attached separate sheet.

EXCEPTIONS:

(Any exception listed above will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted, indicate to whom it applies, initiating agency and dates of agency action.

Providing false information may result in criminal prosecution and/or administrative sanctions.)

I declare under penalty of perjury that the foregoing is true and correct.

CONTRACTOR: _____ (Seal)

BY: _____ WITNESS: _____
NAME AND TITLE PRINTED

BY: _____ WITNESS: _____
SIGNATURE

Executed on this _____ day of _____, _____

**FAILURE TO FULLY COMPLETE AND EXECUTE THIS DOCUMENT MAY RESULT
IN THE BID BEING DECLARED NONRESPONSIVE**

Attachment O
Florida Trench Safety Act Compliance

FLORIDA TRENCH SAFETY ACT COMPLIANCE
Trench Excavation Safety System and Shoring

CERTIFICATION

All excavation, trenching, and related sheeting, bracing, etc. on this project shall conform to the requirements of the Florida Trench Safety Act (90-96, CS/SB 2626), which incorporates by reference, OSHA's excavation safety standards, 29 CFR 1926.650 Subpart P including all subsequent revisions or updates to these standards.

By submission of this bid and subsequent execution of this Contract, the undersigned certifies compliance with the above mentioned standards and further stipulates that all costs associated with this compliance are detailed below as well as included in their lump sum bid amount.

Summary of Costs:

Trench Safety Measure	Units	Quantity	Unit Cost	Extended Cost
A. _____	_____	_____	_____	_____
B. _____	_____	_____	_____	_____

Signature

Date

STATE OF _____

COUNTY OF _____

PERSONALLY APPEARED BEFORE ME, the undersigned authority,

_____, who, after first being sworn by me affixed his /her signature in the space,

provided above on the _____ day of _____, 2012.

Notary Public

(Seal)

MY COMMISSION EXPIRES: _____

Attachment P
Cone of Silence Affidavit

CONE OF SILENCE AFFIDAVIT

STATE OF _____)

: SS

COUNTY OF _____)

I the undersigned hereby duly sworn depose and say that all owner(s), partners, officers, directors, employees and agents representing the firm of _____ have read and understand the limitations and procedures regarding communications concerning City of Key West issued competitive solicitations pursuant to City of Key West Ordinance Section 2-773 Cone of Silence (attached).

(signature)

(date)

Sworn and subscribed before me this

_____ Day of _____, 2015.

NOTARY PUBLIC, State of _____ at Large

My Commission Expires: _____

Attachment Q
Equal Benefits for Domestic Partners

EQUAL BENEFITS FOR DOMESTIC PARTNERS AFFIDAVIT

STATE OF _____)

: SS

COUNTY OF _____)

I, the undersigned hereby duly sworn, depose and say that the firm of _____ provides benefits to domestic partners of its employees on the same basis as it provides benefits to employees' spouses per City of Key West Ordinance Sec. 2-799.

By:

Sworn and subscribed before me this

_____ day of _____, 2015.

NOTARY PUBLIC, State of _____ at Large

My Commission Expires: _____

Attachment R
Owner Direct Purchase (ODP) Program



THE CITY OF KEY WEST

Post Office Box 1409 Key West, FL 33041-1409 (305) 809-3700

MEMORANDUM

To: Prospective Bidders
From: Kreed Howell, Senior Construction Manager
Cc: Jim Bouquet, Director of Engineering
Date: December 5, 2016
Subject: Owner Direct Purchase Procedures

Attached herein are the Owner Direct Purchase Procedures for Contractors or Construction Managers.

- 1) General
- 2) Terms
- 3) Summary of Steps
- 4) Instructions
- 5) Forms and Examples of Documents
 - a. Vendor Information Form
 - b. W-9
 - c. CKW Change Order Request Form
 - d. CKW Certificate of Entitlement Form
 - e. Certificate of Exemption
 - f. ODP Vendor Spreadsheet
- 6) Section 12A-1.094 of the State of Florida Department of Revenue Code

If you have any questions about these procedures, please contact: L. Kreed Howell, Senior Construction Manager, Engineering Services: howell@cityofkeywest-fl.gov, 305-809-3963.

Note: Pursuant to Florida Statutes, the City of Key West, is exempt from Florida Sales Tax on the purchase of construction material and has elected to exercise this right. All bids are to be submitted will all applicable taxes included

Key to the Caribbean – average yearly temperature 77 ° Fahrenheit.



THE CITY OF KEY WEST

Post Office Box 1409 Key West, FL 33041-1409 (305) 809-3700

MEMORANDUM

GENERAL

Pursuant to *Florida Statutes*, Section 212.08(6), and *Florida Administrative Code*, Number 12A-1.094, City of Key West is exempt from Florida Sales Tax for the purchase of construction materials, supplies and/or equipment incorporated into a construction project. Under this program, only the Florida Sales Tax rate of 6% shall apply. The Owner has elected to exercise this right to direct purchase *selected* materials on all construction projects and such direct purchase shall be without any additional cost to the Owner. **All bids are to be submitted with all applicable taxes included.** See project specifications for complete details and information. The Contractor shall assume all risk and remain fully responsible for all material incorporated into any project, directly purchased by the Owner or not. This will include, but not be limited to, insurance, theft, storage, damage during installation, coordination, quantities ordered, submittals, protection, scheduling, shipping, security, expediting, receiving, installation, cleaning and all applicable warranties, etc. The procedures outlined here may change at any time without prior notice to Contractor.

TERMS

For the purpose of this document, the following terms will be defined:

Change Order (CO): A written order authorizing a change in the scope of work, contract amount or contract time.

Contractor: A General Contractor (GC) or Construction Manager (CM).

City of Key West: CKW or Owner.

Owner Direct Purchase (ODP): A purchase made directly by the Owner from a vendor, and not through a contractor.

Owner Direct Purchase Purchase-Order (DPPO): A purchase order issued by the Owner directly to the Contractor's vendor for the purchase of materials exempt from sales tax.

Owner Direct Purchase Procedures (ODPP): Guidelines outlined in this document.

Engineering: The Engineering Services Department of CKW.

Material: Any material, supplies, or equipment incorporated into a CKW construction project.

Purchase Order (PO): A written authorization issued by the Owner for a vendor to deliver material or services at a specified price, which becomes a legally binding contract upon acceptance by the vendor.

Vendor: A company supplying material to the Project, whether such provision includes installation or not.

Key to the Caribbean – average yearly temperature 77 ° Fahrenheit.



THE CITY OF KEY WEST

Post Office Box 1409 Key West, FL 33041-1409 (305) 809-3700

MEMORANDUM

Vendor Information Form (VIF): A fillable PDF document, filled out by the Vendor that provides the CKW Finance Department with all of the pertinent information on the Vendor.

Vendor List: A list provided by the Contractor of the vendors the Owner will direct purchase material from.

Summary of Steps for Direct Purchase of Material

1. Contract Awarded
2. Contract Signed.
3. Purchase Order issued to Contractor for full amount of contract.
4. Schedule of Values reviewed by CKW and selected item identified for Direct Purchase.
5. Contractor will submit a Vendor List to Owner of only the Vendors that CKW will purchase from.
6. Contractor will submit a Vendor Information Form (VIF) and W-9 of all of the Vendors the CKW identified for participation in the ODP program.
7. Change Order Request Form is prepared by the contractor outlining which of the aforementioned vendors will be included in that round of that particular Change Order. All applicable back up, quotations and/or proposals will be provided at this time. If said backup is not included in the request a PO will not be generated for that Vendor.
8. Change Order is issued to reduce the Contractor's PO in the amount of the requested ODP materials provided in the Change Order Request Form.
9. Contractor's PO is reduced for amount of Direct Purchase Change Order.
10. Issuance of Purchase Order (PO) to Vendor for Direct Purchase as outlined in the Change Order.
11. CKW issue a Letter to Vendor, Contractor and Subcontractor confirming PO for direct purchase material.
12. Contractor coordinates delivery with Vendor.
13. Material is delivered and Vendor sends invoice DIRECTLY to Owner.
14. Upon receipt, Owner records invoice and forwards to Contractor for approval.
15. Contractor approves invoice, returns to Owner (within 5 days).
16. Owner issued check to Vendor in payment for materials delivered.
17. Purchase orders are closed, and tax savings reverts to Owner.

Key to the Caribbean – average yearly temperature 77 ° Fahrenheit.



THE CITY OF KEY WEST

Post Office Box 1409 Key West, FL 33041-1409 (305) 809-3700

MEMORANDUM

INSTRUCTIONS

Overview

1. The Owner (CKW) is exempt from sales tax on the purchase construction materials, supplies and/or equipment incorporated into a construction project. The Owner has elected to exercise this right to direct purchase *selected* materials on all construction projects and such direct purchase shall be without any additional cost to the Owner. **All bids are to be submitted with all applicable taxes included.**
2. The Owner shall, via **Purchase Order (PO)**, purchase material and the Contractor shall assist the Owner in the preparation of the PO. The Owner will purchase the material from Vendors selected by the Contractor for the price originally negotiated by the contractor.
3. The Contractor's PO and contract amount shall be reduced by the amount of the PO plus Florida State Sales Tax. This reduction in the Contractor's PO and contract amount will occur through a **Change Order (CO)**, which will reference the Contractor's PO affected by the change.
4. Issuance of PO's by the Owner shall not relieve the Contractor of any contract responsibilities for any material purchased and incorporated into a construction project, directly purchased by the Owner or not, with the exception of the payments for the material or equipment purchased via PO.
5. The Contractor shall remain fully responsible for, insurance, theft, storage, damage during installation, coordination, quantities ordered, submittals, protection, scheduling, shipping, security, expediting, receiving, installation, cleaning and all applicable warranties, etc. The Contractor must maintain the Builder's Risk policy to include **ALL** material and equipment stored on-site and installed on-site.
6. It is recognized that the Contractor may encounter additional overhead costs in assisting the Owner with its Owner Direct Purchase Program. The Contractor is charged with including all additional costs as part of the Bid or Proposal.
7. *No payment will be made for material or equipment stored off-site. Furthermore, NO payment will be made for the engineering of specialized construction material specified for the project.*
8. All invoices must contain the Owner's PO number in order to be accepted and processed for payment.

Vendor List

1. Upon contract award of the construction project, the Owner will review the schedule of values with Contractor and determine which items the Owner will direct purchase.
2. Contractor will submit a Vendor List to Owner of only the Vendors that CKW will purchase from.



THE CITY OF KEY WEST

Post Office Box 1409 Key West, FL 33041-1409 (305) 809-3700

MEMORANDUM

Purchase Order Request – CKW Change Order Request Form (CORF)

1. When the materials to be direct purchased have been determined, the Contractor shall issue a Change Order Request Form (CORF) addressed to the Owner. The CORF shall contain the following minimum information and be submitted at least 20 days prior to shipment of material.

- Date of CORF
- Project name, number and location
- Contractor contact information
- Subcontractor contact information
- Vendor's full business name, address, complete contact numbers - telephone, fax,
- Any special instruction; for delivery and contact person
- Quantity of each material
- Description of all material including item and/or serial number
- Unit cost of each material
- Extended price of each material (quantity times unit cost)
- Sales tax on material to be purchased. Florida Sales Tax rate of 6% shall apply.
- The Owner will not pay shipping and handling charges.
- Total price for all material ordered (extended prices plus sales tax)
- Copy of detailed quote from Vendor indicating same information including sales tax amount
- Signature and printed name of Contractor

2. All CORF's may be submitted at the same time or in "rounds". It is advantageous for both the Contractor and the Owner for the CORF's to include as many Vendors as possible.

3. Once the official Change Order is executed by the Owner it will be forwarded to the CKW Finance Department for funding. After confirmation of said funding, the owner will advise the Contractor via email and the contractor can included the reduction of the Contractors PO on the following Applications for Payment.

3. All CORF should be sent by E-mail to Kreed Howell, Senior Construction Manager, Engineering Services. howell@cityofkeywest-fl.gov.

Issuance of Purchase Order

1. The Owner will issue a PO in the amount of the CORF less sales tax. The PO will contain the following minimum information:

- Date of PO
- Project name, number and location
- Vendor's full business name and address
- Special instruction; for delivery and contact person
- The authorized quantity, material description, unit cost, and extended price for each material
- Total price for material ordered

2. The Owner will send the PO to the Vendor via email, with a copy retained by the Owner, and copies sent to the Contractor and subcontractor.



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MEMORANDUM

3. Upon receipt of the PO by the Vendor, the Vendor and Contractor shall coordinate and schedule delivery of the material to the job site.

4. After delivery, the Vendor must issue and deliver the invoice directly to the Owner. The invoice must clearly reference the Owner's PO number.

5. All material is to be delivered to the job site, where the Contractor assumes all responsibility and risk.

Invoice Approval and Payment

1. Upon receipt of the Vendor's invoice by the Owner, the Owner will email a copy to the Contractor for verification and approval. ***The Contractor will have (five) 5 working days to process the invoice for payment.*** Once approved by the Contractor and Owner, the Vendor's invoice will be paid.

2. The Owner will issue payment to Vendor in the amount approved by the Owner and Contractor. The amount paid to the Vendor will not exceed the amount of the PO. In order to maintain timely payments, it will be the responsibility of the Contractor to process invoices in accordance with the payment schedule. The Contractor shall pay any late fees incurred as a result of the Contractor's failure to process invoices in a timely manner.

Contractor's Pay Request

1. The Contractor shall be responsible for maintaining details of direct material purchased and tax savings on the AIA Form G702, *Application and Certificate for Payment*, in the project. The material direct purchased by the Owner and the resulting sales tax savings must appear on each pay request along with all other CO's.

2. The Contractor's pay request:

- Must have Owner Direct Material Purchases (ODMP) deducted from pay request
- Must show all CO's
- Engineering will reconcile pay request with their records
 - Contractor will be contacted to resolve any discrepancies
 - Owner will email summary as transactions occur

End of Process

1. All PO's have been issued, materials delivered, invoices approved and paid.

2. Facilities will close all PO's no CO is required for this action.

3. Any discounts for prompt payment are for the account of the Owner.



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MEMORANDUM

Forms & Examples of Documents

1. Examples of the following forms are attached:

- Vendor Information Form
- W-9
- CKW Change Order Request Form
- Example of a complete Change Order Request Form
- Example of a ODP Vendor Worksheet
- Example of Certificate of Entitlement to be used by Vendor for ODMP
- Copy of CKW Certificate of Tax Exemption
- State of Florida -Sales and Use Tax, Florida Administrative Code 12A-1.094 -

2. A Copy of a properly completed pay request with ODMP and Owner CO information, Form AIA G702, is available upon request.

3. Working copies of applicable documents are available upon request.

Request for Taxpayer Identification Number and Certification

**Give Form to the
 requester. Do not
 send to the IRS.**

Print or type See Specific Instructions on page 2.	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	2 Business name/disregarded entity name, if different from above	
	3 Check appropriate box for federal tax classification; check only one of the following seven boxes: <input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____ Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner. <input type="checkbox"/> Other (see instructions) ▶ _____	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ <i>(Applies to accounts maintained outside the U.S.)</i>
	5 Address (number, street, and apt. or suite no.)	Requester's name and address (optional)
	6 City, state, and ZIP code	
	7 List account number(s) here (optional)	

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Social security number									
				-			-		
or									
Employer identification number									
					-				

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here	Signature of U.S. person ▶	Date ▶
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General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at www.irs.gov/fw9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding? on page 2.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

Note. If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following persons must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States:

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Publication 515, Withholding of Tax on Nonresident Aliens and Foreign Entities).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items:

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

Backup Withholding

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the Part II instructions on page 3 for details),

3. The IRS tells the requester that you furnished an incorrect TIN,

4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or

5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code* on page 3 and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships* above.

What is FATCA reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code* on page 3 and the Instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account, list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

Note. ITIN applicant: Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C Corporation, or S Corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

Line 3

Check the appropriate box in line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box in line 3.

Limited Liability Company (LLC). If the name on line 1 is an LLC treated as a partnership for U.S. federal tax purposes, check the "Limited Liability Company" box and enter "P" in the space provided. If the LLC has filed Form 8832 or 2553 to be taxed as a corporation, check the "Limited Liability Company" box and in the space provided enter "C" for C corporation or "S" for S corporation. If it is a single-member LLC that is a disregarded entity, do not check the "Limited Liability Company" box; instead check the first box in line 3 "Individual/sole proprietor or single-member LLC."

Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space in line 4 any code(s) that may apply to you.

Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 ¹	Generally, exempt payees 1 through 5 ²
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

¹ See Form 1099-MISC, Miscellaneous Income, and its instructions.

² However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a)

J—A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

Note. You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns.

Line 6

Enter your city, state, and ZIP code.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN. However, the IRS prefers that you use your SSN.

If you are a single-member LLC that is disregarded as an entity separate from its owner (see *Limited Liability Company (LLC)* on this page), enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note. See the chart on page 4 for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at www.ssa.gov. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at www.irs.gov/businesses and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting IRS.gov or by calling 1-800-TAX-FORM (1-800-829-3676).

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note. Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, or 5 below indicate otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code* earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983. You must give your correct TIN, but you do not have to sign the certification.

2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983. You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

3. Real estate transactions. You must sign the certification. You may cross out item 2 of the certification.

4. Other payments. You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions. You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account)	The actual owner of the account or, if combined funds, the first individual on the account ¹
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor ²
4. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee ¹ The actual owner ¹
5. Sole proprietorship or disregarded entity owned by an individual	The owner ³
6. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor*
For this type of account:	Give name and EIN of:
7. Disregarded entity not owned by an individual	The owner
8. A valid trust, estate, or pension trust	Legal entity ⁴
9. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
10. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
11. Partnership or multi-member LLC	The partnership
12. A broker or registered nominee	The broker or nominee
13. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
14. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

¹ List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

² Circle the minor's name and furnish the minor's SSN.

³ You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

⁴ List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships* on page 2.

*Note. Grantor also must provide a Form W-9 to trustee of trust.

Note. If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records from Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Publication 4535, Identity Theft Prevention and Victim Assistance.

Victims of identity theft who are experiencing economic harm or a system problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes. Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to phishing@irs.gov. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at: spam@uce.gov or contact them at www.ftc.gov/idtheft or 1-877-IDTHEFT (1-877-438-4338).

Visit IRS.gov to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.



Vendor Setup Form

1. General Information (check one):

New Vendor (attach a copy of your business license)
Change Existing Vendor (vendor #) _____

Taxpayer Name _____ <i>(as shown on income tax return)</i>			
Business Name _____ <i>(if different from taxpayer name)</i>			
Physical Address _____			
City _____	State _____	Zip _____	
Phone _____	Fax _____	Email _____	

Mailing Address:	same as above, or:	ACH Remittance Information:	
Address _____		Financial Institution Name _____	
City _____	State _____ Zip _____	Account Number _____	
Phone _____		Routing/ABA Number _____	
Fax _____		Name on Account _____	
Contact Name _____		Type of Account	Checking Savings
Purchase Order Email _____ (Mandatory)		Remittance Email _____	

I (we) hereby authorize the City of Key West to initiate entries to my (our) account at the Financial Institution listed above, and, if necessary, initiate adjustments for any transactions credited/debited in error.

This authority will remain in effect until the City of Key West's Finance Department is notified by me (us) in writing to cancel it in such time as to afford the City of Key West and the above Financial Institution a reasonable opportunity to act on it.

2. Sign and Date Form

Signature _____ Date _____
Title _____ Phone _____

Certification: *Under penalties of perjury, I certify that the information shown on this form is correct to my knowledge.*

3. Company Status

Federal Tax ID (TIN)/SSN # _____
Attorney or Legal Firm Yes No

Vendor Type (check only one)

Minority-Owned	Woman-Owned	Small Business	HUB
Local Business	Disabled Veteran	Section 8A	Other _____

**** TO BE COMPLETED BY THE CITY OF KEY WEST ****

1099 Required If yes, Block _____

Reviewed By _____

Entered By _____

Date Entered _____

	DIVISION 33 - Utilities								

TOTALS \$127,448.87 \$8,135.03 \$135,583.90 \$0.00 \$0.00

TWP/CT&S Purchase Order
Executed Change Order 01
Executed Change Order 02

CERTIFICATE OF ENTITLEMENT

(For direct purchase of construction materials by a governmental entity pursuant to 212.08(6), F.S. and Rule 12A-1.094, F.A.C.)

The undersigned authorized representative of the City of Key West (hereinafter "Governmental Entity"), Florida Consumer's Certificate of Exemption Number 85-8012621608C-5, affirms that the tangible personal property purchased pursuant to Purchase Order Number P081062 from Sherwin Williams (Vendor) on or after 01/07/2016 (date) will be incorporated into or become a part of a public facility as part of a public works contract pursuant to contract # RES 15-104 with Burke Construction Group (Name of Contractor) for the construction of The New City Hall at Historic Glynn R Archer School.

Governmental Entity affirms that the purchase of the tangible personal property contained in the attached Purchase Order meets the following exemption requirements contained in Section 212.08(6), F.S., and Rule 12A-1.094, F.A.C.:

You must initial each of the following requirements.

- X 1. The attached Purchase Order is issued directly to the vendor supplying the tangible personal property the Contractor will use in the identified public works.
- X 2. The vendor's invoice will be issued directly to Governmental Entity.
- X 3. Payment of the vendor's invoice will be made directly by Governmental Entity to the vendor from public funds.
- X 4. Governmental Entity will take title to the tangible personal property from the vendor at the time of purchase or of delivery by the vendor.
- X 5. Governmental Entity assumes the risk of damage or loss at the time of purchase or delivery by the vendor.

Governmental Entity affirms that if the tangible personal property identified in the attached Purchase Order does not qualify for the exemption provided in Section 212.08(6), F.S., and Rule 12A-1.094, F.A.C., Governmental Entity will be subject to the tax, interest, and penalties due on the tangible personal property purchased. If the Florida Department of Revenue determines that the tangible personal property purchased tax-exempt by issuing this Certificate does not qualify for the exemption, Governmental Entity will be liable for any tax, penalty, and interest determined to be due.

I understand that if I fraudulently issue this certificate to evade the payment of sales tax I will be liable for payment of the sales tax plus a penalty of 200% of the tax and may be subject to conviction of a third degree felony.

Under the penalties of perjury, I declare that I have read the foregoing Certificate of Entitlement and the facts stated in it are true.

\

Signature of Authorized Representative

Title

Purchaser's Name (Print or Type)

Date

Federal Employer Identification Number: _____

Telephone Number: _____

You must attach a copy of the Purchase Order to this Certificate of Entitlement.
Do not send to the Florida Department of Revenue. This Certificate of Entitlement must be retained in the vendor's and the contractor's books and records.



Consumer's Certificate of Exemption

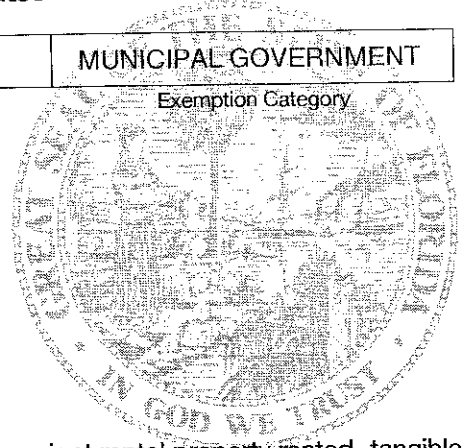
DR-14
R. 04/11

Issued Pursuant to Chapter 212, Florida Statutes

85-8012621608C-5	07/31/2012	07/31/2017	MUNICIPAL GOVERNMENT
Certificate Number	Effective Date	Expiration Date	Exemption Category

This certifies that

CITY OF KEY WEST
3104 FLAGLER AVE
KEY WEST FL 33040-4602



is exempt from the payment of Florida sales and use tax on real property rented, transient rental property rented, tangible personal property purchased or rented, or services purchased.



Important Information for Exempt Organizations

DR-14
R. 04/11

1. You must provide all vendors and suppliers with an exemption certificate before making tax-exempt purchases. See Rule 12A-1.038, Florida Administrative Code (F.A.C.).
2. Your *Consumer's Certificate of Exemption* is to be used solely by your organization for your organization's customary nonprofit activities.
3. Purchases made by an individual on behalf of the organization are taxable, even if the individual will be reimbursed by the organization.
4. This exemption applies only to purchases your organization makes. The sale or lease to others of tangible personal property, sleeping accommodations, or other real property is taxable. Your organization must register, and collect and remit sales and use tax on such taxable transactions. Note: Churches are exempt from this requirement except when they are the lessor of real property (Rule 12A-1.070, F.A.C.).
5. It is a criminal offense to fraudulently present this certificate to evade the payment of sales tax. Under no circumstances should this certificate be used for the personal benefit of any individual. Violators will be liable for payment of the sales tax plus a penalty of 200% of the tax, and may be subject to conviction of a third-degree felony. Any violation will require the revocation of this certificate.
6. If you have questions regarding your exemption certificate, please contact the Exemption Unit of Account Management at 800-352-3671. From the available options, select "Registration of Taxes," then "Registration Information," and finally "Exemption Certificates and Nonprofit Entities." The mailing address is PO Box 6480, Tallahassee, FL 32314-6480.

State of Florida Department of Revenue

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Florida Tax Law Library

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12A-1.094 Public Works Contracts.

(1) This rule shall govern the taxability of transactions in which contractors manufacture or purchase supplies and materials for use in public works, as that term is referred to in Section 212.08(6), F.S. This rule shall not apply to non-public works contracts as those contracts are governed under the provisions of Rule 12A-1.051, F.A.C. This rule shall also not apply to contractors who entered into road construction contracts during the period from January 1, 1988, through February 11, 1988, and who chose to remit the tax based on 50 percent of the contract price. See Emergency Rule 12AER88-16 for provisions governing such contracts. In applying this rule, the following definitions are used.

(a) "Contractor" is one who is engaged in the repair, alteration, improvement or construction of real property. Contractors include, but are not limited to, persons engaged in building, electrical, plumbing, heating, painting, decorating, ventilating, paperhanging, sheet metal, roofing, bridge, road, waterworks, landscape, pier or billboard work. This definition includes subcontractors.

(b) "Public works" are defined as construction projects for public use or enjoyment, financed and owned by the government, in which private persons undertake the obligation to do a specific piece of work. The term "public works" is not restricted to the repair, alteration, improvement, or construction of real property and fixed works where the sale of tangible personal property is made to or by contractors involved in public works contracts. Such contracts shall include, but not be limited to, building, electrical, plumbing, heating, painting, decorating, ventilating, paperhanging, sheet metal, roofing, bridge, road, waterworks, landscape, pier or billboard contracts.

(c) "Real property" within the meaning of this rule includes all fixtures and improvements to real property. The status of a project as an improvement or affixture to real property is determined by the objective and presumed intent of the parties, based on the nature and use of the project and the degree of affixation to realty. Mobile homes and other mobile buildings are deemed fixtures if they (1) bear RP license tags, or (2) have the mobile features (such as wheels and/or axles) removed, and are placed on blocks or footings and permanently secured with anchors, tie-down straps or similar devices.

(2) The purchase or manufacture of supplies or materials by the contractor for incorporation into a public works project is taxable to the contractor since he is the ultimate consumer. The applicable tax rate shall be determined on the basis of the invoice date, not the date of the contract, as follows:

- (a) If invoiced before February 1, 1988, and delivered within a reasonable period of time the tax rate shall be 5 percent.
- (b) If invoiced on or after February 1, 1988, the tax rate shall be 6 percent.

(3)(a) The purchase or manufacture of tangible personal property for resale to a governmental body is exempt from tax provided this exemption shall not include sales of tangible personal property made to contractors employed either directly or as agents of the United States Government, a state, or any county, municipality, or political subdivision of a state when such tangible personal property goes into or becomes a part of public works financed or owned by such governmental bodies or political subdivisions.

(b) With regard to contracts with government entities, the exemption in subsection (3)(a) is appropriate only where the levy would otherwise fall on the government itself, or on an agency or instrumentality so closely connected with that government that the two cannot realistically be viewed as separate entities, at least insofar as the activity being taxed is concerned. A finding of exempt status, however, requires something more than the implication of traditional agency notions, so that to resist a state's taxing power, a private taxpayer must actually stand in the government's shoes as a principal, rather than as a contractor employed either directly or as the government's agent. A contractor will not be deemed to actually stand in the government's shoes if the contractor has a substantial independent role in making purchases. Accordingly, the fact that title passes directly to the government and payment is made with government funds, in and of itself, cannot characterize the transaction as an exempt purchase if the purchasing entity, in its role as a purchaser, is sufficiently distinct from the government.

(4) The exemption in subsection (3)(a) is a general exemption for sales made to the government. The exception in subsection (2)(a) is a specific exception for sales to contractors. A determination of whether a particular transaction is properly characterized as an exempt sale to a government entity or a taxable sale to a contractor shall be based on the substance of the transaction, rather than the form in which the transaction is cast. The Executive Director or the Executive Director's designee in the responsible program will determine whether the substance of a particular transaction is governed by subsection (2)(a) or is a sale to a governmental body as provided by subsection (3) of this rule based on all of the facts and circumstances surrounding the transaction as a whole. The Executive Director or the Executive Director's designee in the responsible program will give special consideration to factors which govern the status of the tangible personal property prior to its affixation to real property. Such factors include provisions which govern bidding, indemnification, inspection, acceptance, delivery, payment, storage, and assumption of the risk of damage or loss for the tangible personal property prior to its affixation to real property. Assumption of the risk of damage or loss is a paramount consideration. A party may be deemed to have assumed the risk of loss if the party either:

insurance covering damage or loss; or enjoys the economic benefit of the proceeds of such bond or insurance. Other factors that may be considered by the Executive Director or the Executive Director's designee in the responsible program include whether: the contractor is authorized to make purchases in its own name; the contractor is jointly or severally liable to the vendor for payment: purchases are not subject to prior approval by the government; vendors are not informed that the government is the only party with an independent interest in the purchase; and whether the contractors are formally denominated as purchasing agents for the government. Sales made pursuant to so called "cost-plus", "fixed-fee", "lump sum", and "guaranteed price" contracts are taxable sales to the contractor unless it can be demonstrated to the satisfaction of the Executive Director or the Executive Director's designee in the responsible program that such sales are, in substance, tax-exempt sales to the government.

(5) Contractors who manufacture materials for incorporation into public works shall be liable for tax in the manner provided in Rule 12A-1.051, F.A.C.

(6) Contractors who supply raw materials such as rock, shell, fill dirt and similar materials for incorporation into public works shall be liable for tax in the manner provided in Rule 12A-1.051, F.A.C.

(7) Contractors who purchase tangible personal property outside the State of Florida, or inside the State but fail to pay sales tax, and use such property in a public works project shall be presumed to have the beneficial use of such property because the property is being used in furtherance of the contractor's essentially independent commercial enterprise. Accordingly, such contractors shall be liable for the use tax.

Specific Authority 212.17(6), 212.18(2), 213.06(1) FS. Law Implemented 212.02(4), (10), (14), (15), (16), (19), (20), 212.06(1), (2), 212.07(1), 212.08(6), 212.14(5), 212.18(2) FS.

History-New 6-3-80, Amended 11-15-82, Formerly 12A-1.94, Amended 1-2-89, 8-10-92.

Application and Certificate For Payment

To (Owner): **City of Key West**
3126 Flagler Avenue
Key West, Florida 33040

Project:

Application #: **21**
Period To: **30-Sep-16**

From (Contractor):

VIA (Architect):

Contractor's Project #: **1415**
Contract Date: **1-Dec-14**

Contractor's Application for Payment

Application is made for Payment, as shown below, in connection with the contract. Continuation Sheet, AIA Document G703 is attached.

Change Order Summary			
Change Order Status of previous months		Approved Additions	Approved Deductions
Change Order #	Date Approved		
1	3/23/2015	TBD	
2	4/16/2015	(1,894,187.63)	
2A to 2F		(1,777,205.65)	
4		205,490.85	
2G		(94,618.82)	
5		343,300.00	
2H		108,419.39	
6		57,210.49	
Totals		(3,051,591.37)	0.00
Net Change by Change Orders		(\$3,051,591.37)	

1. Original Contract Sum	\$14,997,500.00
2. Net Change by Change Orders	(\$3,051,591.37)
3. Contract Sum to Date (Line 1+2)	11,945,908.63
4. Total Completed and Stored to Date (Column G on G703)	\$11,878,432.89
5. Retainage	
a 5% of Completed Work (excl. certain fees) (Column D+E on G703)	\$555,939.10
b 0% of Stored Material (incl above) (Column F on G703)	<u>0.00</u>
Total Retainage (lines 5a +5b)	<u>555,939.10</u>
6. Total Earned Less Retainage	11,322,493.79
7. Less Previous Certificates for Payment (Line 6 from prior Certificate)	10,984,182.77
8. Current Payment Due	338,311.02
9. Balance to Finish, Plus Retainage	\$623,414.84

The undersigned contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents,

State
Subs
Nota
My c

OWNER/ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising the above application, the Architect/Owner certifies that to the best of their knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and

the Contractor is entitled to payment of the AMOUNT CERTIFIED.

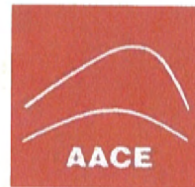
AMC
Archit

By: _____ Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

**SUBSURFACE SOIL EXPLORATION AND
PRELIMINARY GEOTECHNICAL ENGINEERING EVALUATION
PROPOSED SEAWALL REPLACEMENT
TRUMAN WATERFRONT
KEY WEST, MONROE COUNTY, FLORIDA**

AACE FILE No. 15-148



ANDERSEN ANDRE CONSULTING ENGINEERS, INC.

573 SW Biltmore Street
Port St. Lucie, Florida 34983
Ph: 772-807-9191 Fx: 772-807-9192
www.aaceinc.com

TABLE OF CONTENTS

**SUBSURFACE SOIL EXPLORATION AND
PRELIMINARY GEOTECHNICAL ENGINEERING EVALUATION
PROPOSED SEAWALL REPLACEMENT - TRUMAN WATERFRONT
KEY WEST, MONROE COUNTY, FLORIDA**

AACE FILE NO. 15-148

	PAGE #
1.0 INTRODUCTION	1
2.0 SITE INFORMATION AND PROJECT UNDERSTANDING	1
2.1 Site Location and Project Description	1
2.2 Review of USDA Soil Survey	2
3.0 FIELD EXPLORATION PROGRAM	2
4.0 OBSERVED SUBSURFACE CONDITIONS	2
4.1 General Soil Conditions	2
4.2 Measured Groundwater Level	3
5.0 LABORATORY TESTING PROGRAM	3
6.0 PRELIMINARY GEOTECHNICAL ENGINEERING EVALUATION	3
7.0 CLOSURE	5

- Sheet No. 1 Vicinity Maps and Boring Location Plan
- Sheet No. 2 SPT Boring Profiles

- Appendix I Representative Site Photographs
- Appendix II USDA Web Soil Survey Summary Report
- Appendix III General Notes
- Appendix IV Project Limitations and Conditions





ANDERSEN ANDRE CONSULTING ENGINEERS, INC.
Geotechnical Engineering
Construction Materials Testing
Environmental Consulting

AACE File No. 15-148
July 15, 2015

Tetra Tech, Inc.
759 South Federal Highway, Suite 314
Stuart, FL 34994

Attn: Mr. Stuart McGahee, P.E.

**SUBSURFACE SOIL EXPLORATION AND
PRELIMINARY GEOTECHNICAL ENGINEERING EVALUATION
PROPOSED SEAWALL REPLACEMENT - TRUMAN WATERFRONT
KEY WEST, MONROE COUNTY, FLORIDA**

1.0 INTRODUCTION

In accordance with the request and authorization of Tetra Tech, Inc. (TT), Andersen Andre Consulting Engineers, Inc. (AACE) has completed a subsurface exploration and preliminary geotechnical engineering evaluation for the above referenced project. The purpose of performing this exploration was to explore soil types and groundwater levels, and restrictions which these may place on the proposed seawall replacement project. Our work included Standard Penetration Test (SPT) borings, limited laboratory testing, and engineering analysis. This report documents our explorations and presents our findings, and summarizes our preliminary conclusions and recommendations.

2.0 SITE INFORMATION AND PROJECT UNDERSTANDING

2.1 Site Location and Project Description

The subject seawall segment which is proposed to be replaced (i.e. the site) is fronting the NOAA National Marine Sanctuary regional office, located at 33 East Quay Road in Key West, Monroe County, Florida. A Site Vicinity Map (2014 aerial photograph) which depicts the location of the site is included on the attached Sheet No. 1. The site location is further shown superimposed on the "Key West, FL" USGS topographic quadrangle map (1971), also included on Sheet No. 1.

The existing, approximately 325-ft long seawall segment appears to consists of reinforced concrete panels with an approximately 2-ft wide by 1-ft thick concrete cap (top), and with an approximately 2-ft deep by 1-ft wide horizontal concrete beam located along the seawall near the water level (or, near mid-height) in the adjacent basin. The embedment depths of the concrete panels are unknown, and we expect the fronting horizontal beam is acting as a waler as part of a tieback system. The upland side of the seawall is an approximately 25-30 foot wide unpaved pier, which consists of limerock fill with storm drains and inlets, various utilities, lighting, etc.

Based on measurements collectively made by representatives of TT and AACE, the water depth in front of the seawall ranges from about 2 feet to about 13 feet, and sand-cement bags appear to have been placed along the toe of the wall, at least on the eastern approximate one-half of the seawall segment and possibly more. Further, an apparent concrete toe wall is visible on the western approximately one-half of the seawall. Measurements taken along the extent of the five existing wooden docks fronting the seawall indicate that the bottom of the basin slopes away from the seawall at a slope of 1H:1V or steeper.

Representative photographs of the site are presented in Appendix I.

At this point in time, the design of the replacement seawall is in progress and, as such, no specific details are available for a geotechnical engineering evaluation. This report includes general comments and pertinent soil properties to assist in the design, and it is anticipated that a final geotechnical engineering review of the ultimate design will be required.

2.2 Review of USDA Soil Survey

According to the USDA NRCS Web Soil Survey, the soils within the Truman Waterfront area (as well as the majority of Key West) are identified as *Urban land (Map Unit ID 11)*, which is a term used to describe areas which have been altered (by grading, shaping, covering, etc.) to an extent where the original soils cannot easily be identified. In general, the lower keys (including Key West) are underlain by an oolitic limestone formation that varies in density and composition, and which in some areas contains coral and invertebrate fossils.

The approximate location of the site is shown superimposed on a copy of the USDA Web Soil Survey aerial photograph, presented on Sheet No. 1, and the summary report obtained from the USDA Web Soil Survey is included in Appendix II.

3.0 FIELD EXPLORATION PROGRAM

To explore subsurface conditions at the site relative to the proposed seawall replacement/construction, two (2) Standard Penetration Test (SPT) borings were completed to depths of 30 feet below the existing ground surface. This work was performed on June 23, 2015 at the approximate locations shown on the Boring Location Plan on Sheet No. 1.

The soil boring locations shown on Sheet No. 1 were determined in the field by our field crew using a combination of hand-held GPS and tape and wheel measurements, obtained aerial photographs, and existing site features as references. The locations should be considered accurate only to the degree implied by the method of measurement used. We preliminarily anticipate that the actual locations are within 15 feet of those shown on Sheet No. 1.

Summaries of AACE's field procedures are included in Appendix III, and the individual boring profiles are presented on the attached Sheet No. 2. Samples obtained during performance of the borings were visually classified in the field, and representative portions of the samples were transported to our laboratory in sealed sample jars for further classification. The soil samples recovered from our explorations will be kept in our laboratory for 60 days, then discarded unless you specifically request otherwise.

4.0 OBSERVED SUBSURFACE CONDITIONS

4.1 General Soil Conditions

Detailed subsurface conditions are illustrated on the soil boring profiles presented on the attached Sheet No. 2. The stratification of the boring profiles represents our interpretation of the field boring logs and the results of laboratory examinations of the recovered samples. The stratification lines represent the approximate boundary between soil types. The actual transitions may be more gradual than implied.

In brief, at the locations and depths explored, our borings encountered loose to moderately dense crushed limerock fill to depths of about 6 feet, followed by loose to very dense cemented oolitic limestone with varying degree of silt and reaching the termination depths of our borings.

Despite the relatively high SPT 'N' values, refusal to the SPT sampler was not encountered at any depth (with refusal defined as needing more than 50 blows of a 140-pound hammer dropped from a height of 30 inches to penetrate 6 inches). Hence, the encountered oolitic limestone is generally considered to be a relatively "soft" and friable rock formation, and the recovered SPT split-spoon samples were observed to be in a very friable condition. Following completion of the two SPT borings, it was the opinion of the Drill Crew Chief that the encountered oolitic limerock formation was not suitable (i.e. strong enough) to allow coring to be completed in accordance with ASTM D2113.

4.2 Measured Groundwater Level

The groundwater table was encountered at depths of 7 feet below the existing grades. In general, fluctuations in groundwater levels should be anticipated throughout the year primarily due to tidal fluctuations and possibly other factors that may vary from the time the borings were conducted.

5.0 LABORATORY TESTING PROGRAM

Our drillers observed the soil recovered from the borings, placed the recovered soil samples in moisture proof containers, and maintained a log for each boring. The recovered soil samples, along with the field boring logs, were transported to our Port St. Lucie soils laboratory where they were visually examined by AACE's project engineer to determine their engineering classification.

6.0 PRELIMINARY GEOTECHNICAL ENGINEERING EVALUATION

Based on the findings of our subsurface soil exploration, our evaluation of the encountered soil conditions, and judgment based on our experience with similar seawall design projects, it is our opinion that the encountered oolitic limerock formation is suitable for facilitating the seawall design.

We understand that the new seawall is proposed to be installed in front of the existing seawall which is to remain in place, however, modified or partially demolished to allow for a potential tieback system. Various design options are currently being discussed, including utilizing concrete panels embedded into an augered or excavated toe trench, and possibly equipped with a tie-back system. Also, a heavy gauge steel sheet pile wall (either cantilevered or with a tie-back system) could possibly be utilized. Should the existing, partial toe wall and the existing seawall conditions adversely affect the installation of the new seawall in front of the old seawall, consideration is also being given to installing the new seawall upland of the existing bulkhead. In that case, it will be necessary to work around the existing tieback system as it should not be removed entirely before the new seawall has been constructed.

As mentioned in the previous, the encountered oolitic limestone formation is not considered a "strong" limerock formation and it is likely that steel sheet piles could be vibrated in place. We do recommend that any bidding Contractor review this report as well as physically inspecting the recovered soil samples.

The soil parameters summarized below are provided for others to use in the seawall design, both with regards to active and passive earth pressures acting on the wall, the toe embedment and any potential deadman anchors associated with a tie back system. We remain available to provide additional engineering consulting with respect to the design of the seawall components. Further, additional estimates of rock properties can be provided, is needed.

**PRELIMINARY GEOTECHNICAL ENGINEERING EVALUATION
 PROPOSED SEAWALL REPLACEMENT - TRUMAN WATERFRONT
 AACE FILE NO. 15-148**

Soil Parameters for Seawall Design

Depth below existing grade (feet)	Average SPT 'N' Value	Unit Weight, γ (pcf)	Angle of Internal Friction, ϕ	Cohesion (psf)	Wall Friction Angle, $\delta^{(B)}$
0-6 (limerock fill)	11	113	32	NA	18
6-10 (upper limestone)	8	118	35	1000	23
10-30 (lower limestone)	55	135	38	5000	25

Notes: (A) Assumes vertical backface of wall, and wall directly against granular backfill.

The Rankine coefficients of lateral pressures can be obtained from the following equations:

Active pressure: $K_a = \tan^2 (45 - \phi/2)$

Passive pressure: $K_p = \tan^2 (45 + \phi/2)$

where ϕ is the friction angle of the soil.

We recommend that appropriate safety factors be used in the sheet pile design. The safety factors selected should be based on design and construction considerations which are beyond the scope of this report.

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PRELIMINARY GEOTECHNICAL ENGINEERING EVALUATION
PROPOSED SEAWALL REPLACEMENT - TRUMAN WATERFRONT
AAACE FILE NO. 15-148

Page -5-

7.0 CLOSURE

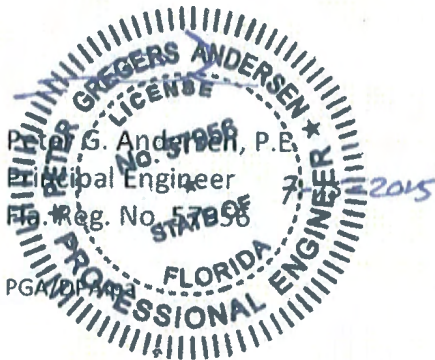
The preliminary geotechnical evaluation submitted herein is based on the data obtained from the soil borings presented on Sheet No. 2, and our understanding of the proposed construction as previously described. We remain available to complete additional geotechnical engineering analysis for the desired seawall design. Limitations and conditions to this report are presented in Appendix IV.


This report has been prepared in accordance with generally accepted soil and foundation engineering practices for the exclusive use of Tetra Tech, Inc. for the subject project. No other warranty, expressed or implied, is made.

We are pleased to be of assistance to you on this phase of your project. When we may be of further service to you or should you have any questions, please contact us.

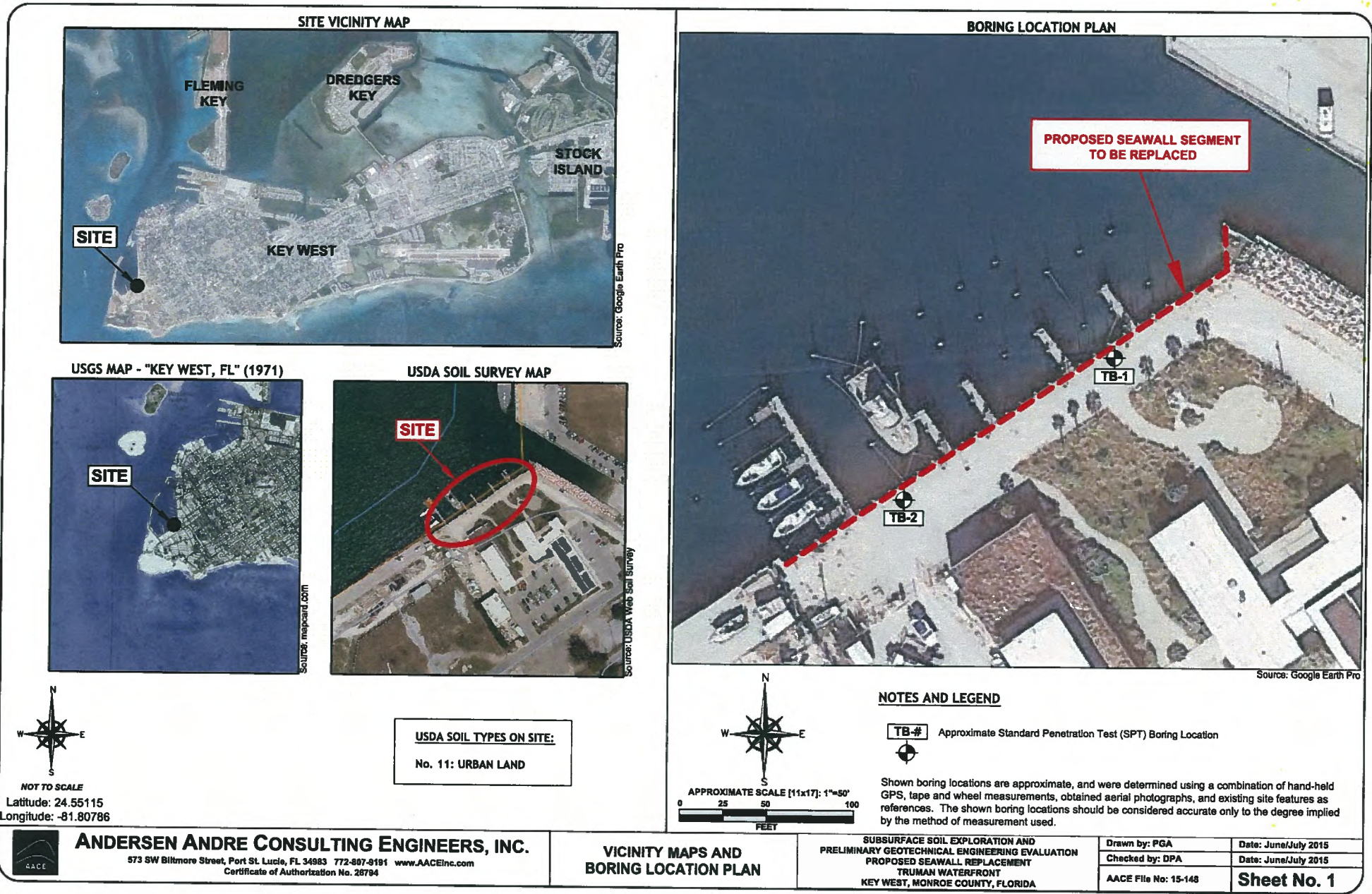
Sincerely,

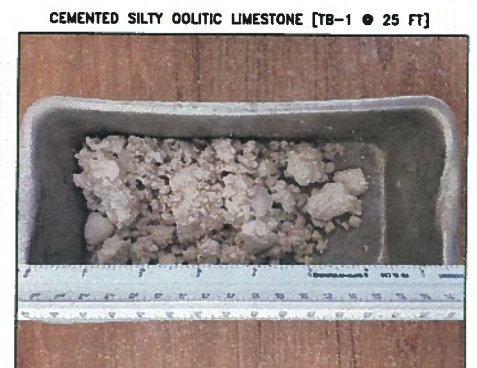
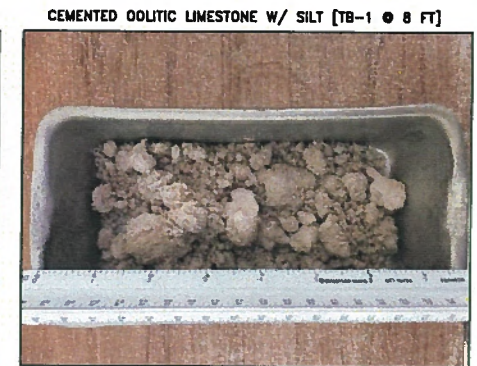
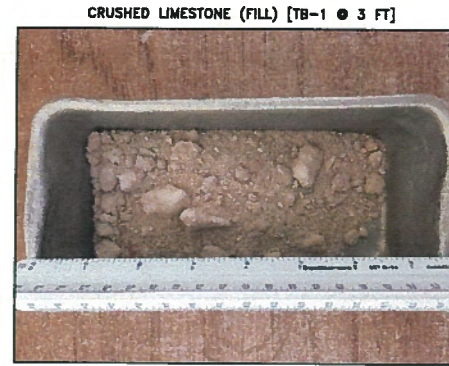
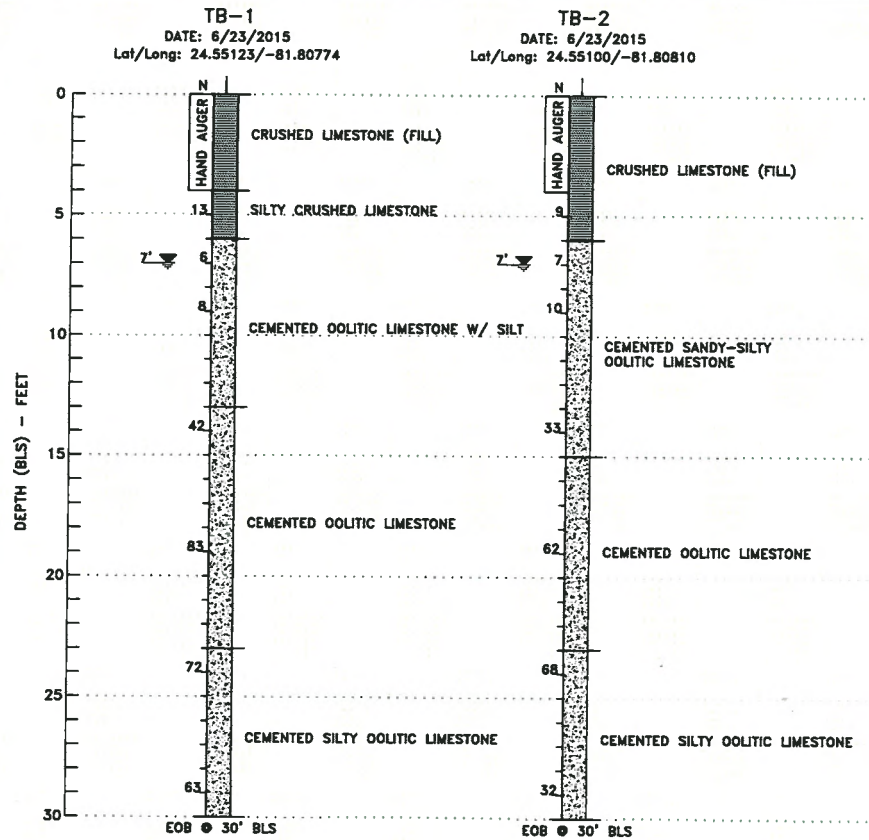
ANDERSEN ANDRE CONSULTING ENGINEERS, INC.
Certificate of Authorization No. 26794




David P. Andre, P.E.
Principal Engineer
Fla. Reg. No. 53969
7/15/15







NOTES:

TB-# STANDARD PENETRATION TEST [SPT] BORING (ASTM D1586)
 N SPT RESISTANCE IN BLOWS PER FOOT
 K' GROUNDWATER TABLE (FT BELOW EXIST. GRADE) AT TIME DRILLED
 EOB END OF BORING
 BLS BELOW LAND SURFACE
 DRILL CREW FIRM: CL
 DRILL CREW CHIEF: BS
 DRILL RIG: CME-45
 DRILL METHOD: ROTARY-WASH/BENTONITE SLURRY
 CASING: NOT NEEDED
 HAMMER TYPE: MANUAL

SOIL LEGEND:

- CRUSHED LIMESTONE FILL (GP)
- CEMENTED LIMESTONE



ANDERSEN ANDRE CONSULTING ENGINEERS, INC.

573 SW Biltmore Street, Port St. Lucie, FL 34983 772-807-9191 www.AACEinc.com
 Certificate of Authorization No. 26784

SPT BORING PROFILES

SUBSURFACE SOIL EXPLORATION AND
 PRELIMINARY GEOTECHNICAL ENGINEERING EVALUATION
 PROPOSED SEAWALL REPLACEMENT
 TRUMAN WATERFRONT
 KEY WEST, MONROE COUNTY, FLORIDA

Drawn by: PGA

Date: June/July 2015

Checked by: DPA

Date: June/July 2015

AAACE File No: 15-148

Sheet No. 2

APPENDIX I

Representative Site Photographs



ANDERSEN ANDRE CONSULTING ENGINEERS, INC.

573 SW Biltmore Street
Port St. Lucie, Florida 34983
Phone: 772.807.9191 Fax: 772.807.9192
www.aaaceinc.com

NOAA Seawall - Truman Waterfront - Key West, FL Representative Site Photographs (06/23/2015)



1) Typical View of Existing Seawall



2) Typical View of Existing Seawall



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NOAA Seawall - Truman Waterfront - Key West, FL
Representative Site Photographs (06/23/2015)



3) Typical View of Existing Seawall with Drain Crossing



4) Sand-Cement Bags by Toe of Seawall



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NOAA Seawall - Truman Waterfront - Key West, FL Representative Site Photographs (06/23/2015)



5) Close-Up View of Seawall Front

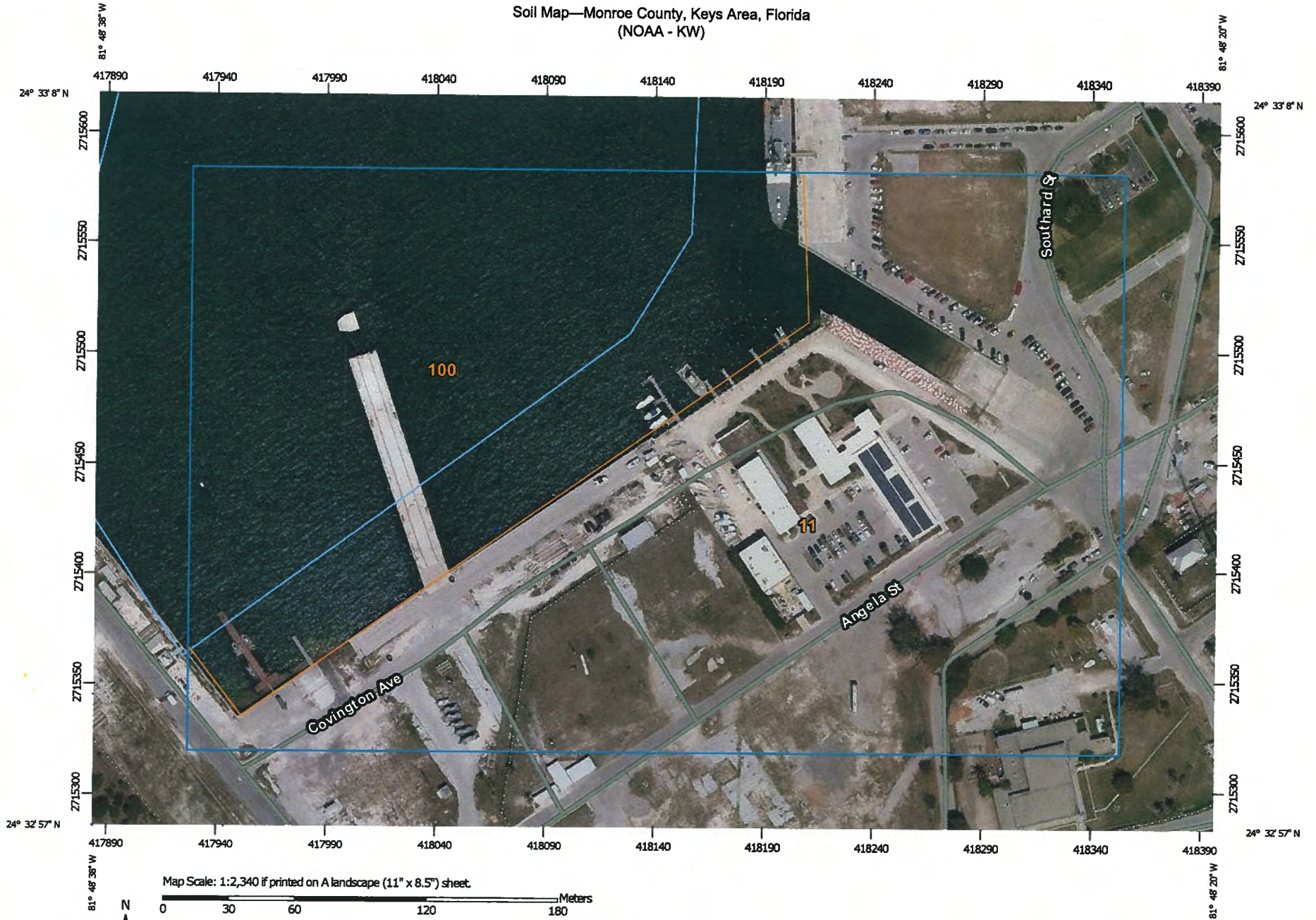


6) East End of Seawall

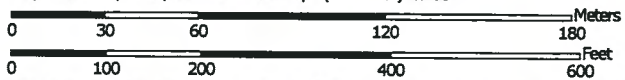
APPENDIX II

USDA Web Soil Survey Summary Report

Soil Map—Monroe County, Keys Area, Florida
(NOAA - KW)







































Map Scale: 1:2,340 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

Soil Map—Monroe County, Keys Area, Florida
(NOAA - KW)

MAP LEGEND

Area of Interest (AOI)		 Spoil Area	
 Area of Interest (AOI)		 Stony Spot	
Soils		 Very Stony Spot	
 Soil Map Unit Polygons		 Wet Spot	
 Soil Map Unit Lines		 Other	
 Soil Map Unit Points		 Special Line Features	
Special Point Features		Water Features	
 Blowout		 Streams and Canals	
 Borrow Pit		Transportation	
 Clay Spot		 Rails	
 Closed Depression		 Interstate Highways	
 Gravel Pit		 US Routes	
 Gravelly Spot		 Major Roads	
 Landfill		 Local Roads	
 Lava Flow		Background	
 Marsh or swamp		 Aerial Photography	
 Mine or Quarry			
 Miscellaneous Water			
 Perennial Water			
 Rock Outcrop			
 Saline Spot			
 Sandy Spot			
 Severely Eroded Spot			
 Sinkhole			
 Slide or Slip			
 Sodic Spot			

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Monroe County, Keys Area, Florida
Survey Area Data: Version 5, Sep 9, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Monroe County, Keys Area, Florida (FL687)			
Map Unit Symbol	Map Unit Name	Acres In AOI	Percent of AOI
11	Urban land	16.4	58.7%
100	Waters of the Atlantic Ocean	11.5	41.3%
Totals for Area of Interest		27.9	100.0%

Monroe County, Keys Area, Florida

11—Urban land

Map Unit Setting

National map unit symbol: vryh
Elevation: 0 to 10 feet
Mean annual precipitation: 30 to 51 inches
Mean annual air temperature: 72 to 82 degrees F
Frost-free period: 358 to 365 days
Famland classification: Not prime farmland

Map Unit Composition

Urban land: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform: Islands
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: No parent material

Properties and qualities

Slope: 0 to 1 percent
Frequency of flooding: Rare

Interpretive groups

Land capability classification (irrigated): None specified
Other vegetative classification: Forage suitability group not assigned
(G156AC999FL)

Minor Components

Udorthents

Percent of map unit: 3 percent
Landform: Islands
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned
(G156AC999FL)

Beaches, tidal

Percent of map unit: 2 percent
Landform: Beaches on islands
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Linear

Map Unit Description: Urban land—Monroe County, Keys Area, Florida

NOAA - KW

Other vegetative classification: Forage suitability group not assigned
(G156AC999FL)

Data Source Information

Soil Survey Area: Monroe County, Keys Area, Florida
Survey Area Data: Version 5, Sep 9, 2014

APPENDIX III

General Notes

ANDERSEN ANDRE CONSULTING ENGINEERS, INC.
SOIL BORING, SAMPLING AND TESTING METHODS

GENERAL

Andersen Andre Consulting Engineers, Inc. (AACE) borings describe subsurface conditions only at the locations drilled and at the time drilled. They provide no information about subsurface conditions below the bottom of the boreholes. At locations not explored, surface conditions that differ from those observed in the borings may exist and should be anticipated.

The information reported on our boring logs is based on our drillers' logs and on visual examination in our laboratory of disturbed soil samples recovered from the borings. The distinction shown on the logs between soil types is approximate only. The actual transition from one soil to another may be gradual and indistinct.

The groundwater depth shown on our boring logs is the water level the driller observed in the borehole when it was drilled. These water levels may have been influenced by the drilling procedures, especially in borings made by rotary drilling with bentonitic drilling mud. An accurate determination of groundwater level requires long-term observation of suitable monitoring wells. Fluctuations in groundwater levels throughout the year should be anticipated.

The absence of a groundwater level on certain logs indicates that no groundwater data is available. It does not mean that groundwater will not be encountered at that boring location at some other point in time.

STANDARD PENETRATION TEST

The Standard Penetration Test (SPT) is a widely accepted method of in situ testing of foundation soils (ASTM D-1586). A 2-foot (0.6m) long, 2-inch (50mm) O.D. split-barrell sampler attached to the end of a string of drilling rods is driven 24 inches (0.60m) into the ground by successive blows of a 140-pound (63.5 Kg) hammer freely dropping 30 inches (0.76m). The number of blows needed for each 6 inches (0.15m) increments penetration is recorded. The sum of the blows required for penetration of the middle two 6-inch (0.15m) increments of penetration constitutes the test result of N-value. After the test, the sampler is extracted from the ground and opened to allow visual description of the retained soil sample. The N-value has been empirically correlated with various soil properties allowing a conservative estimate of the behavior of soils under load. The following tables relate N-values to a qualitative description of soil density and, for cohesive soils, an approximate unconfined compressive strength (Q_u):

Cohesionless Soils:	<u>N-Value</u>	<u>Description</u>
	0 to 4	Very loose
	4 to 10	Loose
	10 to 30	Medium dense
	30 to 50	Dense
	Above 50	Very dense

Cohesive Soils:	<u>N-Value</u>	<u>Description</u>	<u>Qu</u>
	0 to 2	Very soft	Below 0.25 tsf (25 kPa)
	2 to 4	Soft	0.25 to 0.50 tsf (25 to 50 kPa)
	4 to 8	Medium stiff	0.50 to 1.0 tsf (50 to 100 kPa)
	8 to 15	Stiff	1.0 to 2.0 tsf (100 to 200 kPa)
	15 to 30	Very stiff	2.0 to 4.0 tsf (200 to 400 kPa)
	Above 30	Hard	Above 4.0 tsf (400 kPa)

The tests are usually performed at 5 foot (1.5m) intervals. However, more frequent or continuous testing is done by AACE through depths where a more accurate definition of the soils is required. The test holes are advanced to the test elevations by rotary drilling with a cutting bit, using circulating fluid to remove the cuttings and hold the fine grains in suspension. The circulating fluid, which is bentonitic drilling mud, is also used to keep the hole open below the water table by maintaining an excess hydrostatic pressure inside the hole. In some soil deposits, particularly highly pervious ones, flush-coupled casing must be driven to just above the testing depth to keep the hole open and/or prevent the loss of circulating fluid. After completion of a test borings, the hole is kept open until a steady state groundwater level is recorded. The hole is then sealed by backfilling, either with accumulated cuttings or lean cement.

Representative split-spoon samples from each sampling interval and from different strata are brought to our laboratory in air-tight jars for classification and testing, if necessary. Afterwards, the samples are discarded unless prior arrangement have been made.

POWER AUGER BORINGS

Auger borings (ASTM D-1452) are used when a relatively large, continuous sampling of soil strata close to the ground surface is desired. A 4-inch (100 mm) diameter, continuous flight, helical auger with a cutting head at its end is screwed into the ground in 5-foot (1.5m) sections. It is powered by the rotary drill rig. The sample is recovered by withdrawing the auger out of the ground without rotating it. The soil sample so obtained, is classified in the field and representative samples placed in bags or jars and returned to the AACE soils laboratory for classification and testing, if necessary.

HAND AUGER BORINGS

Hand auger borings are used, if soil conditions are favorable, when the soil strata are to be determined within a shallow (approximately 5-foot [1.5m]) depth or when access is not available to power drilling equipment. A 3-inch (75mm) diameter hand bucket auger with a cutting head is simultaneously turned and pressed into the ground. The bucket auger is retrieved at approximately 6-inch (0.15m) interval and its contents emptied for inspection. On occasion post-hole diggers are used, especially in the upper 3 feet (1m) or so. Penetrometer probings can be used in the upper 5 feet (1.5m) to determine the relative density of the soils. The soil sample obtained is described and representative samples put in bags or jars and transported to the AACE soils laboratory for classification and testing, if necessary.

UNDISTURBED SAMPLING

Undisturbed sampling (ASTM D-1587) implies the recovery of soil samples in a state as close to their natural condition as possible. Complete preservation of in situ conditions cannot be realized; however, with careful handling and proper sampling techniques, disturbance during sampling can be minimized for most geotechnical engineering purposes. Testing of undisturbed samples gives a more accurate estimate of in situ behavior than is possible with disturbed samples.

Normally, we obtain undisturbed samples by pushing a 2.875-inch (73 mm) I.D., thin wall seamless steel tube 24 inches (0.6 m) into the soil with a single stoke of a hydraulic ram. The sampler, which is a Shelby tube, is 30 (0.8 m) inches long. After the sampler is retrieved, the ends are sealed in the field and it is transported to our laboratory for visual description and testing, as needed.

ROCK CORING

In case rock strata is encountered and rock strength/continuity/composition information is needed for foundation or mining purposes, the rock can be cored (ASTM D-2113) and 2-inch to 4-inch diameter rock core samples be obtained for further laboratory analyses. The rock coring is performed through flush-joint steel casing temporarily installed through the overburden soils above the rock formation and also installed into the rock. The double- or triple-tube core barrels are advanced into the rock typically in 5-foot intervals and then retrieved to the surface. The barrel is then opened so that the core sample can be extruded. Preliminary field measurements of the recovered rock cores include percent recovery and Rock Quality Designation (RQD) values. The rock cores are placed in secure core boxes and then transported to our laboratory for further inspection and testing, as needed.

SFWMD EXFILTRATION TESTS

In order to estimate the hydraulic conductivity of the upper soils, constant head or falling head exfiltration tests can be performed. These tests are performed in accordance with methods described in the South Florida Water Management District (SFWMD) Permit Information Manual, Volume IV. In brief, a 6 to 9 inch diameter hole is augered to depths of about 5 to 7 feet; the bottom one foot is filled with 57-stone; and a 6-foot long slotted PVC pipe is lowered into the hole. The distance from the groundwater table and to the ground surface is recorded and the hole is then saturated for 10 minutes with the water level maintained at the ground surface.

If a constant head test is performed, the rate of pumping will be recorded at fixed intervals of 1 minute for a total of 10 minutes, following the saturation period.

LABORATORY TEST METHODS

Soil samples returned to the AACE soils laboratory are visually observed by a geotechnical engineer or a trained technician to obtain more accurate description of the soil strata. Laboratory testing is performed on selected samples as deemed necessary to aid in soil classification and to help define engineering properties of the soils. The test results are presented on the soil boring logs at the depths at which the respective sample was recovered, except that grain size distributions or selected other test results may be presented on separate tables, figures or plates as discussed in this report.

THE PROJECT SOIL DESCRIPTION PROCEDURE FOR SOUTHEAST FLORIDA CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES

The soil descriptions shown on the logs are based upon visual-manual procedures in accordance with local practice. Soil classification is performed in general accordance with the United Soil Classification System and is also based on visual-manual procedures.

BOULDERS (>12" [300 MM]) and COBBLES (3" [75 MM] TO 12" [300 MM]):

GRAVEL: Coarse Gravel: 3/4" (19 mm) to 3" (75 mm)
 Fine Gravel: No. 4 (4.75 mm) Sieve to 3/4" (19 mm)

Descriptive adjectives:

- | | |
|----------|--|
| 0 - 5% | - no mention of gravel in description |
| 5 - 15% | - trace |
| 15 - 29% | - some |
| 30 - 49% | - gravelly (shell, limerock, cemented sands) |

SANDS:

COARSE SAND: No. 10 (2 mm) Sieve to No. 4 (4.75 mm) Sieve
MEDIUM SAND: No. 40 (425 µm) Sieve to No. 10 (2 mm) Sieve
FINE SAND: No. 200 (75 µm) Sieve to No. 40 (425 µm) Sieve

Descriptive adjectives:

- | | |
|----------|-------------------------------------|
| 0 - 5% | - no mention of sand in description |
| 5 - 15% | - trace |
| 15 - 29% | - some |
| 30 - 49% | - sandy |

SILT/CLAY: < #200 (75µM) Sieve

SILTY OR SILT: PI < 4
SILTY CLAYEY OR SILTY CLAY: 4 ≤ PI ≤ 7
CLAYEY OR CLAY: PI > 7

Descriptive adjectives:

- | | |
|------------------|---|
| < - 5% | - clean (no mention of silt or clay in description) |
| 5 - 15% | - slightly |
| 16 - 35% | - clayey, silty, or silty clayey |
| 36 - 49% | - very |

ORGANIC SOILS:

Organic Content	Descriptive Adjectives	Classification
0 - 2.5%	Usually no mention of organics in description	See Above
2.6 - 5%	slightly organic	add "with organic fines" to group name
5 - 30%	organic	SM with organic fines Organic Silt (OL) Organic Clay (OL) Organic Silt (OH)

**THE PROJECT SOIL DESCRIPTION PROCEDURE FOR SOUTHEAST FLORIDA
 CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES**

Organic Clay (OH)

HIGHLY ORGANIC SOILS AND MATTER:

Organic Content	Descriptive Adjectives	Classification
30 - 75%	sandy peat	Peat (PT)
	silty peat	Peat (PT)
> 75%	amorphous peat	Peat (PT)
	fibrous peat	Peat (PT)

STRATIFICATION AND STRUCTURE:

<u>Descriptive Term</u>	<u>Thickness</u>
with interbedded	
seam	-- less than ½ inch (13 mm) thick
layer	-- ½ to 12-inches (300 mm) thick
stratum	-- more than 12-inches (300 mm) thick
pocket	-- small, erratic deposit, usually less than 1-foot
lens	-- lenticular deposits
occasional	-- one or less per foot of thickness
frequent	-- more than one per foot of thickness
calcareous	-- containing calcium carbonate (reaction to diluted HCL)
hardpan	-- spodic horizon usually medium dense
marl	-- mixture of carbonate clays, silts, shells and sands

ROCK CLASSIFICATION (FLORIDA) CHART:

<u>Symbol</u>	<u>Typical Description</u>
LS	Hard Bedded Limestone or Caprock
WLS	Fractured or Weathered Limestone
LR	Limerock (gravel, sand, silt and clay mixture)
SLS	Stratified Limestone and Soils

**THE PROJECT SOIL DESCRIPTION PROCEDURE FOR SOUTHEAST FLORIDA
CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES**

LEGEND FOR BORING LOGS

- N:** Number of blows to drive a 2-inch OD split spoon sampler 12 inches using a 140-pound hammer dropped 30 inches
- R:** Refusal (less than six inches advance of the split spoon after 50 hammer blows)
- MC:** Moisture content (percent of dry weight)
- OC:** Organic content (percent of dry weight)
- PL:** Moisture content at the plastic limit
- LL:** Moisture content at the liquid limit
- PI:** Plasticity index (LL-PL)
- qu:** Unconfined compressive strength (tons per square foot, unless otherwise noted)
- 200:** Percent passing a No. 200 sieve (200 wash)
- +40:** Percent retained above a No. 40 sieve
- US:** Undisturbed sample obtained with a thin-wall Shelby tube
- k:** Permeability (feet per minute, unless otherwise noted)
- DD:** Dry density (pounds per cubic foot)
- TW:** Total unit weight (pounds per cubic foot)

APPENDIX IV

Project Limitations and Conditions

ANDERSEN ANDRE CONSULTING ENGINEERS, INC.
(revised January 24, 2007)

Project Limitations and Conditions

Andersen Andre Consulting Engineers, Inc. has prepared this report for our client for his exclusive use, in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made herein. Further, the report, in all cases, is subject to the following limitations and conditions:

VARIABLE/UNANTICIPATED SUBSURFACE CONDITIONS

The engineering analysis, evaluation and subsequent recommendations presented herein are based on the data obtained from our field explorations, at the specific locations explored on the dates indicated in the report. This report does not reflect any subsurface variations (e.g. soil types, groundwater levels, etc.) which may occur adjacent or between borings.

The nature and extent of any such variations may not become evident until construction/excavation commences. In the event such variations are encountered, Andersen Andre Consulting Engineers, Inc. may find it necessary to (1) perform additional subsurface explorations, (2) conduct in-the-field observations of encountered variations, and/or re-evaluate the conclusions and recommendations presented herein.

We at Andersen Andre Consulting Engineers, Inc. recommend that the project specifications necessitate the contractor immediately notifying Andersen Andre Consulting Engineers, Inc., the owner and the design engineer (if applicable) if subsurface conditions are encountered that are different from those presented in this report.

No claim by the contractor for any conditions differing from those expected in the plans and specifications, or presented in this report, should be allowed unless the contractor notifies the owner and Andersen Andre Consulting Engineers, Inc. of such differing site conditions. Additionally, we recommend that all foundation work and site improvements be observed by an Andersen Andre Consulting Engineers, Inc. representative.

SOIL STRATA CHANGES

Soil strata changes are indicated by a horizontal line on the soil boring profiles (boring logs) presented within this report. However, the actual strata's changes may be more gradual and indistinct. Where changes occur between soil samples, the locations of the changes must be estimated using the available information and may not be at the exact depth indicated.

SINKHOLE POTENTIAL

Unless specifically requested in writing, a subsurface exploration performed by Andersen Andre Consulting Engineers, Inc. is not intended to be an evaluation for sinkhole potential.

MISINTERPRETATION OF SUBSURFACE SOIL EXPLORATION REPORT

Andersen Andre Consulting Engineers, Inc. is responsible for the conclusions and recommendations presented herein, based upon the subsurface data obtained during this project. If others render conclusions or opinions, or make recommendations based upon the data presented in this report, those conclusions, opinions and/or recommendations are not the responsibility of Andersen Andre Consulting Engineers, Inc.

CHANGED STRUCTURE OR LOCATION

This report was prepared to assist the owner, architect and/or civil engineer in the design of the subject project. If any changes in the construction, design and/or location of the structures as discussed in this report are planned, or if any structures are included or added that are not discussed in this report, the conclusions and recommendations contained in this report may not be valid. All such changes in the project plans should be made known to Andersen Andre Consulting Engineers, Inc. for our subsequent re-evaluation.

USE OF REPORT BY BIDDERS

Bidders who are reviewing this report prior to submission of a bid are cautioned that this report was prepared to assist the owners and project designers. Bidders should coordinate their own subsurface explorations (e.g.; soil borings, test pits, etc.) for the purpose of determining any conditions that may affect construction operations. Andersen Andre Consulting Engineers, Inc. cannot be held responsible for any interpretations made using this report or the attached boring logs with regard to their adequacy in reflecting subsurface conditions which may affect construction operations.

IN-THE-FIELD OBSERVATIONS

Andersen Andre Consulting Engineers, Inc. attempts to identify subsurface conditions, including soil stratigraphy, water levels, zones of lost circulation, "hard" or "soft" drilling, subsurface obstructions, etc. However, lack of mention in the report does not preclude the presence of such conditions.

LOCATION OF BURIED OBJECTS

Users of this report are cautioned that there was no requirement for Andersen Andre Consulting Engineers, Inc. to attempt to locate any man-made, underground objects during the course of this exploration, and that no attempts to locate any such objects were performed. Andersen Andre Consulting Engineers, Inc. cannot be responsible for any buried man-made objects which are subsequently encountered during construction.

PASSAGE OF TIME

This report reflects subsurface conditions that were encountered at the time/date indicated in the report. Significant changes can occur at the site during the passage of time. The user of the report recognizes the inherent risk in using the information presented herein after a reasonable amount of time has passed. We recommend the user of the report contact Andersen Andre Consulting Engineers, Inc. with any questions or concerns regarding this issue.

Important Information about Your Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you — should apply the report for any purpose or project except the one originally contemplated.*

Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,

- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are *Not* Final

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual

subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time* to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that

have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; ***none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.***

Rely on Your ASFE-Member Geotechnical Engineer for Additional Assistance

Membership in ASFE/THE BEST PEOPLE ON EARTH exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with your ASFE-member geotechnical engineer for more information.

ASFE THE GEOPROFESSIONAL BUSINESS ASSOCIATION

8811 Colesville Road/Suite G106, Silver Spring, MD 20910

Telephone: 301/565-2733 Facsimile: 301/589-2017

e-mail: info@asfe.org www.asfe.org

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Florida Department of Environmental Protection

South District Branch Office
2796 Overseas Highway, Suite 221
Marathon, Florida 33050
SouthDistrict@dep.state.fl.us

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Secretary

May 17, 2016

City of Key West and
NOAA Florida Keys National Marine Sanctuary
c/o Stuart McGahee
Tetra Tech, Inc.
759 S. Federal Highway, Suite 314
Stuart, FL 34994
Stuart.McGahee@tetrattech.com

File No.: 44-0341846-001-EE, Monroe County

Dear Applicants:

On February 19, 2016, we received your request for verification of exemption to perform the following activities:

Repair, and extend a portion of, a seawall at Truman Harbor, 31 East Quay Road (RE# 00001630-000000 and 00001630-001000), Key West in a manmade basin of Class III, Outstanding Florida Waters, Section 6, Township 68 South, Range 25 East, Monroe County.

Activities located in Monroe County are not eligible for federal authorization under the State Programmatic General Permit. Separate federal authorization may be required. This letter does not relieve you from the responsibility of obtaining other federal, state, or local authorizations that may be required for the activity.

1. Regulatory Review – VERIFIED

Based on the information submitted, the Department has determined that the activity as proposed is exempt, under Section 373.406(6) of the Florida Statutes, from the need to obtain a regulatory permit under Part IV of Chapter 373 of the Florida Statutes. This determination is made because the activity, in consideration of its type, size, nature, location, use and operation, is expected to have only minimal or insignificant individual or cumulative adverse impacts on the water resources.

File Name: City of Key West and NOAA
File No: 44-0341846-001-EE
Page 2 of 5

This exemption verification is based on the information you provided the Department and the statutes and rules in effect when the information was submitted. This verification may not be valid if site conditions materially change, the project design is modified, or the statutes or rules governing the exempt activity are amended. In the event you need to re-verify the exempt status for the activity, a new request and verification fee will be required. Any substantial modifications to the project design should be submitted to the Department for review, as changes may result in a permit being required.

2. Proprietary Review - NOT REQUIRED

The activity does not appear to be located on sovereign submerged lands, and does not require further authorization under Chapter 253 of the Florida Statutes, or Chapters 18-20 or 18-21 of the Florida Administrative Code.

Additional Information

Please retain this letter. The activities may be inspected by authorized state personnel in the future to ensure compliance with appropriate statutes and administrative codes. If the activities are not in compliance, you may be subject to penalties under Chapter 373, F.S., and Chapter 18-14, F.A.C.

NOTICE OF RIGHTS

This action is final and effective on the date filed with the Clerk of the Department unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice.

Petition for Administrative Hearing

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rule 28-106.201, F.A.C., a petition for an administrative hearing must contain the following information:

- (a) The name and address of each agency affected and each agency's file or identification number, if known;
- (b) The name, address, any email address, any facsimile number, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests are or will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;

File Name: City of Key West and NOAA
File No: 44-0341846-001-EE
Page 3 of 5

- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
- (f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000 or by email to Agency_clerk@dep.state.fl.us. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant must be filed within 21 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S. must be filed within 21 days of publication of the notice or within 21 days of receipt of the written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who has asked the Department for notice of agency action may file a petition within 21 days of receipt of such notice, regardless of the date of publication. The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, before the applicable deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation

Mediation is not available in this proceeding.

File Name: City of Key West and NOAA
File No: 44-0341846-001-EE
Page 4 of 5

FLAWAC Review

The applicant, or any party within the meaning of Section 373.114(1)(a) or 373.4275, F.S., may also seek appellate review of this order before the Land and Water Adjudicatory Commission under Section 373.114(1) or 373.4275, F.S. Requests for review before the Land and Water Adjudicatory Commission must be filed with the Secretary of the Commission and served on the Department within 20 days from the date when the order is filed with the Clerk of the Department.

Judicial Review

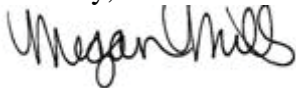
Any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, M.S. 35, 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 action is filed with the Clerk of the Department.

Thank you for applying to the Submerged Lands and Environmental Resource Permit Program. If you have any questions regarding this matter, please contact Liz Yongue, by telephone at (305) 289-7079 or by e-mail at Elizabeth.Yongue@dep.state.fl.us. When referring to this project, please reference the file number listed above.

Executed in Monroe County, Florida

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Sincerely,



Megan Mills
Permitting Program Administrator
South District

Enclosures:

16 Project drawings
373.406(6), F.S.

Copies furnished to:

U.S. Army Corps of Engineers, Miami Field Office (electronically)

File Name: City of Key West and NOAA
File No: 44-0341846-001-EE
Page 5 of 5

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this document, including all copies, was mailed electronically before the close of business on May 17, 2016, to the above listed person(s).

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section 120.52(7), F.S., with the designated Department clerk, receipt of which is hereby acknowledged.



Clerk

5/17/2016

Date

2014 Florida Statutes

373.406 Exemptions.—The following exemptions shall apply:

(6) Any district or the department may exempt from regulation under this part those activities that the district or department determines will have only minimal or insignificant individual or cumulative adverse impacts on the water resources of the district. The district and the department are authorized to determine, on a case-by-case basis, whether a specific activity comes within this exemption. Requests to qualify for this exemption shall be submitted in writing to the district or department, and such activities shall not be commenced without a written determination from the district or department confirming that the activity qualifies for the exemption.

History.—s. 2, part IV, ch. 72-299; s. 47, ch. 79-65; s. 5, ch. 80-259; s. 2, ch. 82-101; s. 12, ch. 89-279; s. 268, ch. 94-356; s. 2, ch. 95-215; s. 2, ch. 96-370; s. 15, ch. 98-203; s. 21, ch. 98-333; s. 2, ch. 2000-130; s. 2, ch. 2002-253; s. 6, ch. 2011-164; s. 1, ch. 2011-165; s. 14, ch. 2013-92.



EXEMPT

File Number:
44-0341846-001-EE



RECEIVED
FEB 19 2016
D.E.P. Marathon

LIMITS OF
CONSTRUCTION



FOR PERMITTING
PURPOSES ONLY



CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION

PROPOSED SHEETPILE SEAWALL DESIGN IN

KEY WEST, MONROE COUNTY, FLORIDA



TETRA TECH INC.
759 SOUTH FEDERAL HWY
SUITE 314
STUART, FL 34994-2936
TEL: (772) 781-3400
FAX: (772) 781-3411
CERTIFICATE OF AUTHORIZATION
NO. 2429

Stuart E McGahee
Florida PE No. 57536

Designed by:
S. MCGAHEE
Drawn By:
F. MARTINEZ
Checked By:

Reviewed By:

Design file no:
TT_TRUMANSEAWALL_PERMIT_PART_1_V2.DWG
Scale:
AS SHOWN

Sheet Reference:
G-001
Sheet 1 of -

RECEIVED
FEB 19 2018
D.E.P. Marathon



EXEMPT

File Number:
44-0341846-001-EE

Directions from US1/N Roosevelt Blvd and 1st St


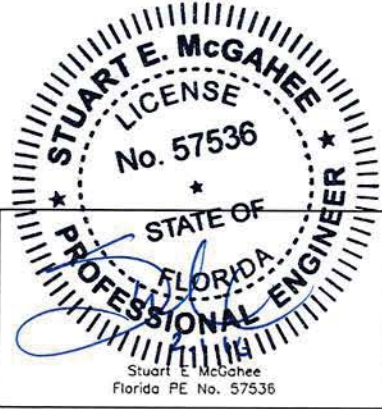
← from 1829-1899 N Roosevelt Blvd, Key West, FL 33040
to 31 E Quay Rd, Key West, FL 33040

8 min (1.9 miles)
via Southard St
8 min without traffic

1829-1899 N Roosevelt Blvd
Key West, FL 33040

- ↑ Head west on N Roosevelt Blvd toward 1st St
0.3 mi
- ↑ Continue onto Truman Ave
0.2 mi
- ↪ Turn right onto White St
0.3 mi
- ↪ Turn left onto Southard St
1.0 mi
- ↑ Southard St turns slightly left and becomes E Quay Rd
Destination will be on the right
292 ft

31 E Quay Rd
Key West, FL 33040

FOR PERMITTING
PURPOSES ONLY



CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION

DIRECTIONS TO SITE

KEY WEST, MONROE COUNTY, FLORIDA

TE **TETRA TECH INC.**
759 SOUTH FEDERAL HWY
SUITE 314
STUART, FL 34994-2936
TEL: (772) 781-3400
FAX: (772) 781-3411

CERTIFICATE OF AUTHORIZATION
NO. 2429

Designed by: S. MCGAHEE	<p style="font-size: 24pt; font-weight: bold;">C-001</p> <p>Sheet Reference: Sheet 2 of -</p>
Drawn By: F. MARTINEZ	
Checked By: ---	
Reviewed By: ---	
Design file no: IT_TRUMANSEAWALL_SURVEY_V2.DWG	
Scale: AS SHOWN	

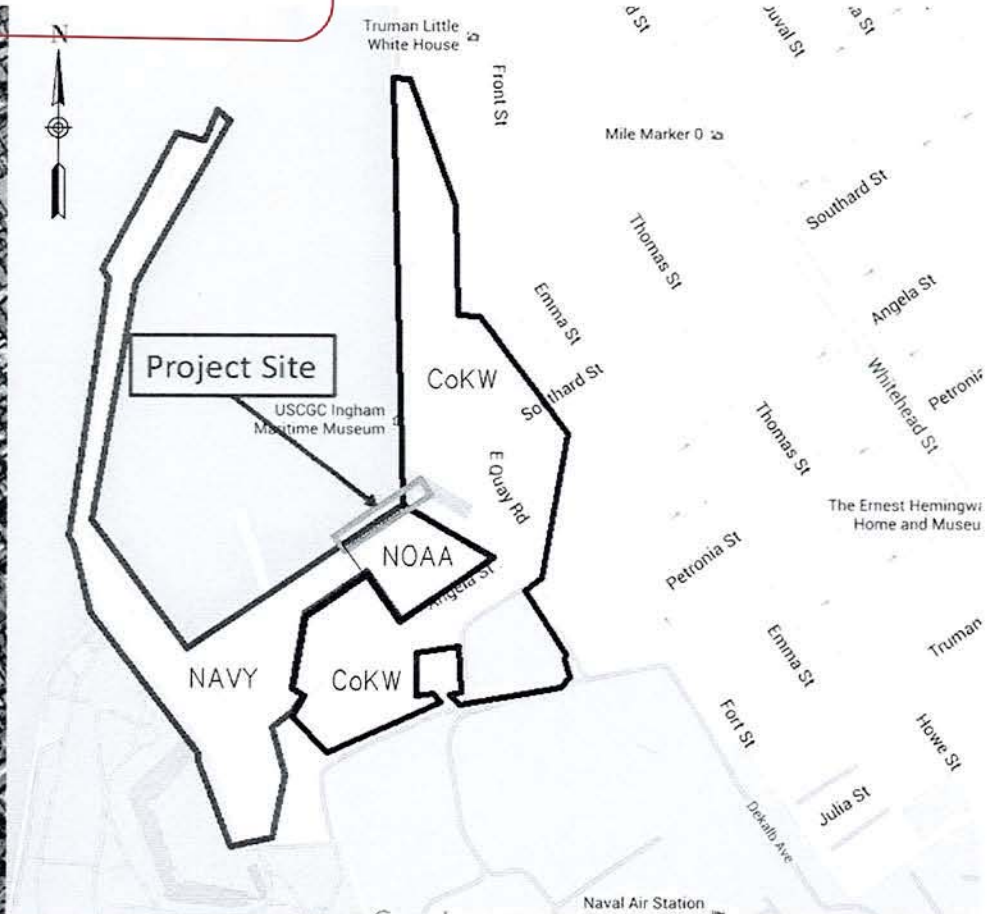
Stuart E. McGahee
Florida PE No. 57536



EXEMPT

File Number:
44-0341846-001-EE

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FEB 19 2016
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CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION

VICINITY MAP

KEY WEST, MONROE COUNTY, FLORIDA



TETRA TECH INC.
759 SOUTH FEDERAL HWY
SUITE 314
STUART, FL 34994-2936
TEL: (772) 781-3400
FAX: (772) 781-3411
CERTIFICATE OF AUTHORIZATION
NO. 2429

Stuart E McGahee
Florida PE No. 57536

Designed by:
S. MCGAHEE
Drawn By:
F. MARTINEZ
Checked By:

Reviewed By:

Design file no:
TT_TRUMANSEAWALL_SURVEY_V2.DWG
Scale:
AS SHOWN

Sheet Reference:
C-002
Sheet 3 of -



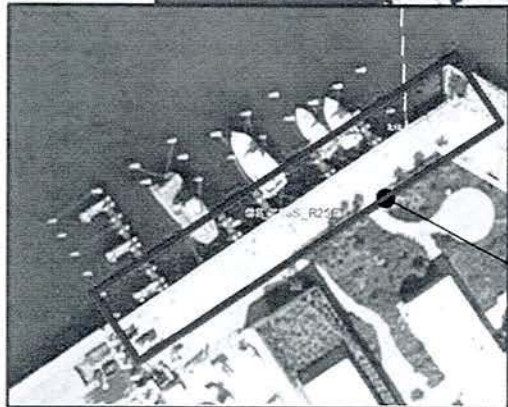
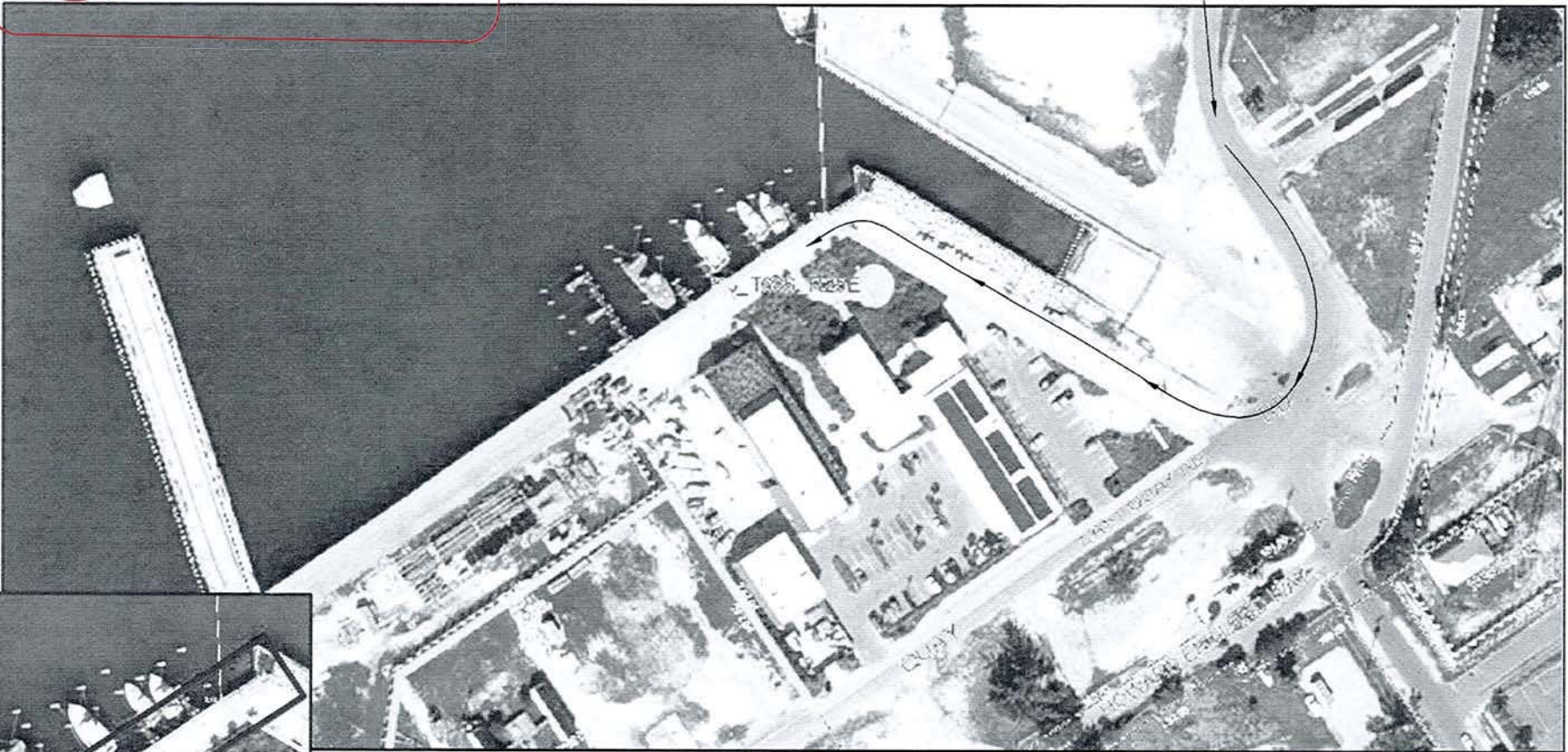
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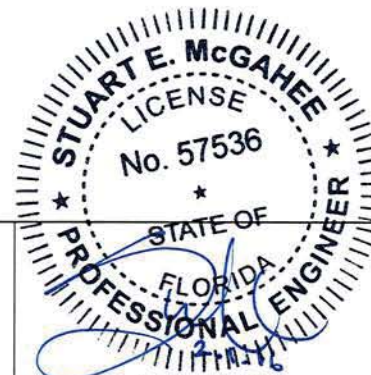
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FEB 19 2016
D.E.P. Marathon



FROM E QUAY RD



LIMITS OF CONSTRUCTION



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PURPOSES ONLY



CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION

LOCATION AND ACCESS

KEY WEST, MONROE COUNTY, FLORIDA



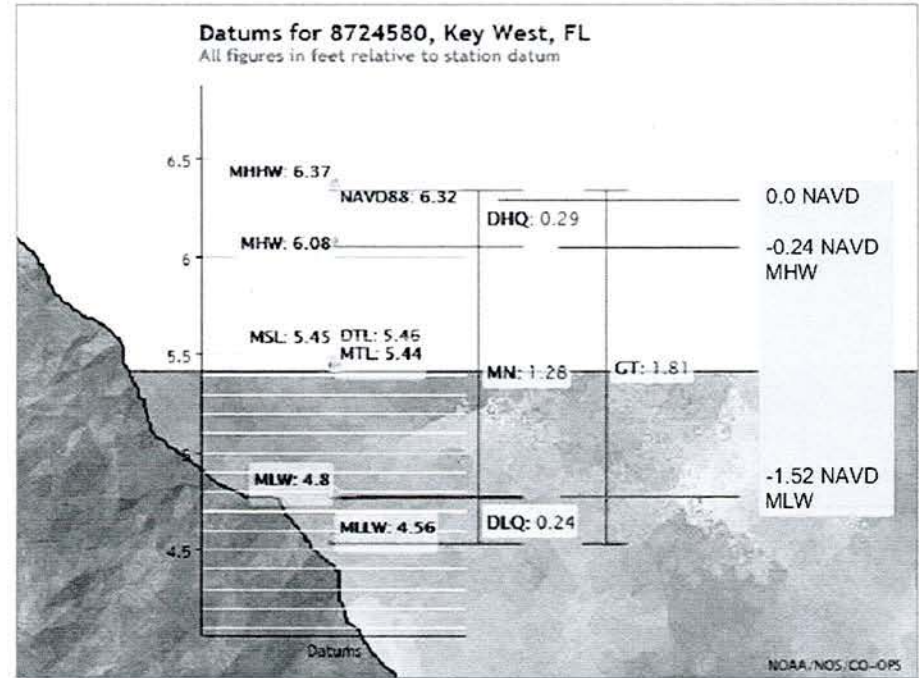
TETRA TECH INC.
759 SOUTH FEDERAL HWY
SUITE 314
STUART, FL 34994-2936
TEL: (772) 781-3400
FAX: (772) 781-3411
CERTIFICATE OF AUTHORIZATION
NO. 2429

Designed by:
S. MCGAHEE
Drawn By:
F. MARTINEZ
Checked By:
—
Reviewed By:
—
Design file no:
IT_TRUMANSEAWALL_SURVEY_V2.DWG
Scale:
AS SHOWN

Sheet Reference:
C-003
Sheet 4 of —

Elevations on Station Datum

Station: 8724580, Key West, FL	T.M.: 75	
Status: Accepted (Aug 24 2010)	Epoch: 1983-2001	
Units: Feet	Datum: STND	
Datum	Value	Description
MHHW	6.37	Mean Higher-High Water
MHW	6.08	Mean High Water
MTL	5.44	Mean Tide Level
MSL	5.45	Mean Sea Level
DTL	5.46	Mean Diurnal Tide Level
MLW	4.80	Mean Low Water
MLLW	4.56	Mean Lower-Low Water
NAVD88	6.32	North American Vertical Datum of 1988
STND	0.00	Station Datum
GT	1.81	Great Diurnal Range
MN	1.28	Mean Range of Tide
DHQ	0.29	Mean Diurnal High Water Inequality
DLQ	0.24	Mean Diurnal Low Water Inequality
HWI	2.77	Greenwich High Water Interval (in hours)
LWI	8.40	Greenwich Low Water Interval (in hours)
Maximum	9.50	Highest Observed Water Level
Max Date & Time	10/24/2005 08.42	Highest Observed Water Level Date and Time
Minimum	2.90	Lowest Observed Water Level
Min Date & Time	02/19/1928 03.06	Lowest Observed Water Level Date and Time
HAT	7.21	Highest Astronomical Tide
HAT Date & Time	10/17/1989 03:18	HAT Date and Time
LAT	3.76	Lowest Astronomical Tide
LAT Date & Time	05/24/1986 21.24	LAT Date and Time



Showing datums for

8724580 Key West, FL

Data Units Feet
 Meters

Epoch Present (1983-2001)
 Superseded (1960-1978)

Submit

RECEIVED
FEB 19 2010
REC. INFORMATION

EXEMPT

File Number:
44-0341846-001-EE

FOR PERMITTING
PURPOSES ONLY



CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION

TIDAL DATA FROM STATION 8724580, KEY WEST, F. FL (NOAA)

KEY WEST, MONROE COUNTY, FLORIDA

TETRA TECH INC.
759 SOUTH FEDERAL HWY
SUITE 314
STUART, FL 34994-2936
TEL: (772) 781-3400
FAX: (772) 781-3411
CERTIFICATE OF AUTHORIZATION
NO. 2429

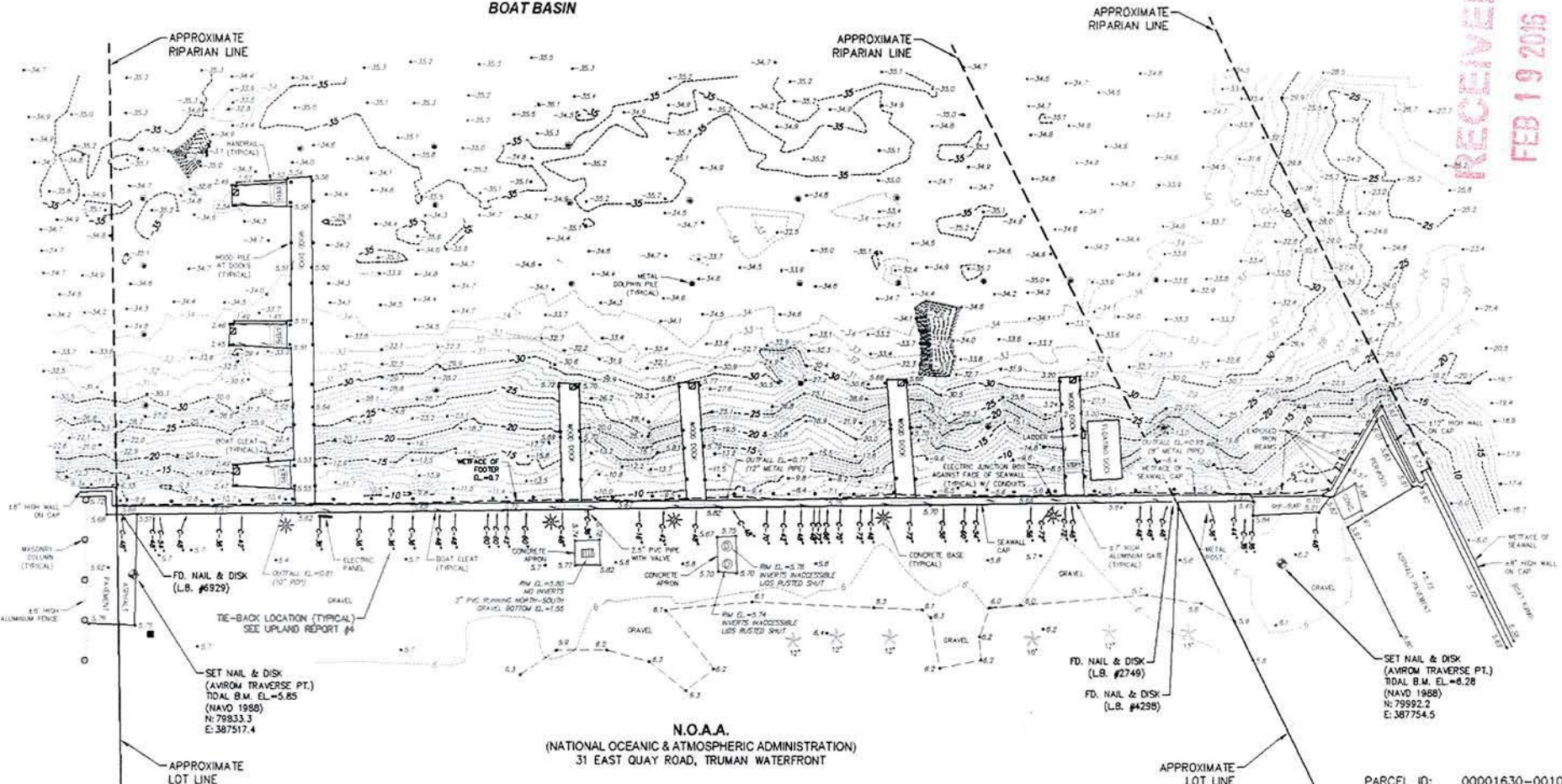


Designed by:	S. MCGAHEE
Drawn By:	F. MARTINEZ
Checked By:	--
Reviewed By:	--
Design file no:	IT_TRUMANSEAWALL_SURVEY_V2.DWG
Scale:	AS SHOWN

Sheet Reference:
C-004
Sheet 5 of -

RECEIVED
FEB 19 2016
D.E.P. Regulation

BOAT BASIN





EXEMPT

File Number:
44-0341846-001-EE

N.O.A.A.
(NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION)
31 EAST QUAY ROAD, TRUMAN WATERFRONT

PARCEL ID: 00001630-000000
OWNER: UNITED STATES OF AMERICA
LOCATION: 31 EAST QUAY RD
LEGAL DESCRIPTION:
KW PARCEL OF LAND LYING W'LY OF TRUMAN ANNEX
LANDS (TRUMAN ANNEX BASE)

PARCEL ID: 00001630-001000
OWNER: CITY OF KEY WEST
LOCATION: VACANT LAND
LEGAL DESCRIPTION:
KW PARCEL OF LAND LYING W'LY
OF TRUMAN ANNEX (24.95 AC)

STUART E. MCGAHEE

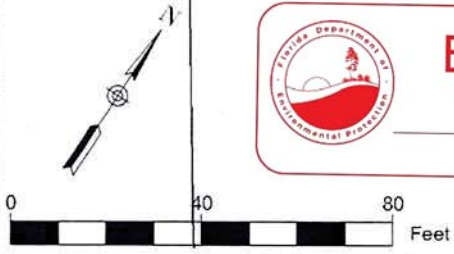
LICENSE
No. 57536

STATE OF FLORIDA

PROFESSIONAL ENGINEER

Stuart E. McGahee
Florida PE No. 57536

**FOR PERMITTING
PURPOSES ONLY**



CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION

EXISTING CONDITIONS SURVEY

KEY WEST, MONROE COUNTY, FLORIDA



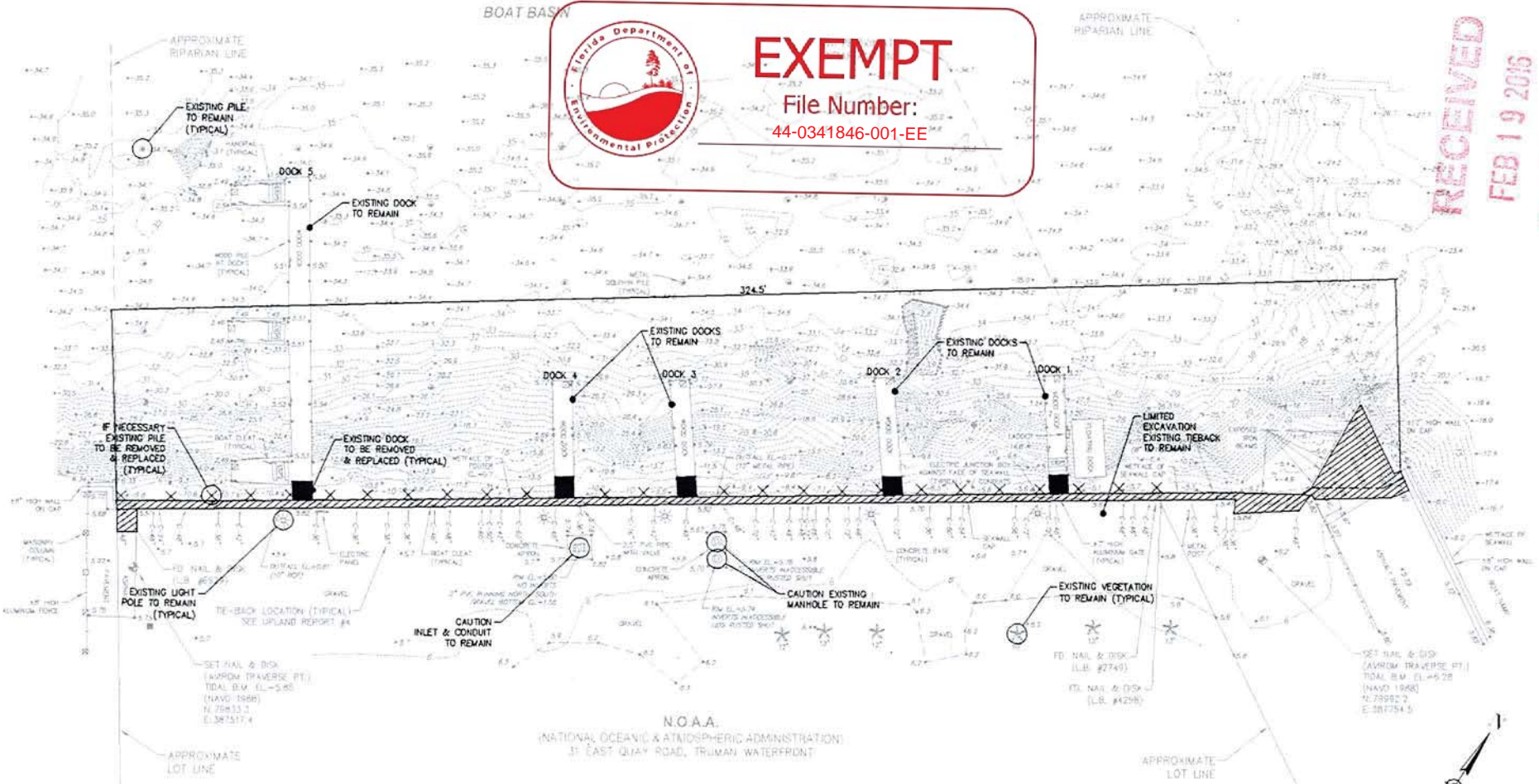
TETRA TECH INC.
759 SOUTH FEDERAL HWY
SUITE 314
STUART, FL 34994-2936
TEL: (772) 781-3400
FAX: (772) 781-3411

CERTIFICATE OF AUTHORIZATION
NO. 2429

Designed by: S. MCGAHEE	Sheet Reference: <div style="font-size: 24pt; font-weight: bold;">P-001</div> Sheet 6 of -
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EXEMPT
 File Number:
 44-0341846-001-EE

RECEIVED
FEB 19 2016
D.E.P. Migration

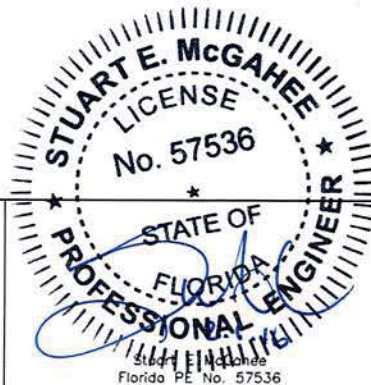
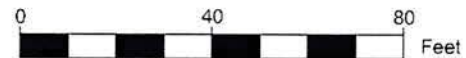


LEGEND

- EXISTING LIGHT POLE TO REMAIN
- EXISTING TREE TO REMAIN
- EXISTING PILE (TO REMAIN)
- EXISTING PILE (TO BE REMOVED DURING CONSTRUCTION & REPLACED)
- AREA TO BE DEMOLISHED
- EXISTING DOCK (TO BE REMOVED DURING CONSTRUCTION & REPLACED)

NOTES:

1. THE BATHYMETRY AND SURVEY DATA WAS PROVIDED BY AVIROM & ASSOCIATES, INC. AND SURVEYED ON 12/14/15 THROUGH 12/15/15.
2. DEMOLITION ACTIVITIES FOR THIS PROJECT INCLUDE THE FOLLOWING:
 - 2.1. REMOVAL OF THE CONCRETE SEAWALL CAP ALONG THE FULL LENGTH OF THE WALL (~600 SF)
 - 2.2. REMOVAL OF THE WOOD DOCK FROM THE EXISTING SEAWALL TO THE FIRST SUPPORT PILES (~122 SF)
 - 2.3. REMOVAL OF THE TRIANGULAR PORTION OF SEAWALL AT THE NORTHEAST CORNER OF THE SEAWALL ALONG WITH TIEBACK MATERIALS FOR THIS AREA ONLY (~312 SF)
 - 2.4. REMOVAL OF ALL WOOD PILES SITTING IN FRONT OF THE EXISTING SEAWALL (24 PILES)
 - 2.5. REMOVAL OF CONCRETE/ASPHALT PADS ON THE UPLAND THAT WITHIN THE PROPOSED SEAWALL AREA (~383 SF)



FOR PERMITTING PURPOSES ONLY



CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION

 DEMOLITION ACTIVITIES

KEY WEST, MONROE COUNTY, FLORIDA

TE **TETRA TECH INC.**
 759 SOUTH FEDERAL HWY
 SUITE 314
 STUART, FL 34994-2936
 TEL: (772) 781-3400
 FAX: (772) 781-3411
 CERTIFICATE OF AUTHORIZATION
 NO. 2429

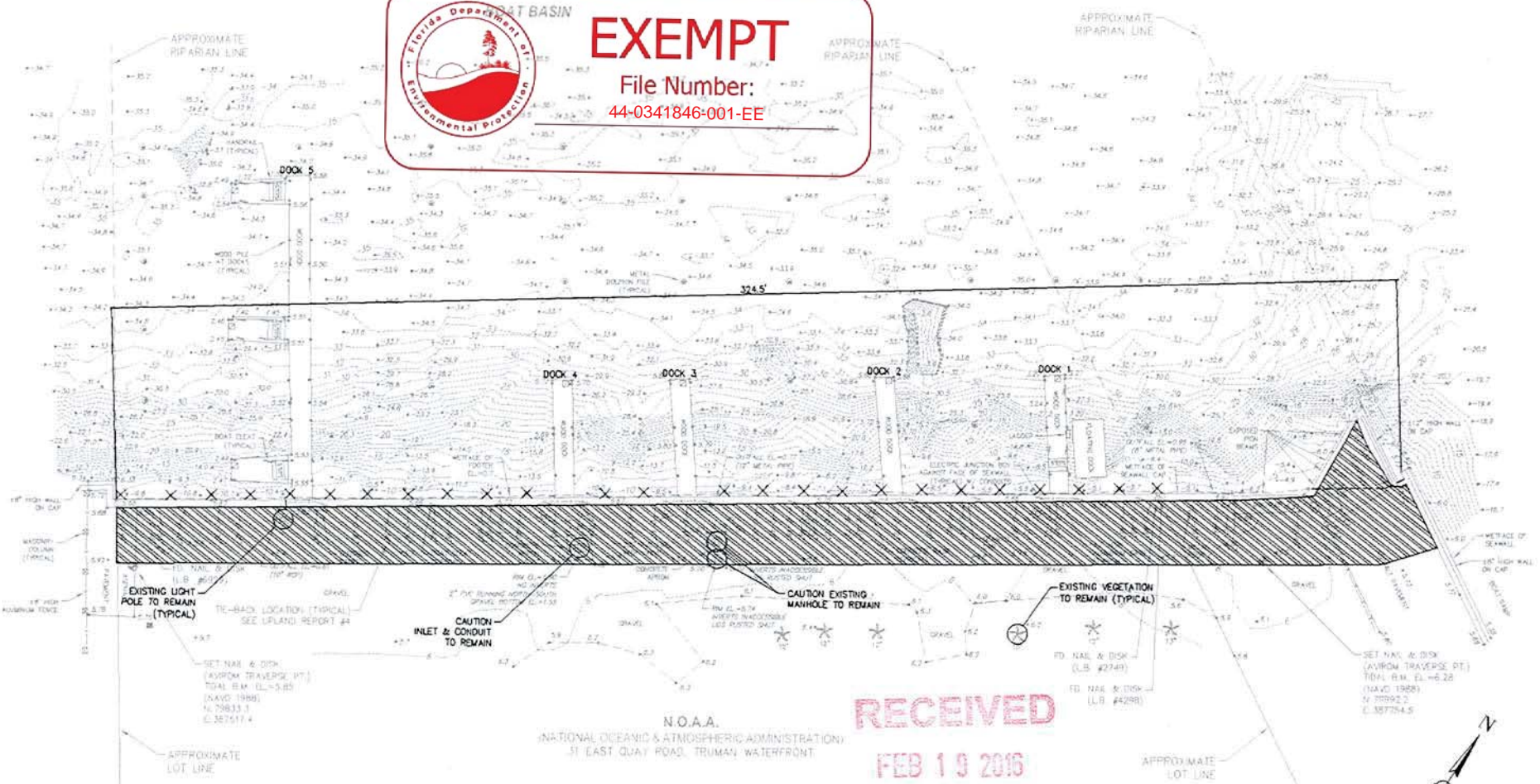
Designed by:
 S. MCGAHEE
 Drawn By:
 F. MARTINEZ
 Checked By:

 Reviewed By:

 Design file no:
 IT_TRUMANSEAWALL_PERMIT_PART_1_V2.DWG
 Scale:
 AS SHOWN

Sheet Reference:
P-002
 Sheet 7 of -


EXEMPT
 File Number:
 44-0341846-001-EE

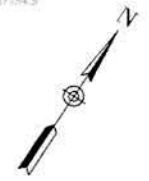
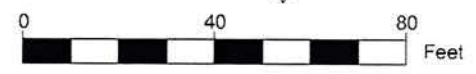


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FEB 19 2016
D.E.P. Marathon

N.O.A.A.
 (NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION)
 51 EAST QUAY ROAD, TRUMAN WATERFRONT

LEGEND

- EXISTING LIGHT POLE TO REMAIN
- EXISTING TREE TO REMAIN
- EXISTING PILE (TO REMAIN)
- EXISTING PILE (TO BE REMOVED DURING CONSTRUCTION & REPLACED)
- LIMITED EXCAVATION AREA FOR NEW TIEBACKS ONLY



- NOTES:**
- THE BATHYMETRY AND SURVEY DATA WAS PROVIDED BY AVIROM & ASSOCIATES, INC. AND SURVEYED ON 12/14/15 THROUGH 12/15/15.
 - EXCAVATION ACTIVITIES FOR THIS PROJECT INCLUDE THE FOLLOWING:
 - EXCAVATION AND BACKFILL OF GRAVEL BEHIND EXISTING SEAWALL TO A DEPTH TO ACCOMMODATE PROPOSED TIEBACKS AND ANCHORS (~814 CY)
 - EXCAVATION OF TRIANGULAR PORTION OF UPLAND AT THE NORTHEAST CORNER OF THE SEAWALL (DEPTH TBD)
 - THE AREA BETWEEN THE EXISTING SEAWALL AND THE NEW SEAWALL WILL BE FILLED AS DETAILED ON SHEETS P005-P010



FOR PERMITTING PURPOSES ONLY



CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION

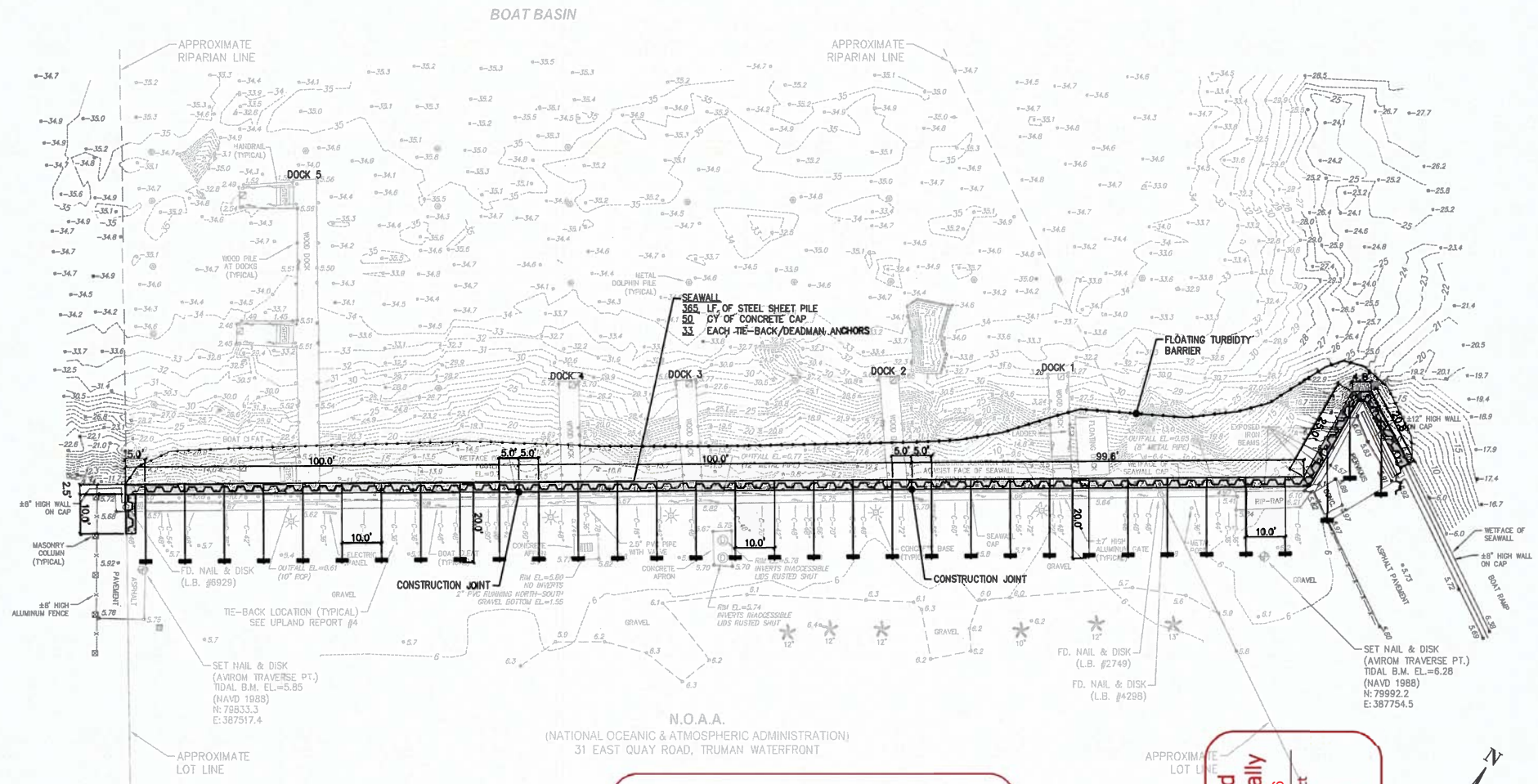
 EXCAVATION ACTIVITIES

 KEY WEST, MONROE COUNTY, FLORIDA


TETRA TECH INC.
 759 SOUTH FEDERAL HWY
 SUITE 314
 STUART, FL 34994-2936
 TEL: (772) 781-3400
 FAX: (772) 781-3411
 CERTIFICATE OF AUTHORIZATION
 NO. 2429

Designed by:	S. MCGAHEE
Drawn By:	F. MARTINEZ
Checked By:	---
Reviewed By:	---
Design file no.:	TT_TRUMANSEAWALL_PERMIT_PART_1_V2.DWG
Scale:	AS SHOWN

Sheet Reference:
P-003
 Sheet 8 of -



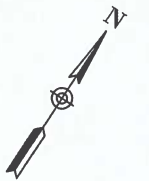
- NOTES:**
1. THE BATHYMETRY AND SURVEY DATA WAS PROVIDED BY AVIROM & ASSOCIATES, INC. AND SURVEYED ON 12/14/15 THROUGH 12/15/15.
 2. THE PROPOSED SEAWALL WILL CONSIST OF A SHEETPILE WALL SPACED CLOSE TO THE EXISTING SEAWALL, WITH A CONCRETE CAP, AND TIE-BACKS SPACED AT 10' O.C., AS SHOWN IN THE CROSS-SECTIONS ON SHEETS [P005-P010].
 3. A TURBIDITY CURTAIN SHALL BE UTILIZED TO PREVENT ANY CONSTRUCTION DEBRIS FROM ESCAPING OUTSIDE OF THE CONSTRUCTION ZONE.
 4. ALL CONSTRUCTION ACTIVITIES WILL BE PERFORMED IN ACCORDANCE WITH THE NMFS SEA TURTLE AND SAWFISH CONSTRUCTION GUIDELINES/BMPs AND THE NMFS SECTION 7 CHECKLIST AND INSTRUCTIONS.

N.O.A.A.
(NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION)
31 EAST QUAY ROAD, TRUMAN WATERFRONT

EXEMPT

File Number:
44-0341846-001-EE

Received
Electronically
5/11/2016
South District



STUART E. MCGAHEE

LICENSE
No. 57536

STATE OF
FLORIDA

PROFESSIONAL ENGINEER



FOR PERMITTING
PURPOSES ONLY



CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION

PROPOSED SHEETPILE SEAWALL DESIGN

KEY WEST, MONROE COUNTY, FLORIDA

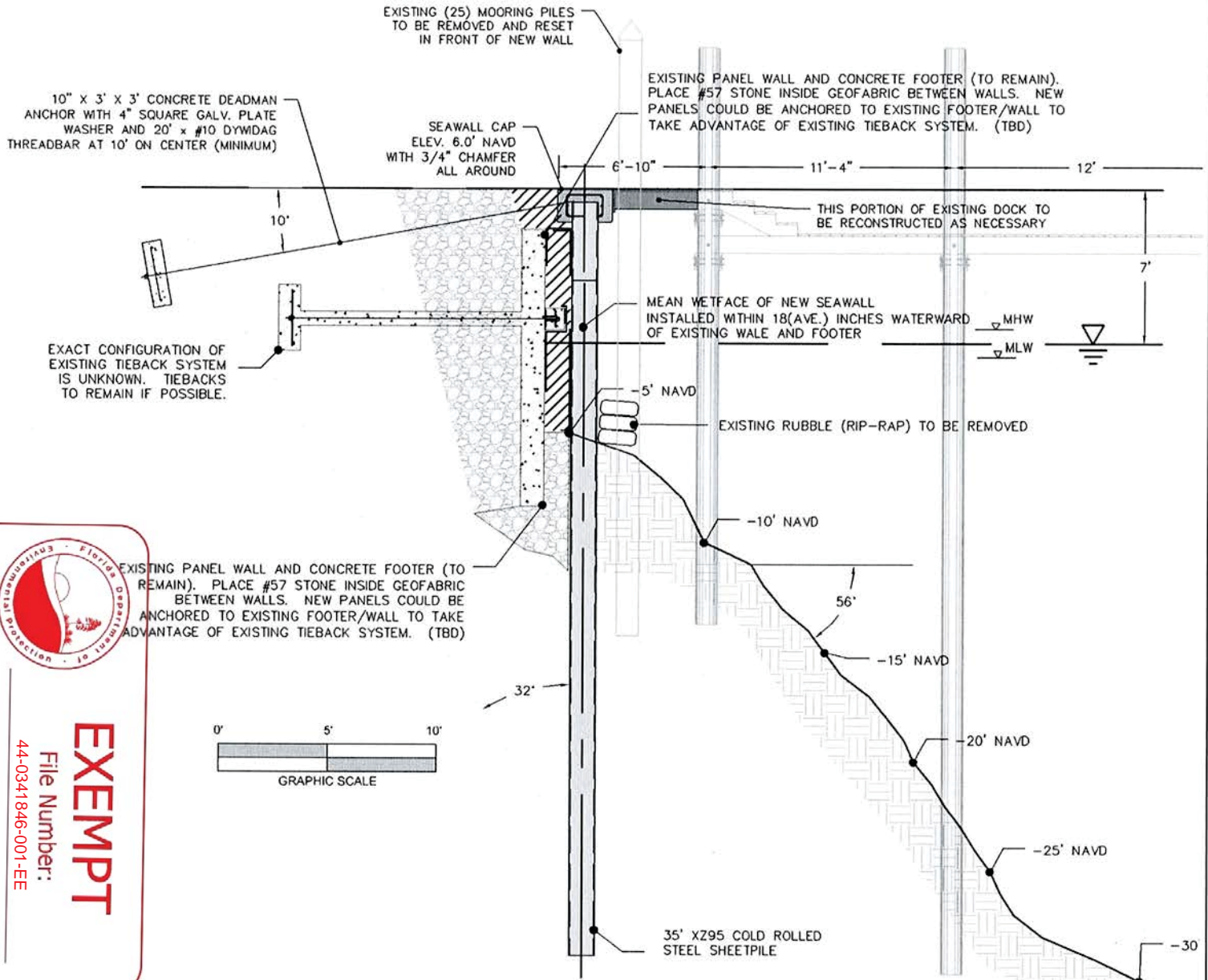
TETRA TECH INC.
759 SOUTH FEDERAL HWY
SUITE 314
STUART, FL 34994-2936
TEL: (772) 781-3400
FAX: (772) 781-3411

CERTIFICATE OF AUTHORIZATION
NO. 2429

Stuart E McGahee
Florida PE No. 57536

Designed by: S. MCGAHEE
Drawn By: F. MARTINEZ
Checked By: ---
Reviewed By: ---
Design file no: TT-TRUMANSEAWALL_PART_2_V5.DWG
Scale: AS SHOWN

Sheet Reference:
P-004
Sheet 9 of 17



CROSS SECTION
STEEL SHEETPILE WITH TIE BACKS
NEAR DOCK 1


EXEMPT
File Number:
44-0341846-001-EE

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STUART E. MCGAHEE
LICENSE
No. 57536
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
Stuart E. McGahee
Florida PE No. 57536

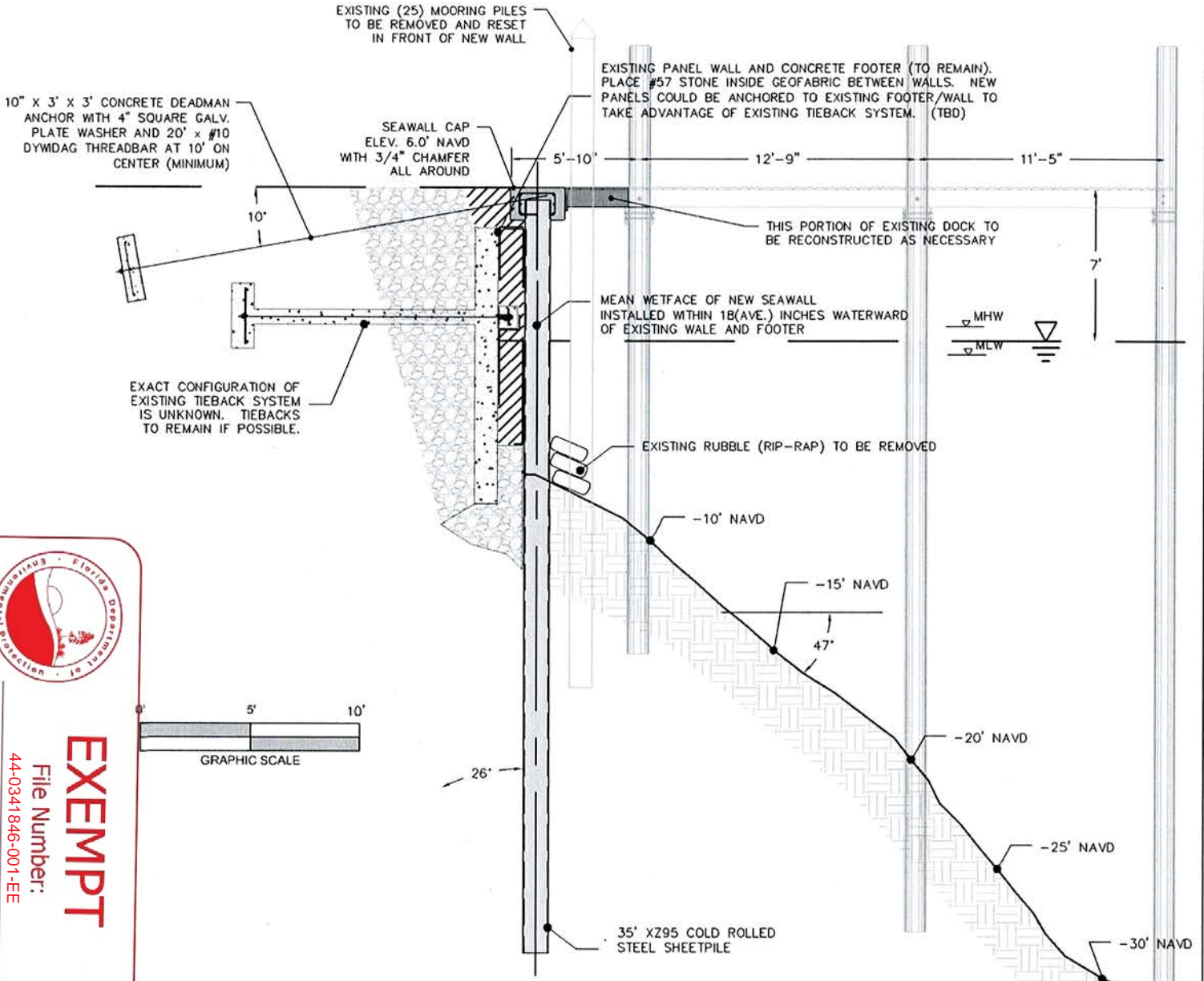
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CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION
SEAWALL CROSS-SECTION
KEY WEST, MONROE COUNTY, FLORIDA

 **TETRA TECH INC.**
759 SOUTH FEDERAL HWY
SUITE 314
STUART, FL 34994-2936
TEL: (772) 781-3400
FAX: (772) 781-3411
CERTIFICATE OF AUTHORIZATION
NO. 2429

Designed by: S. MCGAHEE	Sheet Reference: P-005 Sheet 10 of -
Drawn By: F. MARTINEZ	
Checked By:	
Reviewed By:	
Design file no: TT_TRUMANSEAWALL_PERMIT_PART_2_V2.DWG Scale: AS SHOWN	

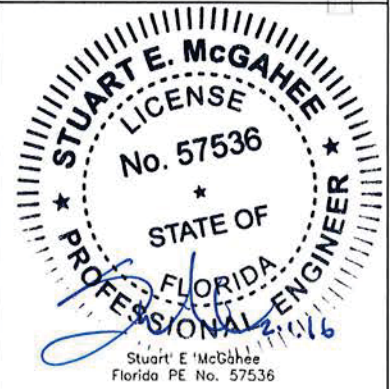


CROSS SECTION
STEEL SHEETPILE WITH TIE BACKS

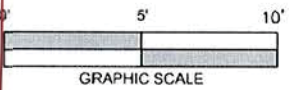
NEAR DOCK 2

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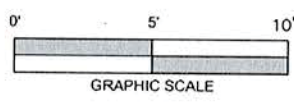
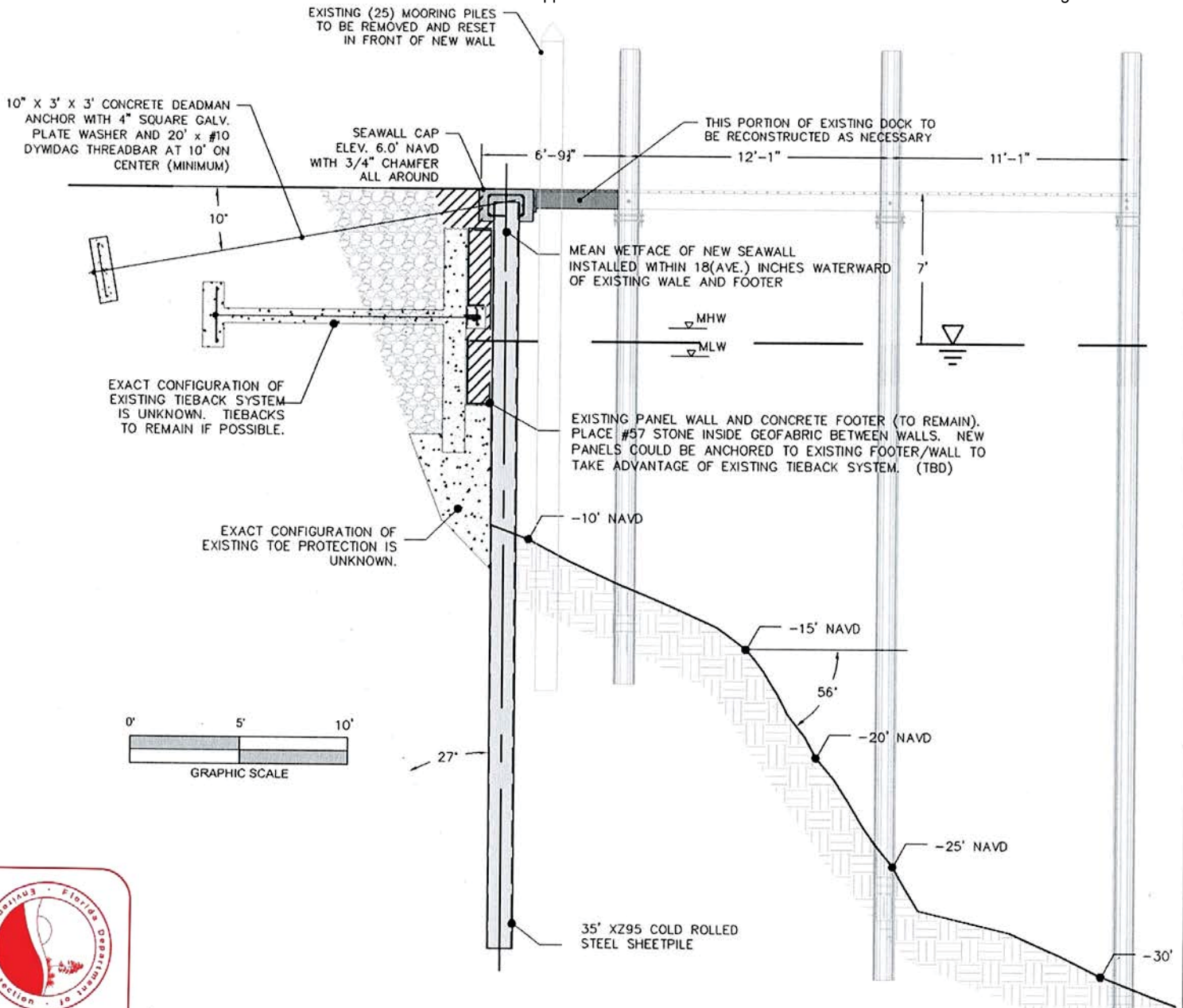
CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION
SEAWALL CROSS-SECTION
KEY WEST, MONROE COUNTY, FLORIDA

Tt TETRA TECH INC.
759 SOUTH FEDERAL HWY
SUITE 314
STUART, FL 34994-2936
TEL: (772) 781-3400
FAX: (772) 781-3411
CERTIFICATE OF AUTHORIZATION
NO. 2429

Designed By:
S. MCGAHEE
Drawn By:
F. MARTINEZ
Checked By:
Reviewed By:
Design file no:
TL_TRANSEAWALL_PERMIT_PART_2_V3.DWG
Scale:
AS SHOWN

Sheet Reference:
P-006
Sheet 11 of -

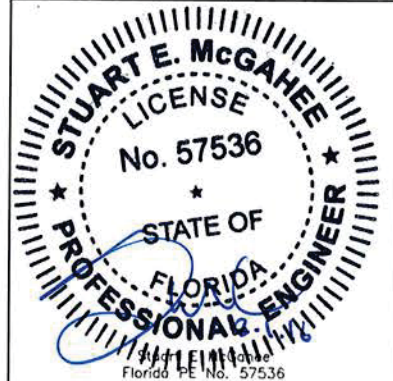
Appendix ii



CROSS SECTION
STEEL SHEETPILE WITH TIE BACKS
NEAR DOCK 3

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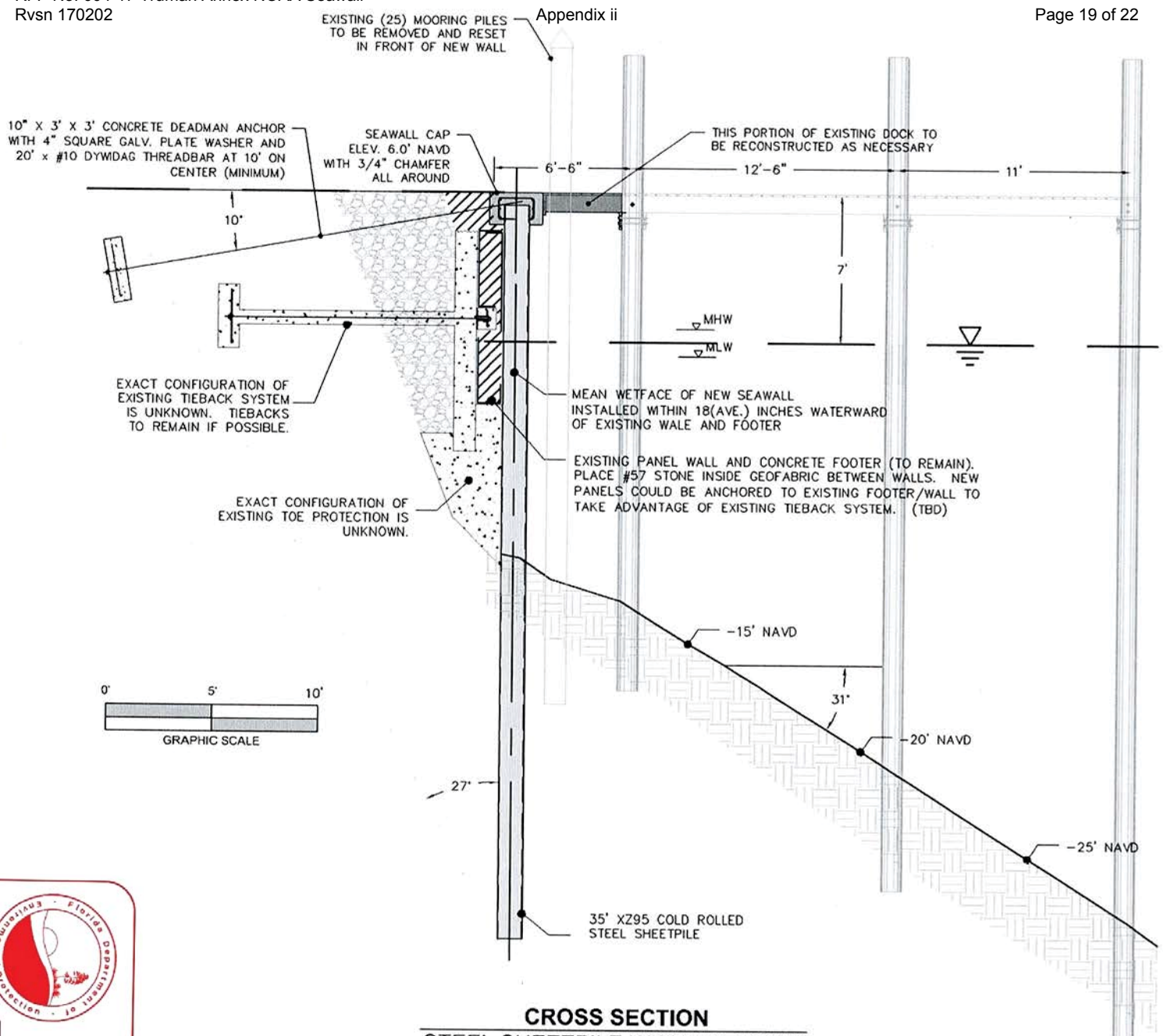


CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION
SEAWALL CROSS-SECTION
KEY WEST, MONROE COUNTY, FLORIDA

Tt TETRA TECH INC.
759 SOUTH FEDERAL HWY
SUITE 314
STUART, FL 34994-2936
TEL: (772) 781-3400
FAX: (772) 781-3411
CERTIFICATE OF AUTHORIZATION
NO. 2429

Designed by:
S. MCGAHEE
Drawn By:
F. MARTINEZ
Checked By:
Reviewed By:
Design file no:
TT_TRUMANSEAWALL_PERMIT_PART_2_v3.dwg
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Sheet Reference:
P-007
Sheet 12 of -



CROSS SECTION
STEEL SHEETPILE WITH TIE BACKS
 NEAR DOCK 4

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CITY OF KEY WEST
 TRUMAN ANNEX SEAWALL RESTORATION
 SEAWALL CROSS-SECTION
 KEY WEST, MONROE COUNTY, FLORIDA

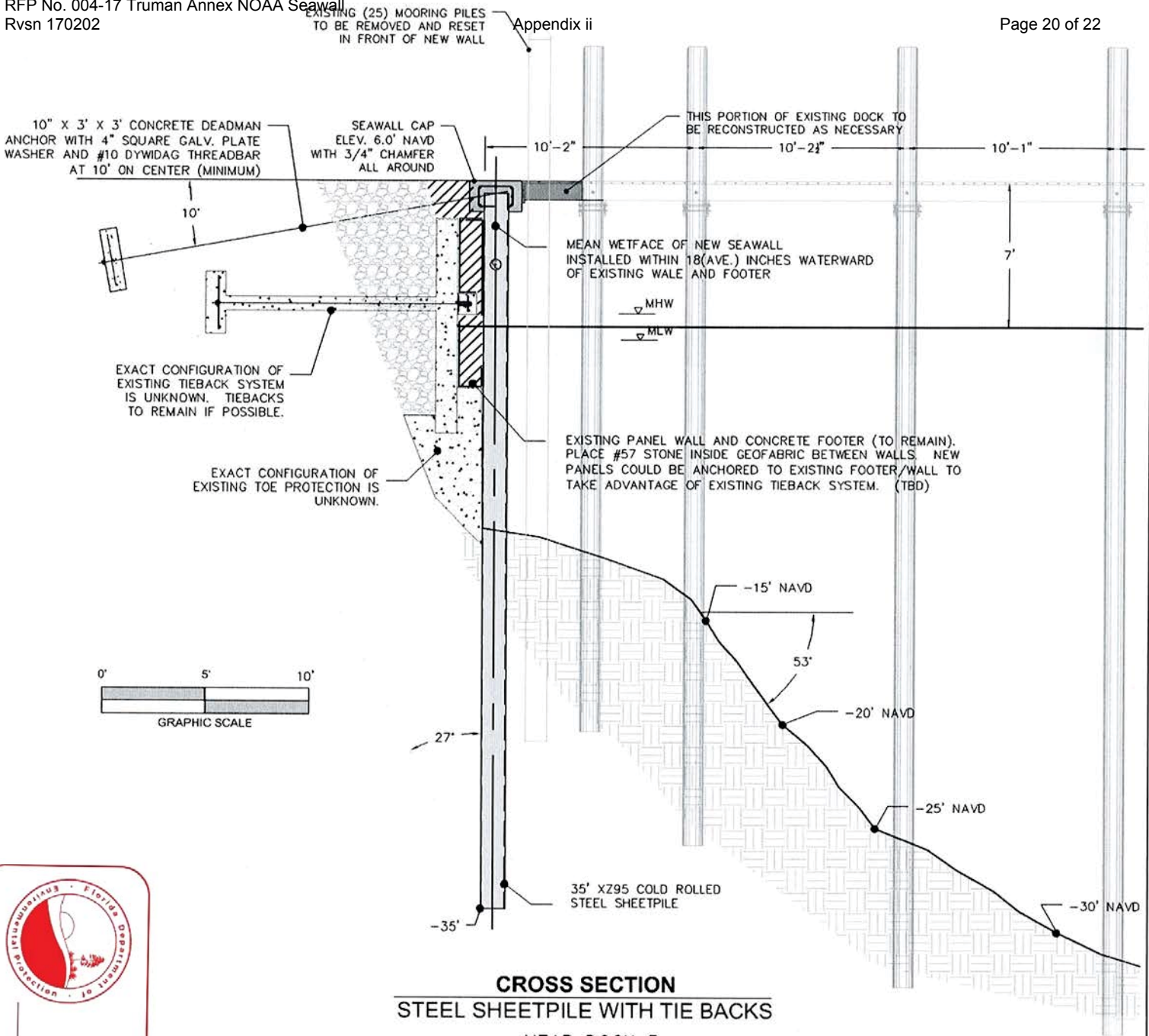
Tt TETRA TECH INC.
 759 SOUTH FEDERAL HWY
 SUITE 314
 STUART, FL 34994-2936
 TEL: (772) 781-3400
 FAX: (772) 781-3411
 CERTIFICATE OF AUTHORIZATION
 NO. 2429

Designed by:
 S. MCGAHEE
 Drawn By:
 F. MARTINEZ
 Checked By:

 Reviewed By:

 Design file no:
 TL-TRUMANSEAWALL_PERMIT_PART_2_V2.dwg
 Scale:
 AS SHOWN

Sheet Reference:
P-008
 Sheet 13 of -



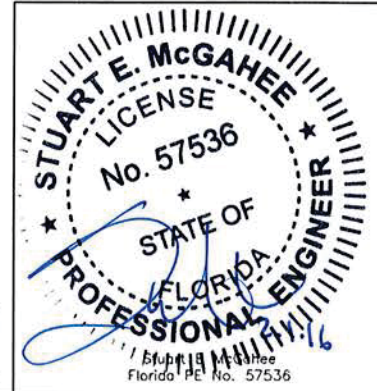
CROSS SECTION
STEEL SHEETPILE WITH TIE BACKS
 NEAR DOCK 5



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STUART E. MCGAHEE
 LICENSE
 No. 57536
 STATE OF
 FLORIDA
 PROFESSIONAL ENGINEER



CITY OF KEY WEST
 TRUMAN ANNEX SEAWALL RESTORATION
 SEAWALL CROSS-SECTION
 KEY WEST, MONROE COUNTY, FLORIDA

Tetra Tech Inc.
 759 SOUTH FEDERAL HWY
 SUITE 314
 STUART, FL 34994-2936
 TEL: (772) 781-3400
 FAX: (772) 781-3411
 CERTIFICATE OF AUTHORIZATION
 NO. 2429

Designed by:
 S. MCGAHEE
 Drawn By:
 F. MARTINEZ
 Checked By:

 Reviewed By:

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 AS SHOWN

Sheet Reference:
P-009
 Sheet 14 of -



EXEMPT

File Number:
44-0341846-001-EE

TYPICAL STEEL SHEETPILE SEAWALL:

CONCRETE CAP

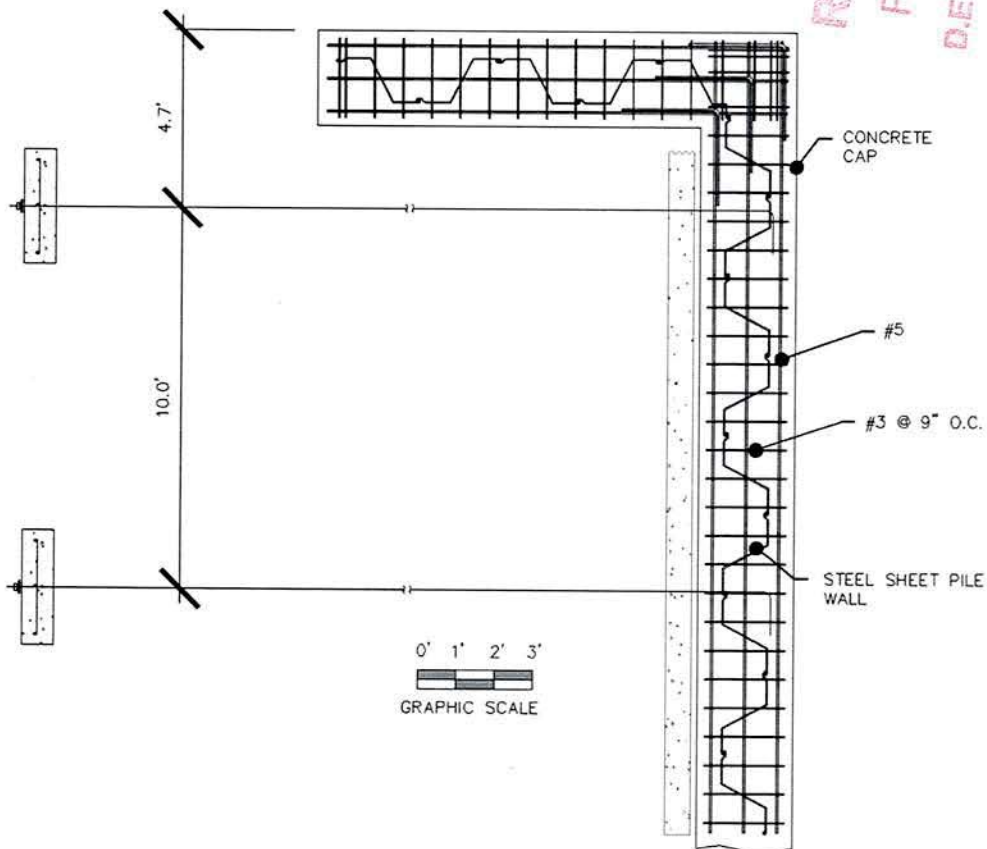
- CONCRETE f'_c = 6,000 PSI IN 28-DAYS
- $\frac{3}{4}$ " CHAMFER ALL EXPOSED EDGES

TIEBACK ROD NOTES

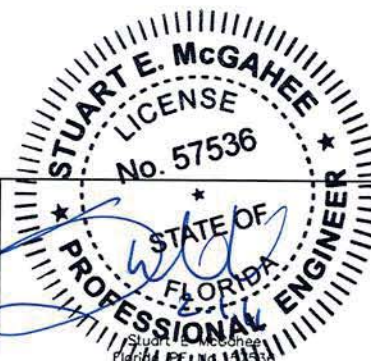
- 10' ON-CENTER (MAX).
- DEADMAN ANCHORS PRECAST W/ 1- $\frac{1}{4}$ " ϕ
- DOWN ANGLE OF RODS 10'.

XZ-95 STEEL SHEET PILE SPECIFICATIONS

- WIDTH 25.00 IN.
- HEIGHT 14.12 IN.
- THICKNESS 0.375 IN.
- SECTIONAL AREA 15.20 SQ. IN. PER LIN. FT.
- WEIGHT OF PILE 51.70 LB. PER LIN. FT.
- WEIGHT OF WALL 24.80 LB. PER SQ. FT.
- SECTION MODULUS 33.50 IN.³ PER LIN. FT.
- MOMENT OF INERTIA 237.0 IN.⁴ PER LIN. FT.
- COATING AREA BOTH SIDES 6.03 SQ. FT. PER LIN. FT.



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CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION
SEAWALL CAP DESIGN
KEY WEST, MONROE COUNTY, FLORIDA

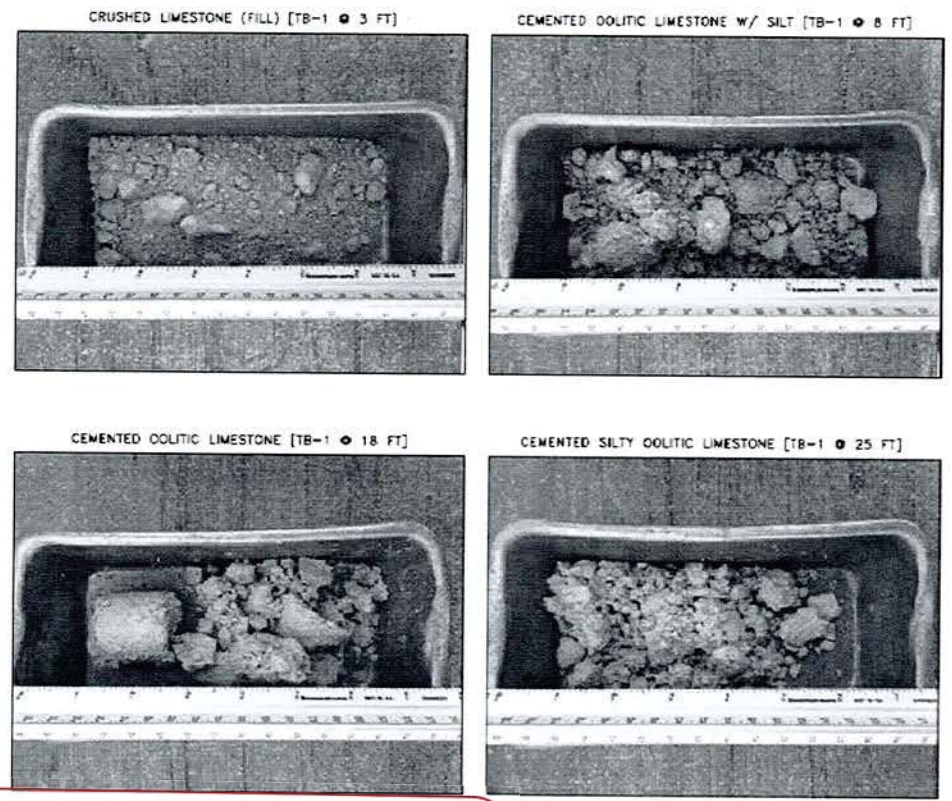
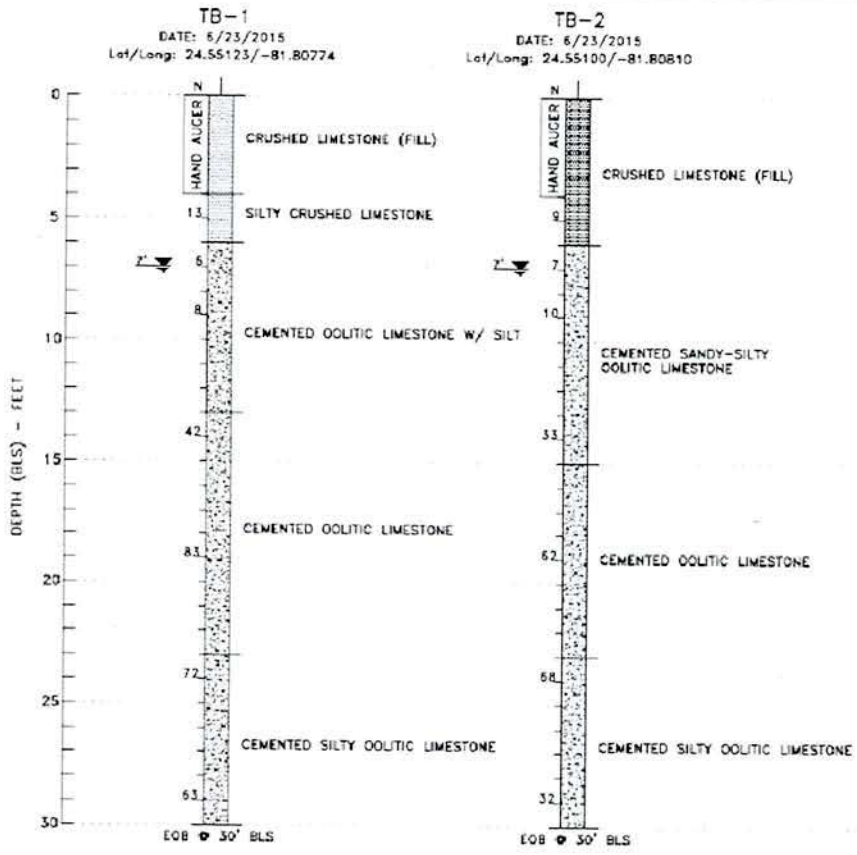
TT TETRA TECH INC.
759 SOUTH FEDERAL HWY
SUITE 314
STUART, FL 34994-2936
TEL: (772) 781-3400
FAX: (772) 781-3411
CERTIFICATE OF AUTHORIZATION
NO. 2429

Designed by:
S. MCGAHEE
Drawn By:
F. MARTINEZ
Checked By:

Reviewed By:

Design file no:
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Scale:
AS SHOWN

Sheet Reference:
P-010
Sheet 15 of -



NOTES:

TB-# STANDARD PENETRATION TEST [SPT] BORING (ASTM D1586)
 N SPT RESISTANCE IN BLOWS PER FOOT
 X GROUNDWATER TABLE (FT BELOW EXIST. GRADE) AT TIME DRILLED
 EOB END OF BORING
 BLS BELOW LAND SURFACE
 DRILL CREW FIRM: CL
 DRILL CREW CHIEF: BS
 DRILL RIG: CME-45
 DRILL METHOD: ROTARY-WASH/BENTONITE SLURRY
 CASING: NOT NEEDED
 HAMMER TYPE: MANUAL

SOIL LEGEND:

- CRUSHED LIMESTONE FILL (GP)
- CEMENTED LIMESTONE

EXEMPT RECEIVED

File Number: 44-0341846-001-EE

FEB 19 2015

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FOR PERMITTING PURPOSES ONLY

<p>ANDERSEN ANDRE CONSULTING ENGINEERS, INC. 573 SW Billmore Street, Port St. Lucie, FL 34983 772-897-0191 www.AAECinc.com Certificate of Authorization No. 26794</p>	<p>SPT BORING PROFILES</p>	<p>SUBSURFACE SOIL EXPLORATION AND PRELIMINARY GEOTECHNICAL ENGINEERING EVALUATION PROPOSED SEAWALL REPLACEMENT TRUMAN WATERFRONT KEY WEST, MONROE COUNTY, FLORIDA</p>	Drawn by: PGA Checked by: DPA AAEC File No: 15a148	Date: June/July 2015 Date: June/July 2015
			<p>Sheet No. 2</p>	



CITY OF KEY WEST
 TRUMAN ANNEX SEAWALL RESTORATION

AAEC SITE SOIL REPORT

KEY WEST, MONROE COUNTY, FLORIDA

TETRA TECH INC.
 759 SOUTH FEDERAL HWY
 SUITE 314
 STUART, FL 34994-2936
 TEL: (772) 781-3400
 FAX: (772) 781-3411
 CERTIFICATE OF AUTHORIZATION
 NO. 2429

Designed by:
 S. MCGAHEE
 Drawn By:
 F. MARTINEZ
 Checked By:

 Reviewed By:

 Design file no:
 IT_TRUMANSEAWALL_PERMIT_PART_2_V3.DWG
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Sheet Reference:
P-011
 Sheet 16 of -



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
9900 SOUTHWEST 107th AVENUE, SUITE 203
MIAMI, FLORIDA 33176

October 5, 2016

REPLY TO
ATTENTION OF

Regulatory Division
South Permits Branch
Miami Permits Section
SAJ-2016-00621 (NW-JMH)

City of Key West
c/o Jim Bouquet, Director of Engineering
3140 Flagler Street
Key West, FL 33040

NOAA Florida Keys National Marine Sanctuary
c/o Sean Morton, Superintendent
33 East Quay Road
Key West, FL 33040

Dear Mr. Bouquet and Mr. Morton:

The U.S. Army Corps of Engineers (Corps) assigned your application for a Department of the Army permit, which the Corps received on February 23, 2016, the file number SAJ-2016-00621. A review of the information and drawings provided indicates that the proposed work is to remove and replace a total of 25 mooring pilings in their existing footprint, to replace the existing seawalls by excavating the existing tiebacks, removing the existing riprap, installing 375.2 linear feet of new sheet piling seawall with 535 cubic yards of associated backfill, installing 12.5 linear feet of sheet piling return wall, installing new tiebacks spaced at 10 feet on center, and installing 375.2 linear feet of concrete seawall cap. Some of the surrounding decking, stringers, and associated appurtenances will be removed and replaced in their existing footprint to accommodate the wall repairs. The project is located at 31 E Quay Rd; legally described as KW Parcel Of Land Lying W'ly Of Truman Annex Lands (Truman Annex Base) and KW Parcel Of Land Lying W'ly Of Truman Annex (24.9 5 AC), in Key West, Monroe County, Florida (RE#s 00001630-000000 and 00001630-001000).

Your project, as depicted on the enclosed drawings, is authorized by Nationwide Permit (NWP) Number 3. In addition, project specific conditions have been enclosed. This verification is valid until **March 18, 2017**. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant nationwide permit is modified or revoked, you will have 12 months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this nationwide permit. Please access the U.S. Army Corps of Engineers' (Corps) Jacksonville District's Regulatory Internet page to access Internet links to view the Final Nationwide Permits, Federal Register Vol. 77, dated February 21, 2012,

-2-

specifically pages 10270 – 10290, the Corrections to the Final Nationwide Permits, Federal Register 77, March 19, 2012, and the List of Regional Conditions. The Internet page address is:

<http://www.saj.usace.army.mil/Missions/Regulatory.aspx>

Please be aware this Internet address is case sensitive and should be entered as it appears above. Once there you will need to click on “Source Book”; and, then click on “Nationwide Permits.” These files contain the description of the Nationwide Permit authorization, the Nationwide Permit general conditions, and the regional conditions, which apply specifically to this verification for NWP 3. Enclosed is a list of the six General Conditions, which apply to all Department of the Army authorizations. You must comply with all of the special and general conditions and any project specific condition of this authorization or you may be subject to enforcement action. In the event you have not completed construction of your project within the specified time limit, a separate application or re-verification may be required.

The following special conditions are included with this verification:

1. **Reporting Address:** The Permittee shall submit all reports, notifications, documentation and correspondence required by the general and special conditions of this permit to the following address:

a. For standard mail: U.S. Army Corps of Engineers, Regulatory Division, Special Projects and Enforcement Branch, 9900 Southwest 107th Avenue, Suite 203, Miami, Florida 33176.

b. For electronic mail CESAJ-ComplyDocs@usace.army.mil (not to exceed 10 MB).

The Permittee shall reference this permit number, SAJ-2016-00621 (NW-JMH), on all submittals.

2. **Self-Certification:** Within 60 days of completion of the work authorized by this permit, the Permittee shall complete the attached “Self-Certification Statement of Compliance” form (Attached) and submit it to the Corps. In the event that the completed work deviates in any manner from the authorized work, the Permittee shall describe the deviations between the work authorized by this permit and the work as constructed on the “Self-Certification Statement of Compliance” form. The description of any deviations on the “Self-Certification Statement of Compliance” form does not constitute approval of any deviations by the Corps.

-3-

3. 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.

4. Manatee Conditions: The Permittee shall comply with the “Standard Manatee Conditions for In-Water Work – 2011” (Attached).

5. Sea Turtle and Smalltooth Sawfish Conditions: The Permittee shall comply with National Marine Fisheries Service's “Sea Turtle and Smalltooth Sawfish Construction Conditions” dated March 23, 2006 (Attached).

6. Posting of Permit: The Permittee shall ensure that all contractors, sub-contractors, and entities associated with the implementation of the project review, understand, and comply with the approved plans and special conditions made part of this permit. The Permittee shall inform all parties associated with the activity of the construction area boundaries, and the location of adjacent *sea grass, corals, and hardbottom* to be avoided. Complete copies of the permit and approved plans shall be available at the construction site at all times. Failure to comply with the approved plans and permit special conditions may subject the Permittee to enforcement action.

7. Agency Changes/Approvals: Should any other agency require and/or approve changes to the work authorized or obligated by this permit, the Permittee is advised a re-verification to this permit instrument is required prior to initiation of those changes. It is the Permittee's responsibility to request a re-verification of this permit from the **Miami** Permits Section. The Corps reserves the right to fully evaluate, amend, and approve or deny the request for re-verification of this permit.

8. Historic Properties:

a. No structure or work shall adversely affect impact or disturb properties listed in the National Register of Historic Places (NRHP) or those eligible for inclusion in the NRHP.

b. If during the ground disturbing activities and construction work within the permit area, there are archaeological/cultural materials encountered which were not the subject of a previous cultural resources assessment survey (and which shall include, but not be limited to: pottery, modified shell, flora, fauna, human remains, ceramics,

-4-

stone tools or metal implements, dugout canoes, evidence of structures or any other physical remains that could be associated with Native American cultures or early colonial or American settlement), the Permittee shall immediately stop all work and ground-disturbing activities within a 100-meter diameter of the discovery and notify the Corps within the same business day (8 hours). The Corps shall then notify the Florida State Historic Preservation Officer (SHPO) and the appropriate Tribal Historic Preservation Officer(s) (THPO(s)) to assess the significance of the discovery and devise appropriate actions.

c. Additional cultural resources assessments may be required of the permit area in the case of unanticipated discoveries as referenced in accordance with the above Special Condition ; and if deemed necessary by the SHPO, THPO(s), or Corps, in accordance with 36 CFR 800 or 33 CFR 325, Appendix C (5). Based, on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend or revoke the permit in accordance with 33 CFR Part 325.7. Such activity shall not resume on non-federal lands without written authorization from the SHPO for finds under his or her jurisdiction, and from the Corps.

d. In the unlikely event that unmarked human remains are identified on non-federal lands, they will be treated in accordance with Section 872.05 Florida Statutes. All work and ground disturbing activities within a 100-meter diameter of the unmarked human remains shall immediately cease and the Permittee shall immediately notify the medical examiner, Corps, and State Archeologist within the same business day (8-hours). The Corps shall then notify the appropriate SHPO and THPO(s). Based, on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend or revoke the permit in accordance with 33 CFR Part 325.7. Such activity shall not resume without written authorization from the State Archeologist and from the Corps.

9. Turbidity Barriers: Prior to the initiation of any of the work authorized by this permit, the Permittee shall install floating turbidity barriers with weighted skirts that extend to within 1 foot of the bottom around all work areas that are in, or adjacent to, surface waters. The turbidity barriers shall remain in place and be maintained until the authorized work has been completed and all suspended and erodible materials have been stabilized. Turbidity barriers shall be removed upon stabilization of the work area.

10. Project Drawings: The project must be completed in accordance with the enclosed construction drawings (pages 1-10), date-stamped by the U.S. Army Corps of Engineers (Corps) on September 29, 2016, and the general and special conditions which are incorporated in, and made a part of, the permit.

-5-

This letter of authorization does not include conditions that would prevent the 'take' of a state-listed fish or wildlife species. These species are protected under sec. 379.411, Florida Statutes, and listed under Rule 68A-27, Florida Administrative Code. With regard to fish and wildlife species designated as species of special concern or threatened by the State of Florida, you are responsible for coordinating directly with the Florida Fish and Wildlife Conservation Commission (FWC). You can visit the FWC license and permitting webpage (<http://www.myfwc.com/license/wildlife/>) for more information, including a list of those fish and wildlife species designated as species of special concern or threatened. The Florida Natural Areas Inventory (<http://www.fnai.org/>) also maintains updated lists, by county, of documented occurrences of those species.

This letter of authorization does not give absolute Federal authority to perform the work as specified on your application. The proposed work may be subject to local building restrictions mandated by the National Flood Insurance Program. You should contact your local office that issues building permits to determine if your site is located in a flood-prone area, and if you must comply with the local building requirements mandated by the National Flood Insurance Program.

If you are unable to access the internet or require a hardcopy of any of the conditions, limitations, or expiration date for the above referenced NWP, please contact the project manager, Jessica Hogan, in writing at the letterhead address, by telephone at 305-779-6052, or by e-mail at Jessica.M.Hogan@usace.army.mil.

Thank you for your cooperation with our permit program. 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 complete our automated Customer Service Survey at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey. Please be aware this Internet address is case sensitive; and, you will need to enter it exactly as it appears above. Your input is appreciated – favorable or otherwise.

Sincerely,



Digitally signed by
HOGAN.JESSICA.M.1513506631
DN: c=US, o=U.S. Government,
ou=DoD, ou=PKI, ou=USA,
cn=HOGAN.JESSICA.M.1513506631
Date: 2016.10.05 09:02:12 -04'00'

Jessica Hogan
Project Manager

-6-

Enclosures:

General Conditions

Self-Certification Statement of Compliance

Permit Transfer Request

Site plans dated by the Corps September 29, 2016

FWS Standard Manatee Conditions for In-Water Work (2011)

NMFS Sea Turtle and Smalltooth Sawfish Construction Conditions (2006)

Copy/ies Furnished:

Tetra Tech, Inc. (Agent)

CESAJ-RD-PE

GENERAL CONDITIONS
33 CFR PART 320-330

1. The time limit for completing the work authorized ends on **March 18, 2017**.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow a representative 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.

DEPARTMENT OF THE ARMY PERMIT TRANSFER REQUEST

PERMIT NUMBER: SAJ-2016-00621 (NW-JMH)

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. Although the construction period for works authorized by Department of the Army permits is finite, the permit itself, with its limitations, does not expire.

To validate the transfer of this permit and the associated responsibilities associated with compliance with its terms and conditions, have the transferee sign and date below and mail to the U.S. Army Corps of Engineers, Enforcement Section, Post Office Box 4970, Jacksonville, FL 32232-0019.

(TRANSFEREE-SIGNATURE)

(SUBDIVISION)

(DATE)

(LOT)

(BLOCK)

(NAME-PRINTED)

(STREET ADDRESS)

(MAILING ADDRESS)

(CITY, STATE, ZIP CODE)

SELF-CERTIFICATION STATEMENT OF COMPLIANCE

Permit Number: NW-3
Application Number: SAJ-2016-00621

Permittee's Name & Address (please print or type): _____

Telephone Number: _____

Location of the Work: _____

Date Work Started: _____ Date Work Completed: _____

PROPERTY IS INACCESSIBLE WITHOUT PRIOR NOTIFICATION: YES _____ NO _____

TO SCHEDULE AN INSPECTION PLEASE CONTACT _____
AT _____

Description of the Work (e.g. bank stabilization, residential or commercial filling, docks,
dredging,
etc.): _____

Acreage or Square Feet of Impacts to Waters of the United States: _____

Describe Mitigation completed (if applicable): _____

Describe any Deviations from Permit (attach drawing(s) depicting the deviations):

I certify that all work, and mitigation (if applicable) was done in accordance with the limitations and conditions as described in the permit. Any deviations as described above are depicted on the attached drawing(s).

Signature of Permittee

Date

CITY OF KEY WEST TRUMAN ANNEX SEAWALL RESTORATION



VICINITY MAP

TRUMAN ANNEX SEAWALL, KEY WEST, FLORIDA

INDEX OF SHEETS

SHEET #	TITLE	LATEST UPDATE	REV.
G-001	COVER SHEET AND VICINITY MAP	6/23/16	0
G-002	EXISTING CONDITIONS SURVEY	6/23/16	0
C-101	DEMOLITION ACTIVITIES	6/23/16	0
C-102	EXCAVATION ACTIVITIES	6/23/16	0
C-103	PROPOSED SHEETPILE SEAWALL INSTALLATION	6/23/16	0
C-104	SEAWALL CROSS-SECTIONS	6/23/16	0
C-105	SEAWALL CROSS-SECTIONS	6/23/16	0
C-106	SEAWALL CROSS-SECTIONS	6/23/16	0
C-107	SEAWALL CAP CORNER DETAIL	6/23/16	0

REFERENCE

FDEP FILE NO. 44-0341846-001-EE, MONROE COUNTY
ACOE FILE NO. SAJ-2016-00621 (NW-GCM) PENDING
NOAA - PENDING



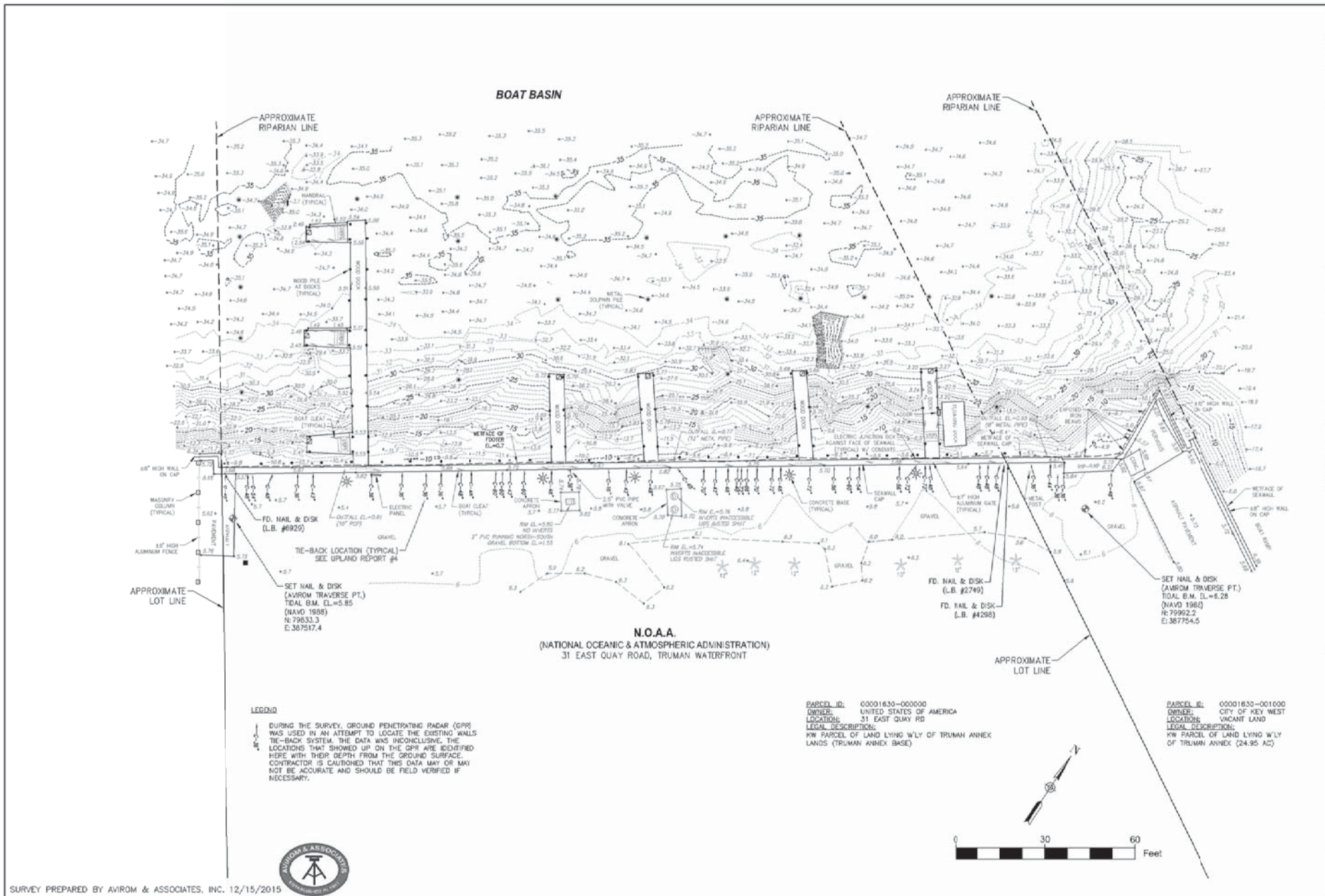
Shaunt E. McGinnis
Florida PE No. 67536


Revised By:	Checked By:	Reviewed By:	Scale:	Date:	Appr.:

TETRA TECH INC.
259 SOUTH FEDERAL HWY
SUITE 101
STUART, FL 34984-2936
TEL: (772) 381-3411
FAX: (772) 381-3411
CERTIFICATE OF AUTHORIZATION
NO. 2105

**CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION
COVER SHEET AND VICINITY MAP
KEY WEST, MONROE COUNTY, FLORIDA**

Sheet Reference:
G-001
Sheet 1 of 9






CITY OF KEY WEST
 FLORIDA

<p>Prepared By: AVIROM & ASSOCIATES, INC. Drawn By: AVIROM & ASSOCIATES, INC. Checked By: AVIROM & ASSOCIATES, INC. Reviewed By: AVIROM & ASSOCIATES, INC. Date: 12/15/2015 Scale: AS SHOWN</p>	<p>Project: TRUMAN ANNEX SEAWALL RESTORATION Title: EXISTING CONDITIONS SURVEY Date: 12/15/2015 Scale: AS SHOWN</p>
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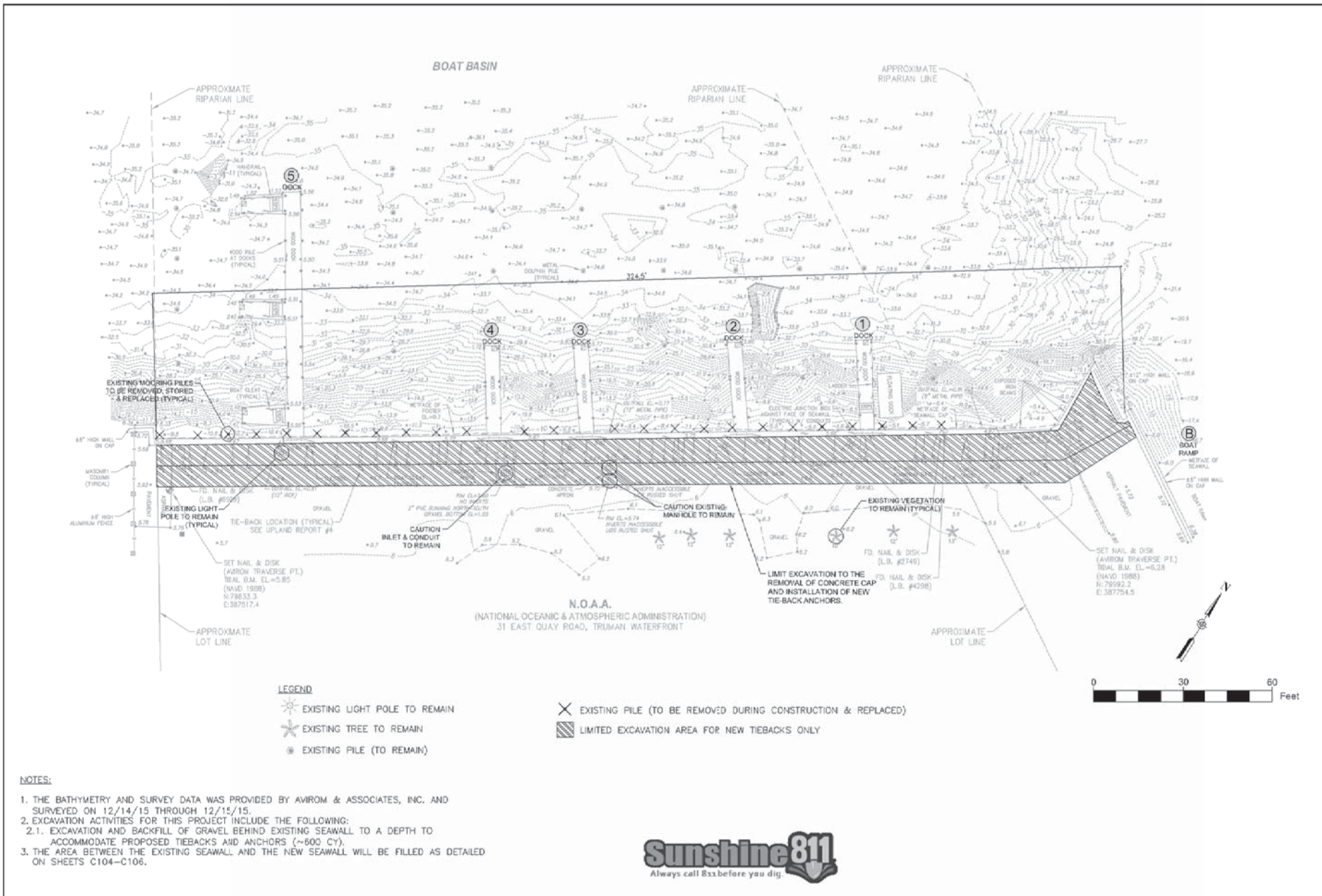
TETRA TECH INC.
 259 SOUTH FEDERAL HWY
 SUITE 100
 MIAMI, FL 33130
 TEL: (772) 381-3411
 FAX: (772) 381-3411
 CERTIFICATE OF AUTHORIZATION
 NO. 2105



CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION
 EXISTING CONDITIONS SURVEY

KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
G-002
 Sheet 2 of 9



City of Key West
Truman Annex Seawall
Excavation Activities
Sheet Reference: C-102
Sheet 4 of 9

No.	Description	Date	Rev

Designed By: S. PUGH
Checked By: P. WATKINS
Reviewed By: J. HARRIS
Date: 09/29/16
Scale: AS SHOWN

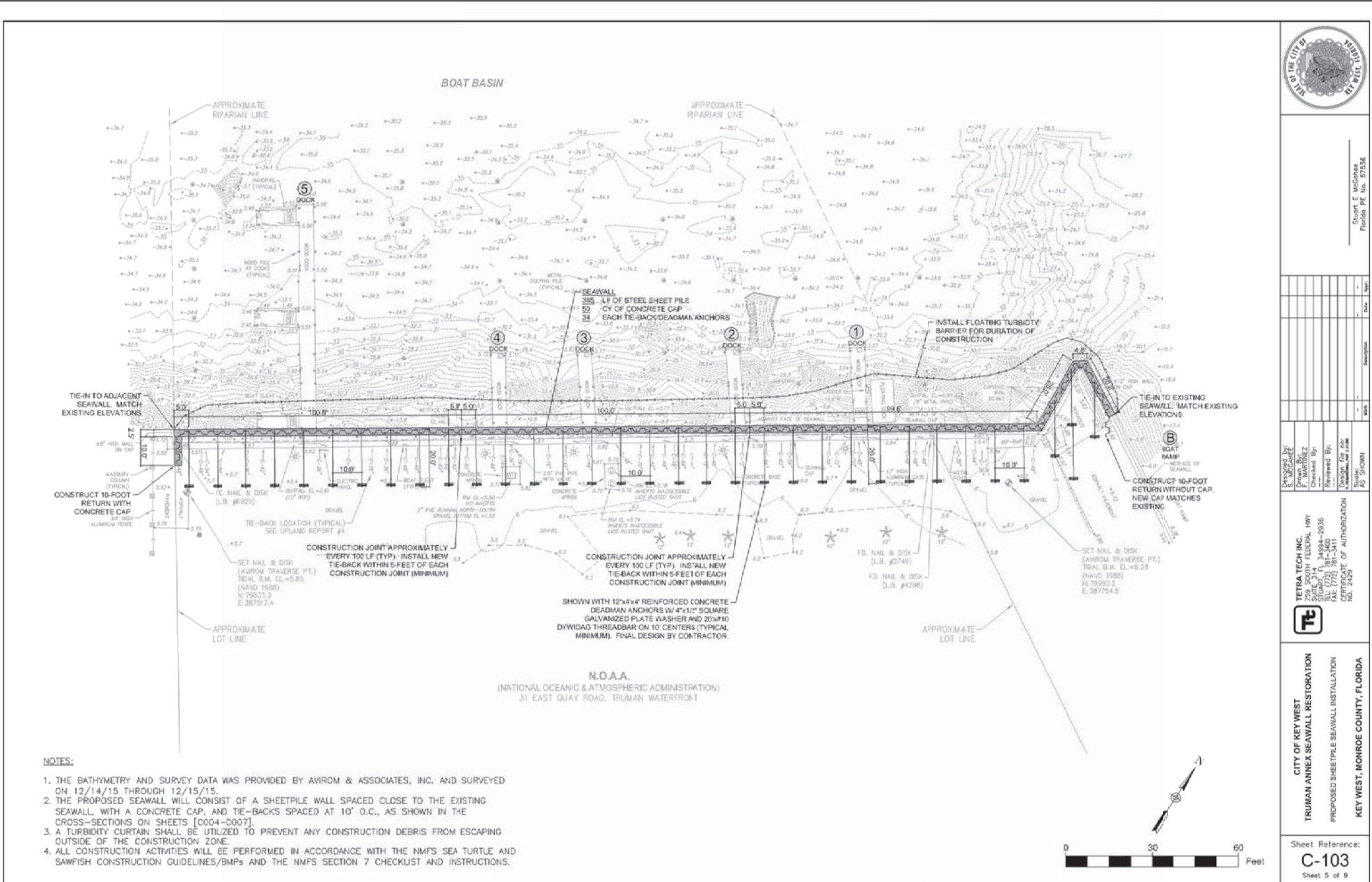
RETRA TECH INC.
16600 HWY 1
SUITE 204
KEY WEST, FL 34606
TEL: (305) 851-4400
FAX: (305) 851-4411
www.retra.com
NO. 2429



CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION
EXCAVATION ACTIVITIES
KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
C-102
Sheet 4 of 9





Sheet: 14 of 25
Project: Truman Annex Seawall Repair

No.	Description	Date	Rev

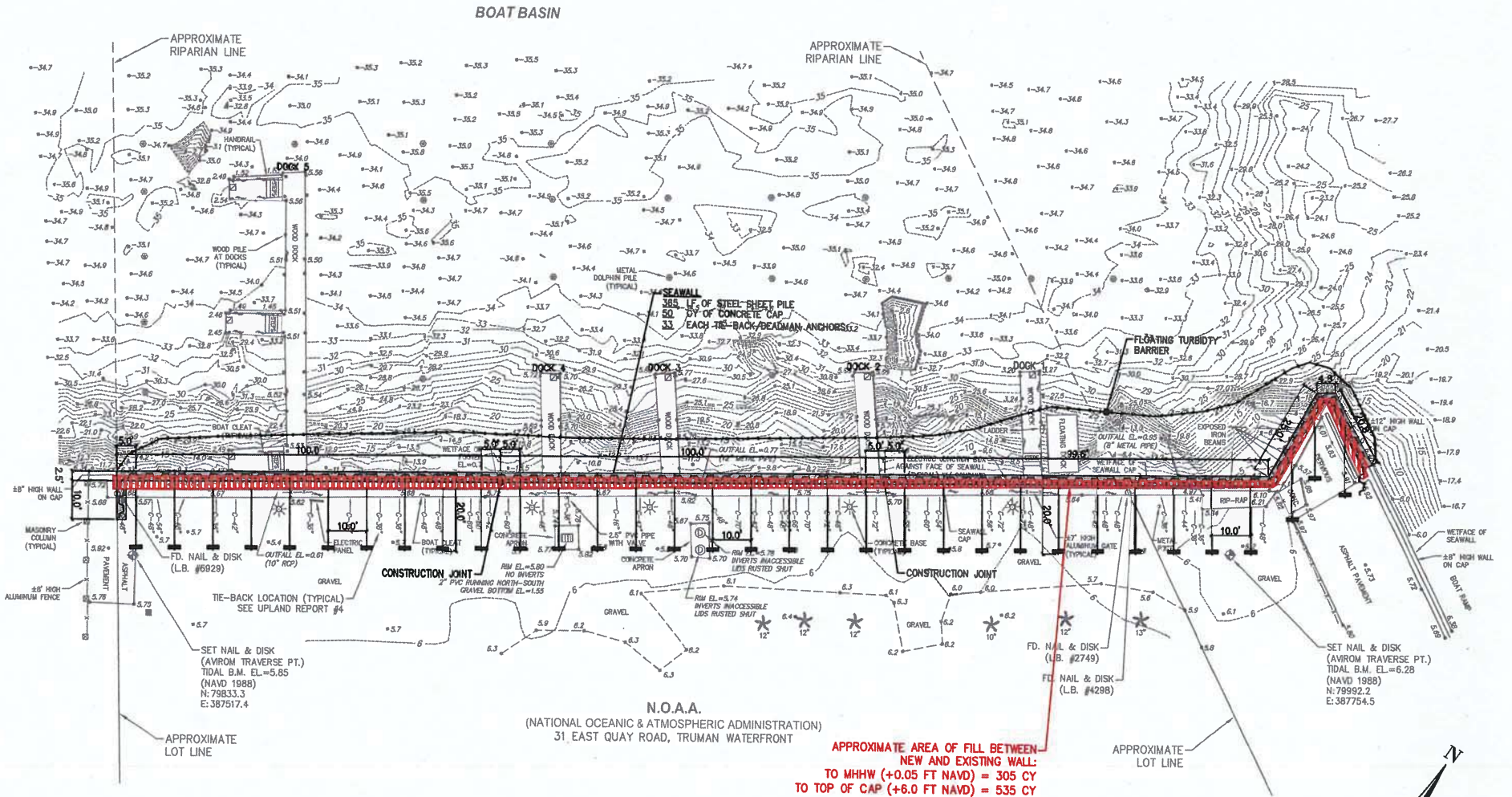
Designed By: S. P. WATKINS
Checked By: P. WATKINS
Reviewed By: P. WATKINS
Date: 09/29/16
Scale: AS SHOWN

RETRA TECH INC.
1500 S. W. 10th St.
Suite 204
Key West, FL 33440
Tel: (305) 281-5400
Fax: (305) 281-5411
www.retra.com
NO. 2429

TE

CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION
PROPOSED SHEETPILE SEAWALL INSTALLATION
KEY WEST, MONROE COUNTY, FLORIDA

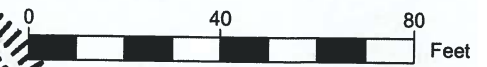
Sheet Reference:
C-103
Sheet 5 of 9



APPROXIMATE AREA OF FILL BETWEEN
NEW AND EXISTING WALL:
TO MHHW (+0.05 FT NAVD) = 305 CY
TO TOP OF CAP (+6.0 FT NAVD) = 535 CY

NOTES:

1. THE BATHYMETRY AND SURVEY DATA WAS PROVIDED BY AVIROM & ASSOCIATES, INC. AND SURVEYED ON 12/14/15 THROUGH 12/15/15.
2. THE PROPOSED SEAWALL WILL CONSIST OF A SHEETPILE WALL SPACED CLOSE TO THE EXISTING SEAWALL, WITH A CONCRETE CAP, AND TIE-BACKS SPACED AT 10' O.C., AS SHOWN IN THE CROSS-SECTIONS ON SHEETS [P005-P010].
3. A TURBIDITY CURTAIN SHALL BE UTILIZED TO PREVENT ANY CONSTRUCTION DEBRIS FROM ESCAPING OUTSIDE OF THE CONSTRUCTION ZONE.
4. ALL CONSTRUCTION ACTIVITIES WILL BE PERFORMED IN ACCORDANCE WITH THE NMFS SEA TURTLE AND SAWFISH CONSTRUCTION GUIDELINES/BMPs AND THE NMFS SECTION 7 CHECKLIST AND INSTRUCTIONS.



FOR PERMITTING PURPOSES ONLY



CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION

PROPOSED SHEETPILE SEAWALL DESIGN

KEY WEST, MONROE COUNTY, FLORIDA

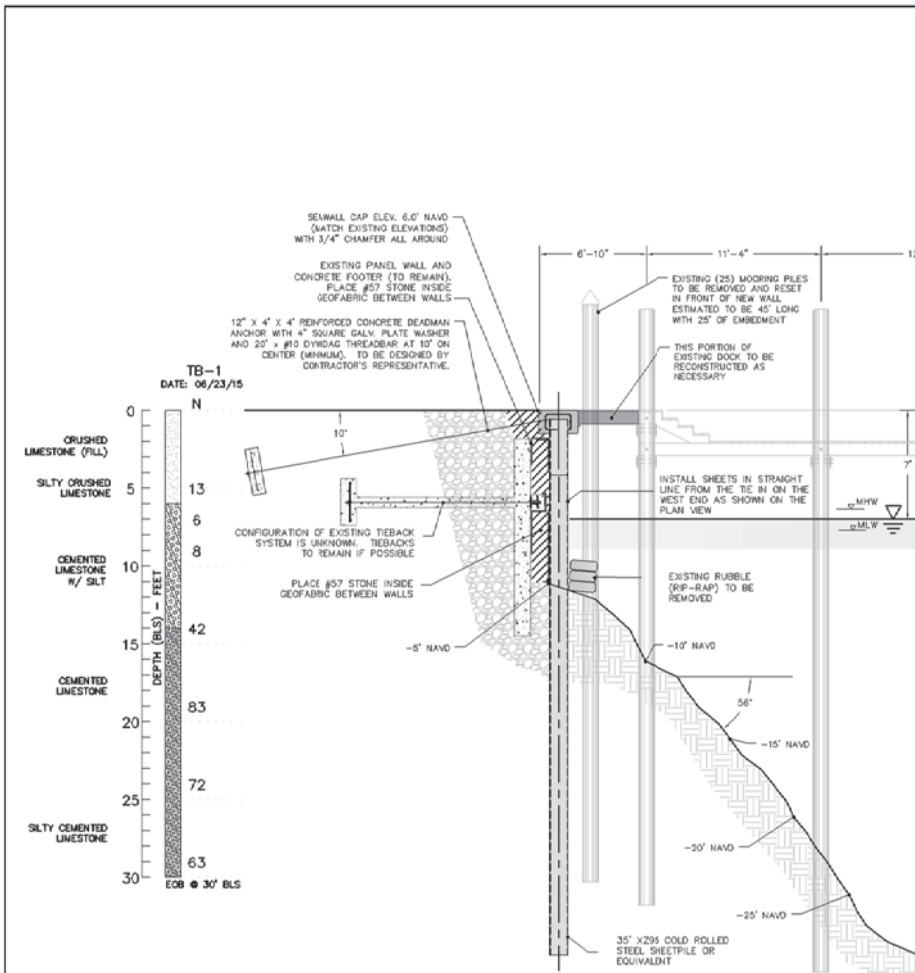
TETRA TECH INC.
759 SOUTH FEDERAL HWY
SUITE 314
STUART, FL 34994-2936
TEL: (772) 781-3400
FAX: (772) 781-3411

CERTIFICATE OF AUTHORIZATION
NO. 2429

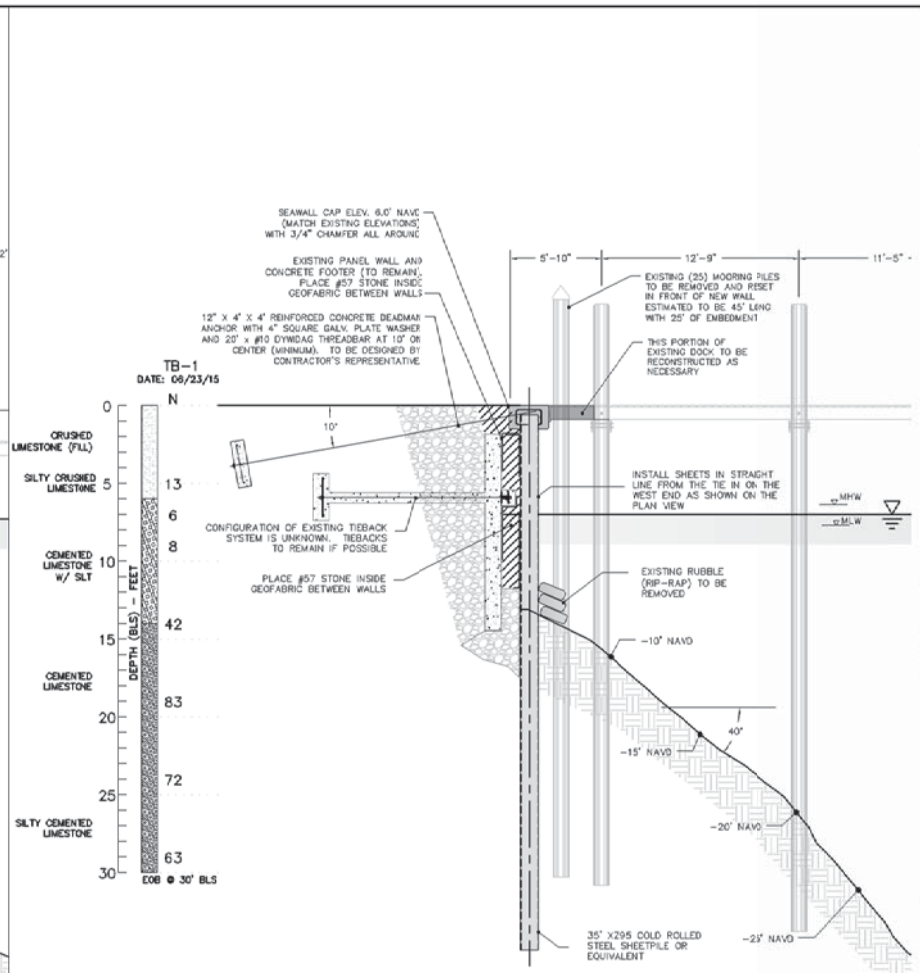
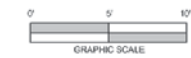
Designed by:
S. MCGAHEE
Drawn By:
F. MARTINEZ
Checked By:
Reviewed By:

Design file no:
TT_TRUMANSEAWALL_PART_2_V5.DWG
Scale:
AS SHOWN

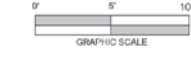
Sheet Reference:
P-004B



**CROSS SECTION
STEEL SHEETPILE WITH TIE BACKS
NEAR DOCK 1**



**CROSS SECTION
STEEL SHEETPILE WITH TIE BACKS
NEAR DOCK 2**



City of Key West
Seawall Repair, No. 271016

No.	Description	Date	By

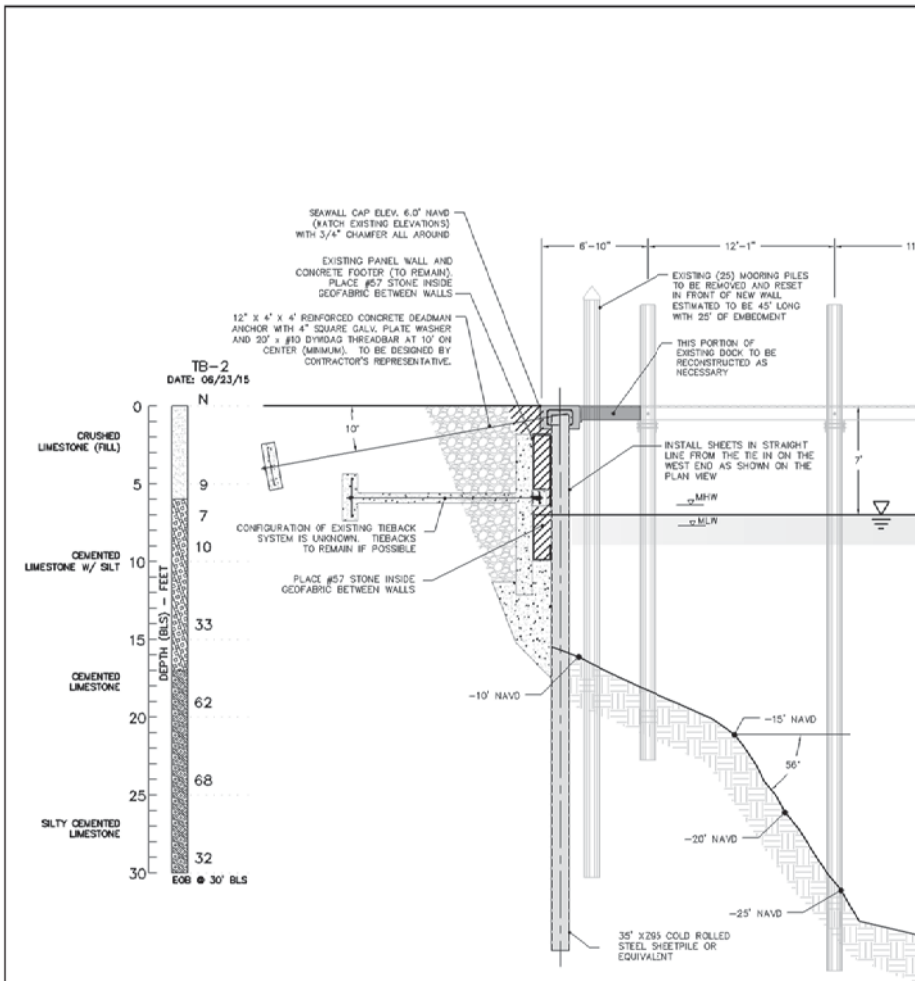
Designed By: S. P. ...
Checked By: P. ...
Reviewed By: ...
Prepared For: ...
Date: 06/23/15

TERRA TECH INC.
16600A HWY
SUITE 214
TALLahassee, FL 32309
TEL: (772) 781-5400
FAX: (772) 781-5411
www.terra-tech.com
NO. 2429

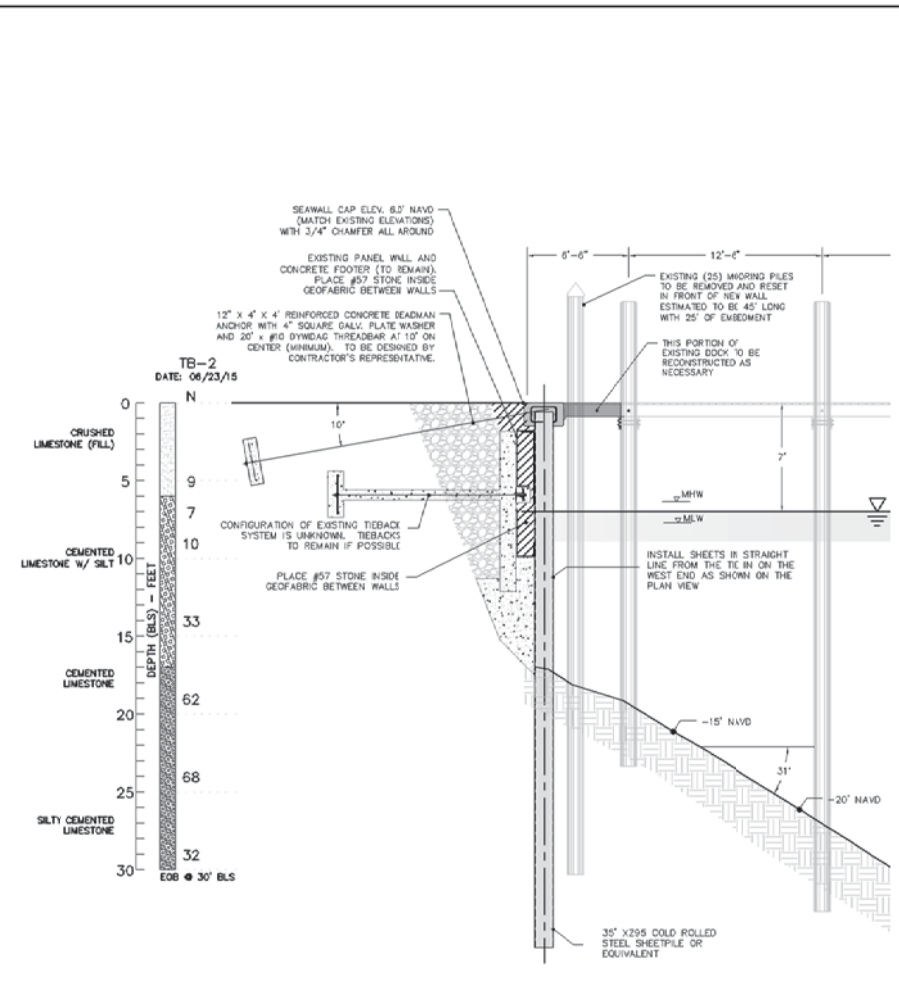
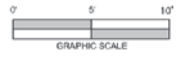


CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION
SEAWALL CROSS SECTIONS
KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
C-104
Sheet 6 of 9



**CROSS SECTION
STEEL SHEETPILE WITH TIE BACKS
NEAR DOCK 3**



**CROSS SECTION
STEEL SHEETPILE WITH TIE BACKS
NEAR DOCK 4**



City of Key West
Seawall Cross Sections
Key West, Monroe County, Florida

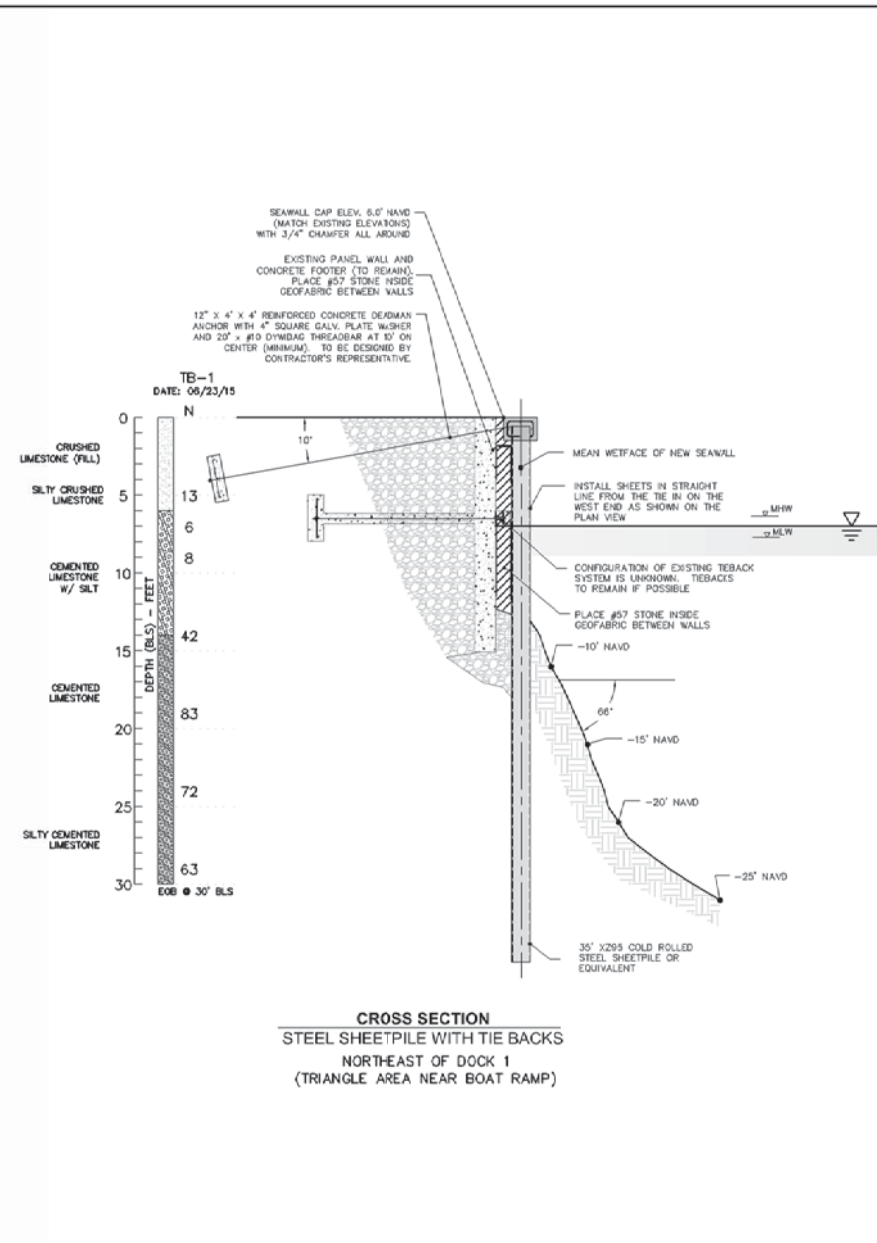
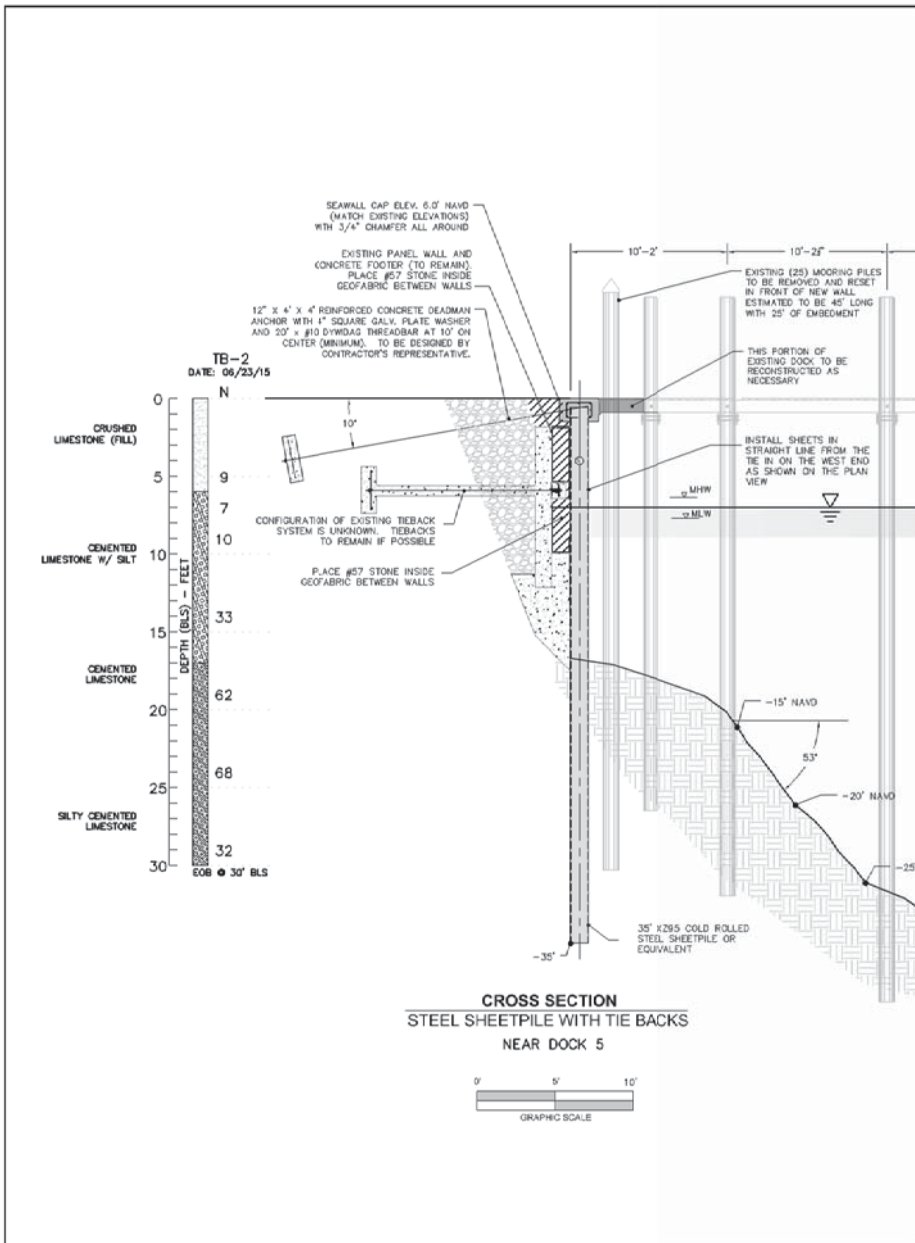
Revised By	Checked By	Reviewed By	Approved By	Date	Description
S. W. [unclear]	P. W. [unclear]	[unclear]	[unclear]		

DESIGNED BY: S. W. [unclear]
 CHECKED BY: P. W. [unclear]
 REVIEWED BY: [unclear]
 APPROVED BY: [unclear]
 DATE: 06/23/15



TETRA TECH INC.
 100 SOUTH MIAMI AVENUE, SUITE 2014
 MIAMI, FL 33130
 TEL: (772) 781-5400
 FAX: (772) 781-5411
 WWW.TETRA-TECH.COM
 AUTHORIZATION NO. 2429

Sheet Reference:
C-105
Sheet 7 of 9



City of Key West
Seawall Repair
Project No. 2016-06

No.	Description	Date	Rev.

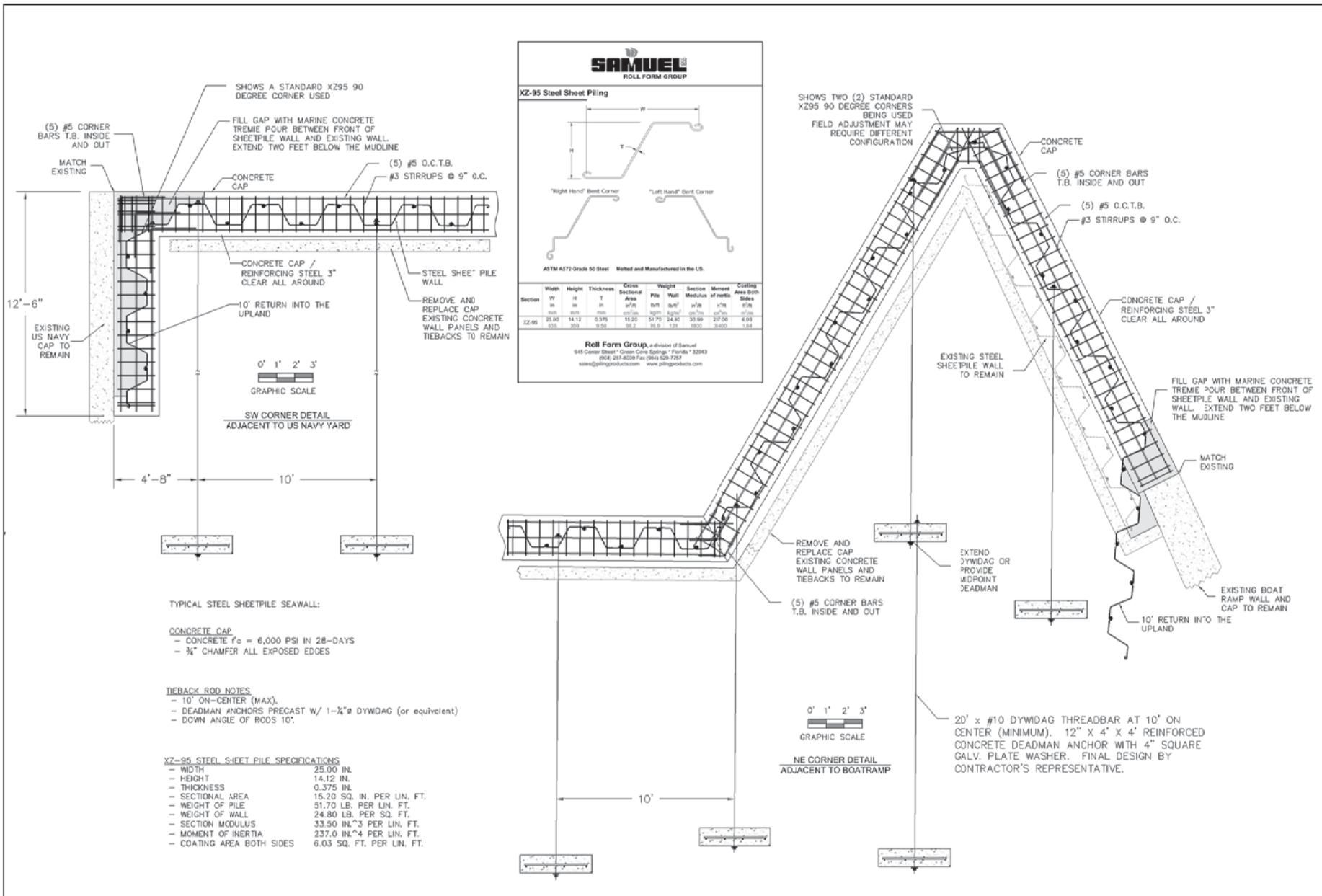
Designed By: S. S. SANCHEZ
Checked By: P. MARTINEZ
Reviewed By: J. SANCHEZ
Date: 06/23/15
Project No. 2016-06

RETRA TECH INC.
16600 SW 15th St
Suite 204
Miami, FL 33187
Tel: (772) 781-5400
Fax: (772) 781-5411
www.retra.com
NO. 2029



CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION
SEAWALL CROSS SECTIONS
KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
C-106
Sheet 8 of 9



CITY OF KEY WEST

TRUMAN ANNEX SEAWALL RESTORATION

SEAWALL CAP CORNER DETAIL

KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
C-107
Sheet 9 of 9

DESIGNED BY: S. WATKINS
CHECKED BY: P. WATKINS
REVIEWED BY: [Signature]
DATE: 10/20/16

RETRA TECH INC.
15600 SW 14th St., Suite 204
Miami, FL 33187
TEL: (772) 781-5400
FAX: (772) 781-5411
www.retra.com

APPROVED BY: [Signature]
DATE: 10/20/16

STANDARD MANATEE CONDITIONS FOR IN-WATER WORK 2011

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 Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 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) for south Florida, and to FWC at ImperiledSpecies@myFWC.com
- 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. Temporary signs that have already been approved for this use by the FWC must be used. One sign which reads *Caution: Boaters* must be posted. A second sign measuring at least 8 ½" 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. These signs can be viewed at MyFWC.com/manatee. Questions concerning these signs can be sent to the email address listed above.

CAUTION: MANATEE HABITAT

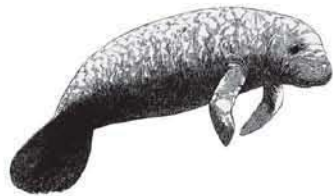
All project vessels

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



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:

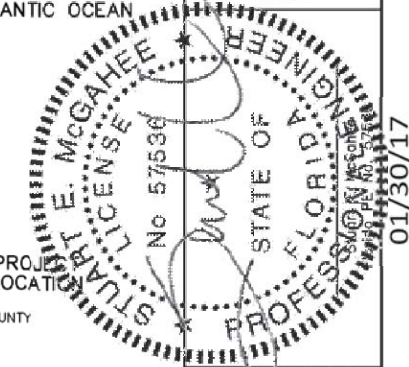
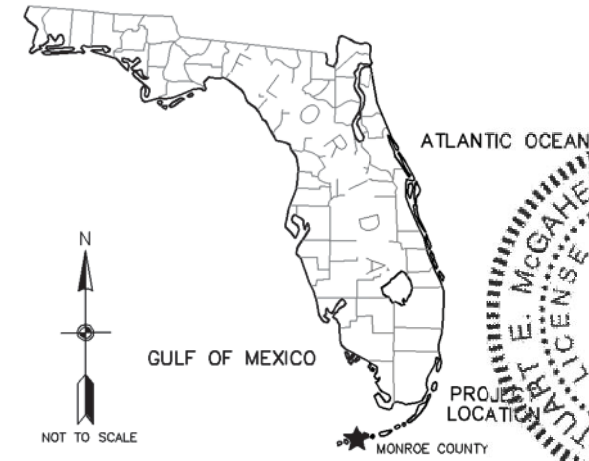
- a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these 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

O:\forms\Sea Turtle and Smalltooth Sawfish Construction Conditions.doc



CITY OF KEY WEST TRUMAN ANNEX SEAWALL RESTORATION CONCEPTUAL DRAWINGS



PROJECT LOCATION

VICINITY MAP

TRUMAN ANNEX SEAWALL, KEY WEST, FLORIDA

INDEX OF SHEETS

SHEET #	TITLE	LATEST UPDATE	REV.
G-001	COVER SHEET AND VICINITY MAP	12/16/16	2
G-002	CONSTRUCTION NOTES	12/16/16	2
G-003	EXISTING CONDITIONS SURVEY	12/16/16	2
G-004	PROPERTY SURVEY	12/16/16	2
C-101	DEMOLITION ACTIVITIES	12/16/16	2
C-102	EXCAVATION ACTIVITIES	12/16/16	2
C-103	PROPOSED SHEETPILE SEAWALL INSTALLATION	12/16/16	2
C-104	PROPOSED SHEETPILE SEAWALL INSTALLATION	12/16/16	2
C-105	SEAWALL CROSS-SECTIONS NEAR DOCK 1	12/16/16	2
C-106	SEAWALL CROSS-SECTIONS NEAR DOCK 2	12/16/16	2
C-107	SEAWALL CROSS-SECTIONS NEAR DOCK 3	12/16/16	2
C-108	SEAWALL CROSS-SECTIONS NEAR DOCK 4	12/16/16	2
C-109	SEAWALL CROSS-SECTIONS NEAR DOCK 5	12/16/16	2
C-110	SEAWALL CROSS-SECTIONS NE OF DOCK 1	12/16/16	2
C-111	SEAWALL CAP CORNER DETAILS	12/16/16	2
C-112	SEAWALL CAP CORNER DETAILS	12/16/16	2
U-201	WATER UTILITY CONNECTION	12/16/16	2
U-202	ELECTRICAL UTILITY CONNECTION	12/16/16	2

REFERENCE

FDEP FILE NO. 44-0341846-001-EE, MONROE COUNTY
 ACOE FILE NO. SAJ-2016-00621 (NW-GGM) / SER-2016-18029
 NOAA - PENDING

**FOR BIDDING
PURPOSES ONLY**

Mark	Description	Date	Rev.

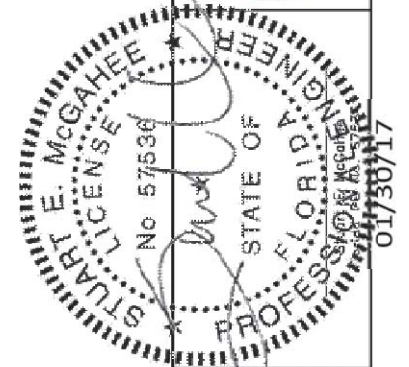
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 Drawn By: C. MARTINEZ
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 Design file no: [Signature]
 Scale: AS SHOWN



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 SUITE 314 34894-2936
 MIAMI, FL 33100
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 FAX: (772) 781-3411
 CERTIFICATE OF AUTHORIZATION
 NO. 2429

**CITY OF KEY WEST
 TRUMAN ANNEX SEAWALL RESTORATION
 COVER SHEET AND VICINITY MAP
 KEY WEST, MONROE COUNTY, FLORIDA**

Sheet Reference:
G-001
 Sheet 1 of 18



Date	Description	Mark

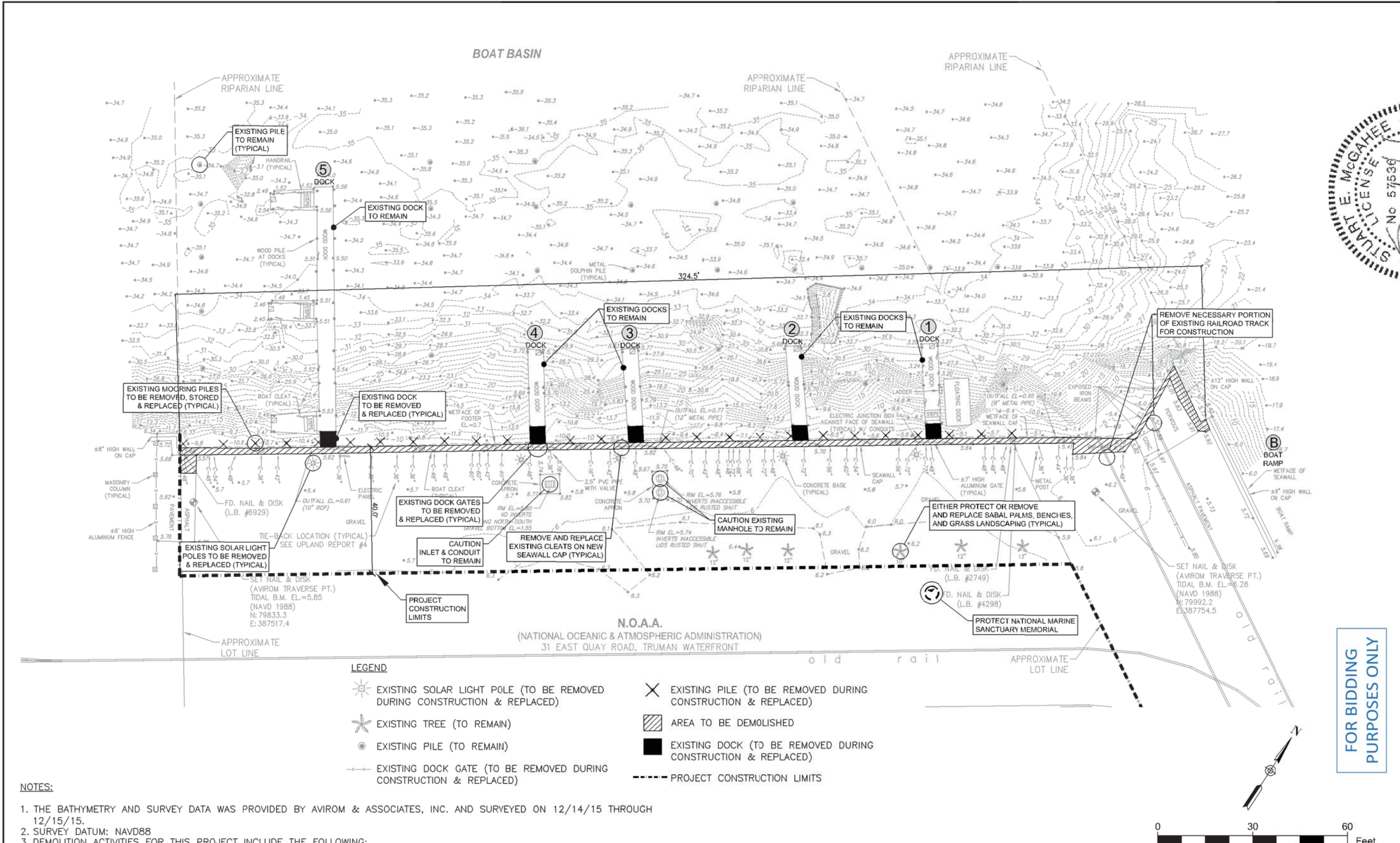
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CITY OF KEY WEST
 TRUMAN ANNEX SEAWALL RESTORATION
 DEMOLITION ACTIVITIES
 KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
C-101
 Sheet 5 of 18



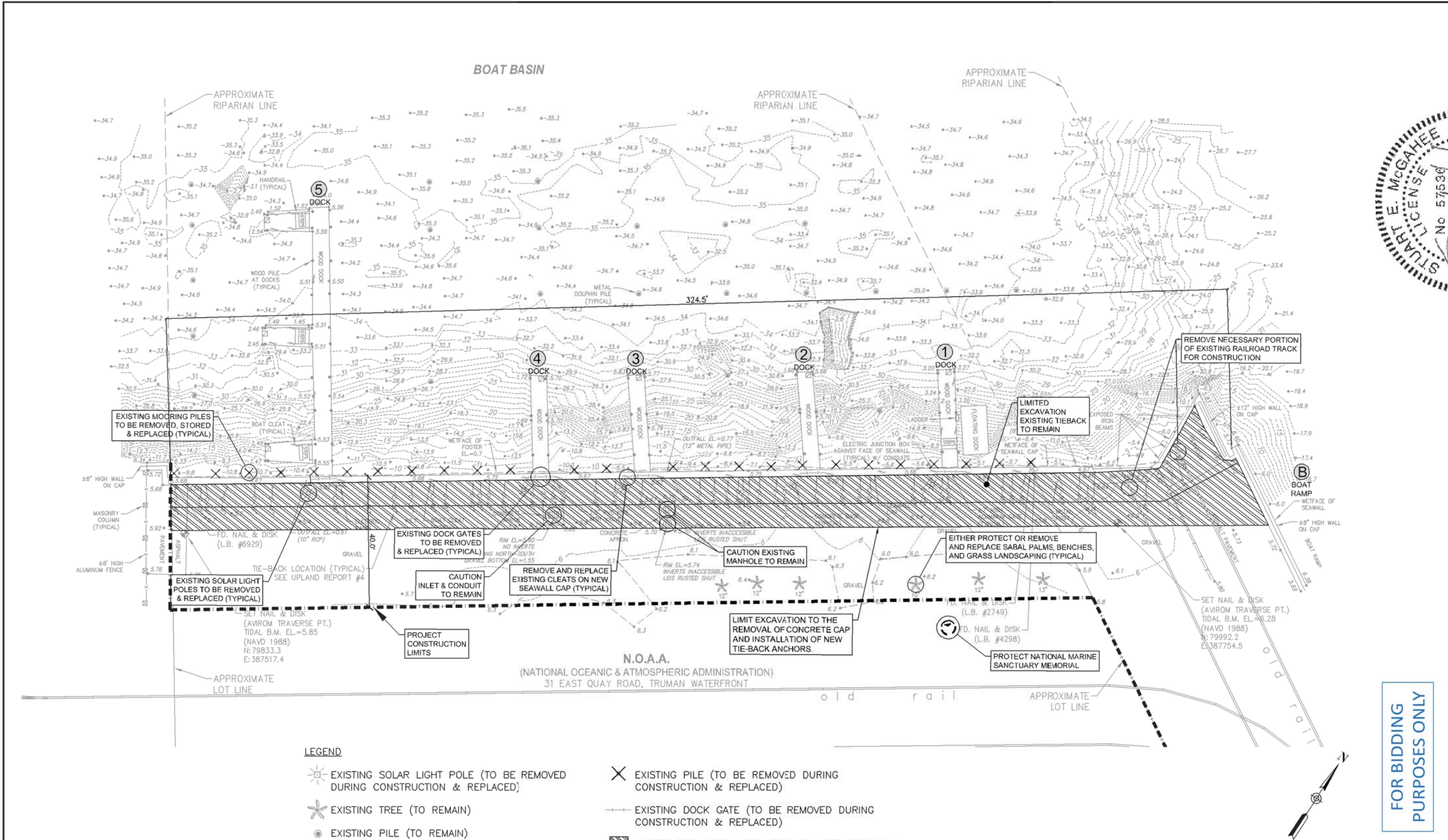
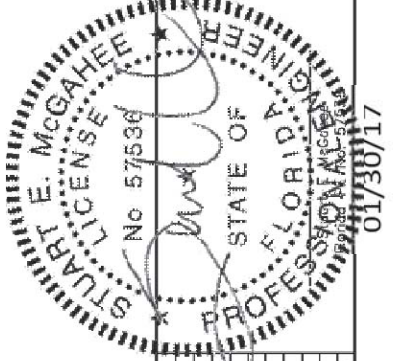
LEGEND

EXISTING SOLAR LIGHT POLE (TO BE REMOVED DURING CONSTRUCTION & REPLACED)	EXISTING PILE (TO BE REMOVED DURING CONSTRUCTION & REPLACED)
EXISTING TREE (TO REMAIN)	AREA TO BE DEMOLISHED
EXISTING PILE (TO REMAIN)	EXISTING DOCK (TO BE REMOVED DURING CONSTRUCTION & REPLACED)
EXISTING DOCK GATE (TO BE REMOVED DURING CONSTRUCTION & REPLACED)	PROJECT CONSTRUCTION LIMITS

- NOTES:**
1. THE BATHYMETRY AND SURVEY DATA WAS PROVIDED BY AVIROM & ASSOCIATES, INC. AND SURVEYED ON 12/14/15 THROUGH 12/15/15.
 2. SURVEY DATUM: NAVD88
 3. DEMOLITION ACTIVITIES FOR THIS PROJECT INCLUDE THE FOLLOWING:
 - 3.1. REMOVAL OF THE CONCRETE SEAWALL CAP ALONG THE FULL LENGTH OF THE WALL (~700 SF).
 - 3.2. REMOVAL OF PORTIONS OF WOOD DOCKS #1-5 FROM THE EXISTING SEAWALL TO THE FIRST SUPPORT PILES (~122 SF).
 - 3.3. REMOVAL AND STORAGE OF ALL WOOD PILES IN FRONT OF THE EXISTING SEAWALL (25 PILES).
 - 3.4. CONTRACTOR SHOULD PLAN TO REMOVE AND REPLACE THE SOLAR LIGHTS (5) DURING CONSTRUCTION PROCESS.
 - 3.5. CONTRACTOR SHOULD USE A SAWS-ALL TO REMOVE AND STORE THE EXISTING DOCK ACCESS GATES. WELD NEW 6" x 1/4" ALUMINUM MOUNTING PLATES WITH (4) 1/2" HOLES EACH PLATE. REMOUNT TO NEW CAP CENTERED ON EXISTING DOCKS WITH (4) 3/8" x 4" STAINLESS STEEL EPOXY ANCHORS. EXISTING BOTTOM CLEARANCE FROM THE SEAWALL TO REMAIN THE SAME. MOUNT GATES 8" FROM THE WET FACE OF THE NEW CAP.



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CITY OF KEY WEST
 TRUMAN ANNEX SEAWALL RESTORATION
 EXCAVATION ACTIVITIES
 KEY WEST, MONROE COUNTY, FLORIDA

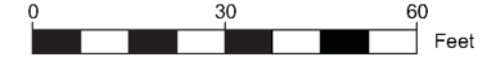
Sheet Reference:
C-102
 Sheet 6 of 18

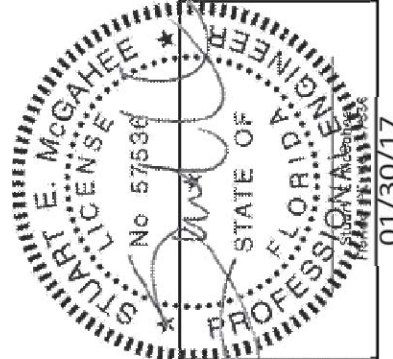
LEGEND

- EXISTING SOLAR LIGHT POLE (TO BE REMOVED DURING CONSTRUCTION & REPLACED)
- EXISTING TREE (TO REMAIN)
- EXISTING PILE (TO REMAIN)
- EXISTING PILE (TO BE REMOVED DURING CONSTRUCTION & REPLACED)
- EXISTING DOCK GATE (TO BE REMOVED DURING CONSTRUCTION & REPLACED)
- LIMITED EXCAVATION AREA FOR NEW TIEBACKS ONLY

NOTES:

1. THE BATHYMETRY AND SURVEY DATA WAS PROVIDED BY AVIROM & ASSOCIATES, INC. AND SURVEYED ON 12/14/15 THROUGH 12/15/15.
2. SURVEY DATUM: NAVD88
3. EXCAVATION ACTIVITIES FOR THIS PROJECT INCLUDE THE FOLLOWING:
 - 3.1. EXCAVATION AND BACKFILL OF GRAVEL BEHIND EXISTING SEAWALL TO A DEPTH TO ACCOMMODATE PROPOSED TIEBACKS AND ANCHORS (~700 CY).
4. THE AREA BETWEEN THE EXISTING SEAWALL AND THE NEW SEAWALL WILL BE FILLED AS DETAILED ON SHEETS C-105 THROUGH C-110.





01/30/17

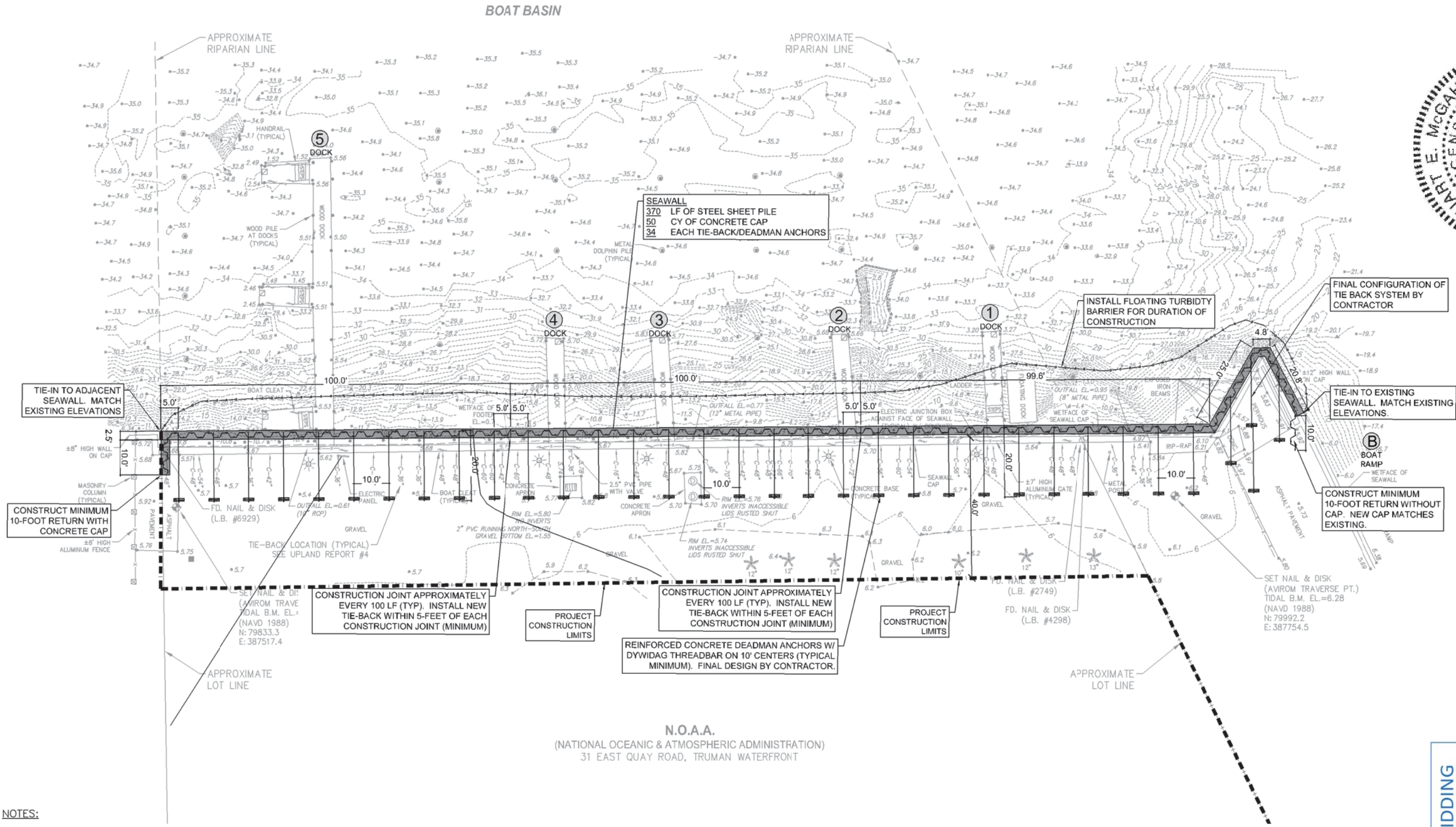


Fig.	Description	Date

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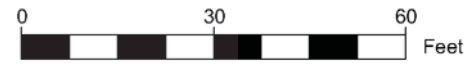
CITY OF KEY WEST
 TRUMAN ANNEX SEAWALL RESTORATION
 PROPOSED SHEETPILE SEAWALL INSTALLATION
 KEY WEST, MONROE COUNTY, FLORIDA

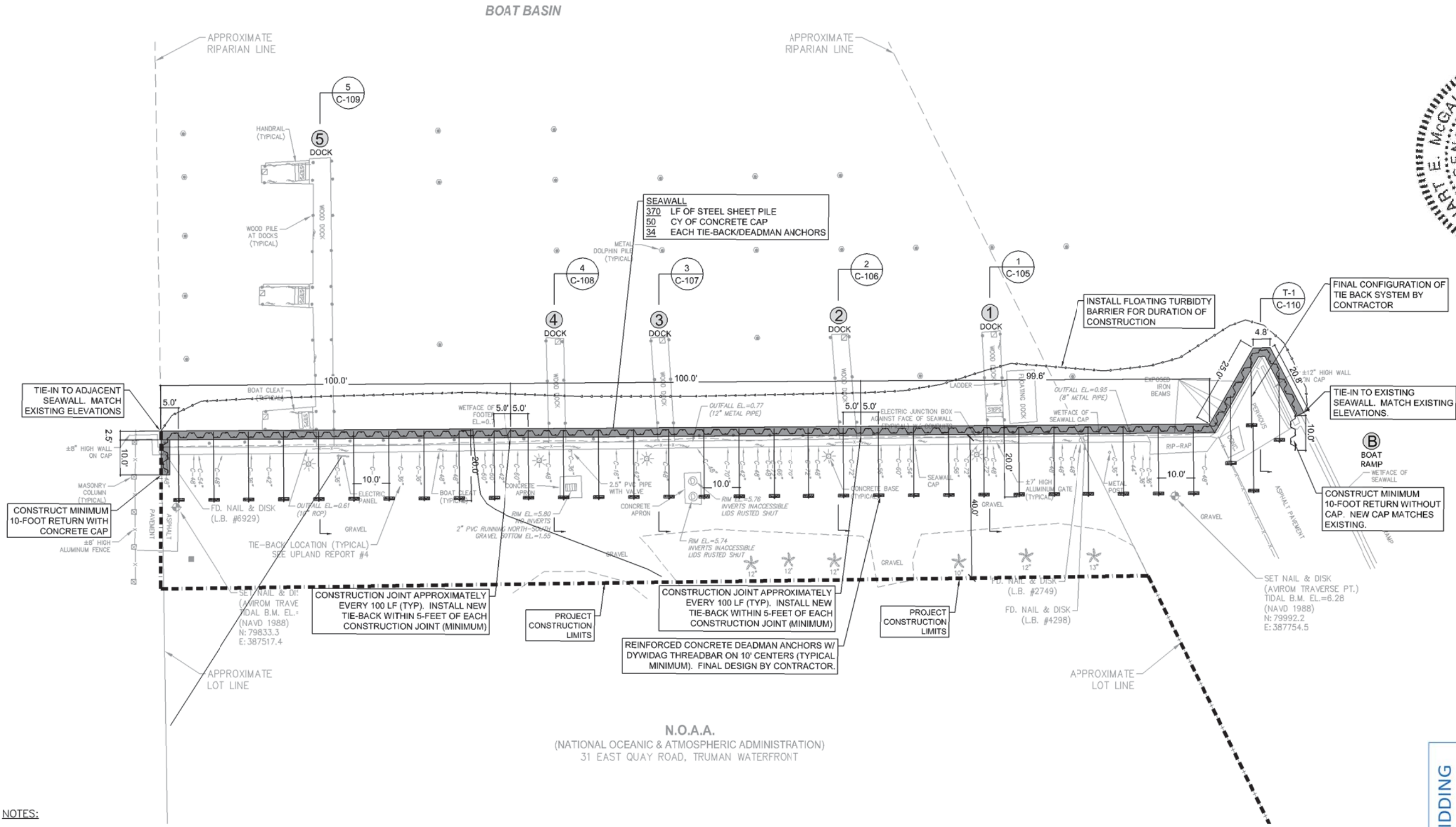
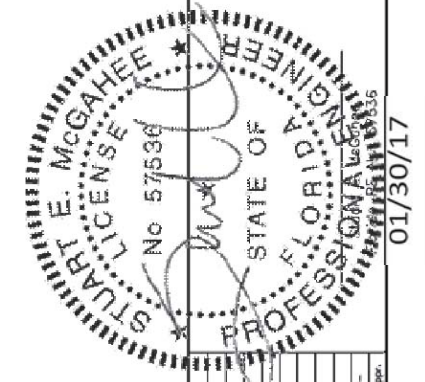
Sheet Reference:
C-103
 Sheet 7 of 18

- NOTES:**
1. THE BATHYMETRY AND SURVEY DATA WAS PROVIDED BY AVIROM & ASSOCIATES, INC. AND SURVEYED ON 12/14/15 THROUGH 12/15/15.
 2. SURVEY DATUM: NAVD88
 3. THE PROPOSED SEAWALL WILL CONSIST OF A SHEETPILE WALL SPACED CLOSE TO THE EXISTING SEAWALL, WITH A CONCRETE CAP, AND TIE-BACKS SPACED AT 10' O.C. MINIMUM. FINAL TIE BACK CONFIGURATION BY CONTRACTOR. CONTRACTOR SHALL PROVIDE SHOP DRAWING WITH PROPOSED CONFIGURATION.
 4. A TURBIDITY CURTAIN SHALL BE UTILIZED TO PREVENT ANY CONSTRUCTION DEBRIS FROM ESCAPING OUTSIDE OF THE CONSTRUCTION ZONE.
 5. ALL CONSTRUCTION ACTIVITIES WILL BE PERFORMED IN ACCORDANCE WITH THE NMFS SEA TURTLE AND SAWFISH CONSTRUCTION GUIDELINES/BMPs AND THE NMFS SECTION 7 CHECKLIST AND INSTRUCTIONS.

N.O.A.A.
 (NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION)
 31 EAST QUAY ROAD, TRUMAN WATERFRONT

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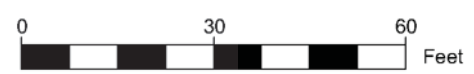


NOTES:

1. THE BATHYMETRY AND SURVEY DATA WAS PROVIDED BY AVIROM & ASSOCIATES, INC. AND SURVEYED ON 12/14/15 THROUGH 12/15/15.
2. SURVEY DATUM: NAVD88
3. THE PROPOSED SEAWALL WILL CONSIST OF A SHEETPILE WALL SPACED CLOSE TO THE EXISTING SEAWALL, WITH A CONCRETE CAP, AND TIE-BACKS SPACED AT 10' O.C. MINIMUM. FINAL TIE BACK CONFIGURATION BY CONTRACTOR. CONTRACTOR SHALL PROVIDE SHOP DRAWING WITH PROPOSED CONFIGURATION.
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N.O.A.A.
(NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION)
31 EAST QUAY ROAD, TRUMAN WATERFRONT

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CITY OF KEY WEST
 TRUMAN ANNEX SEAWALL RESTORATION
 PROPOSED SHEETPILE SEAWALL INSTALLATION
 KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
C-104
 Sheet 8 of 18

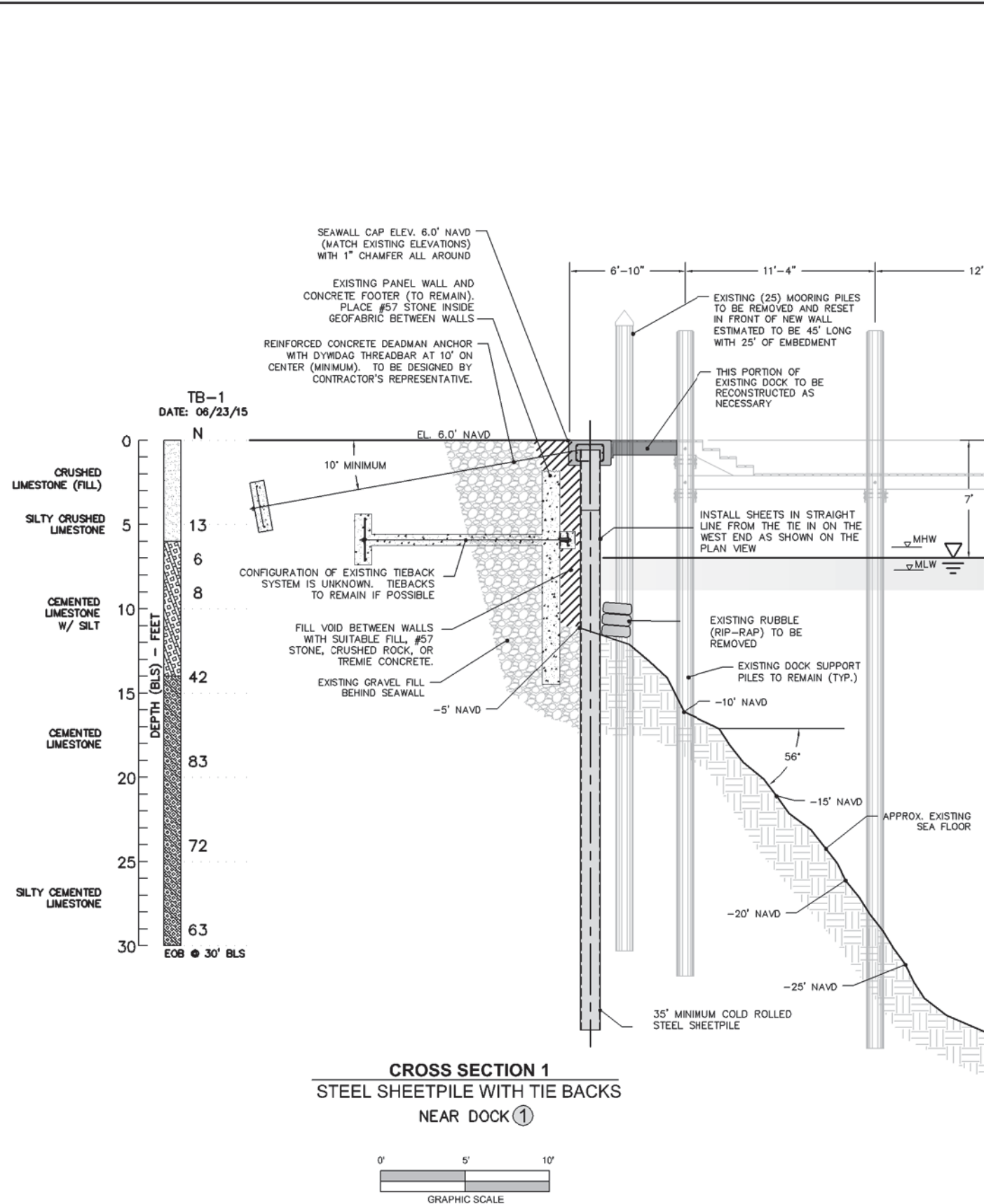
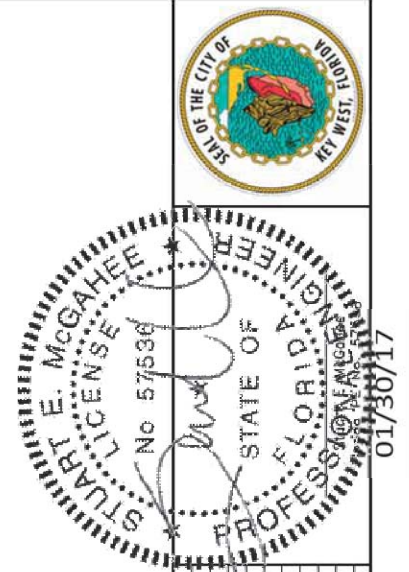


FIGURE 105-A: VIEW OF EXISTING SEAWALL EAST OF DOCK 1



FIGURE 105-B: VIEW OF EXISTING SEAWALL WEST OF DOCK 1



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CITY OF KEY WEST
 TRUMAN ANNEX SEAWALL RESTORATION
 SEAWALL CROSS-SECTIONS NEAR DOCK 1
 KEY WEST, MONROE COUNTY, FLORIDA

FOR BIDDING
 PURPOSES ONLY

Sheet Reference:
C-105
 Sheet 9 of 18

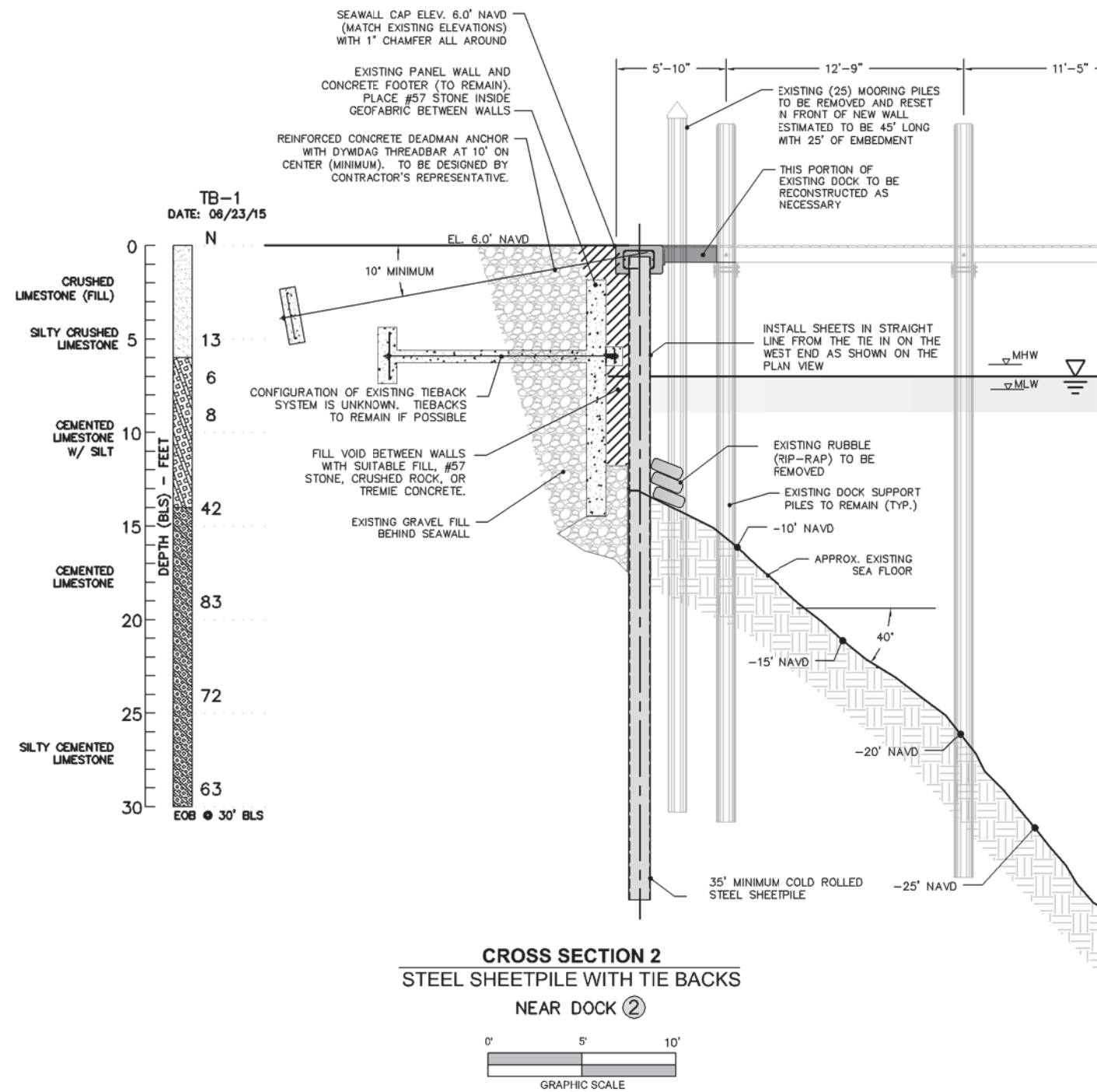
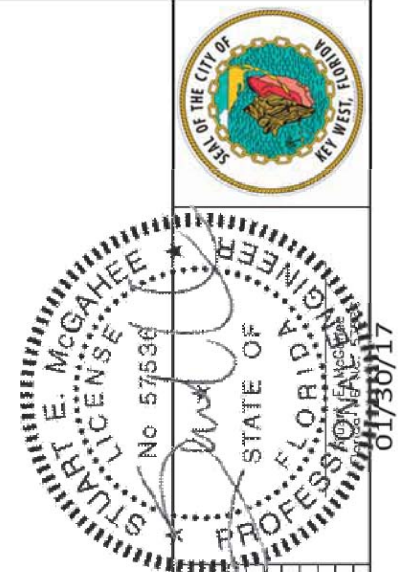


FIGURE 106-A: VIEW OF EXISTING SEAWALL EAST OF DOCK 2



FIGURE 106-B: VIEW OF EXISTING SEAWALL WEST OF DOCK 2



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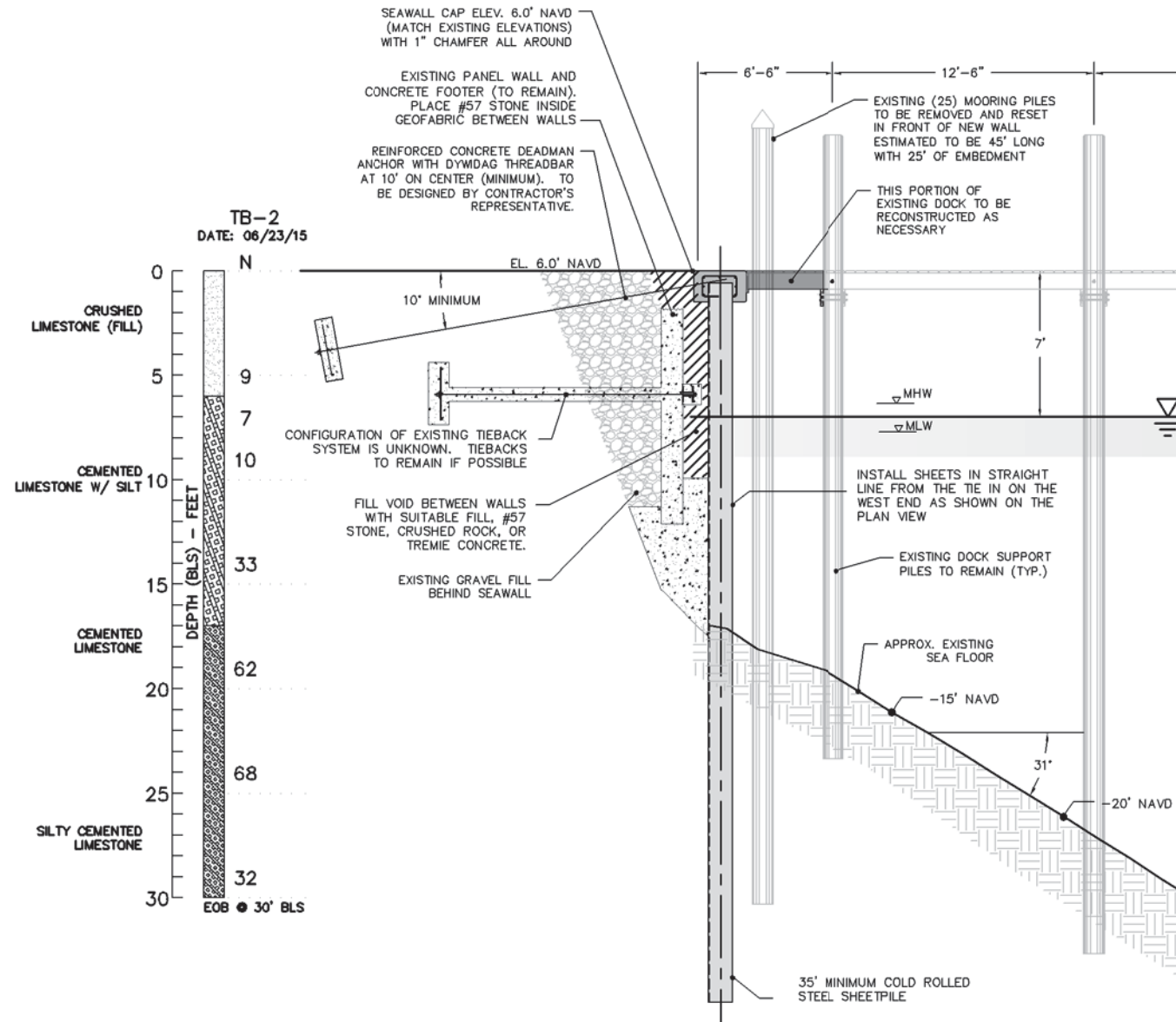
TETRA TECH INC.
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CITY OF KEY WEST
 TRUMAN ANNEX SEAWALL RESTORATION
 SEAWALL CROSS-SECTIONS NEAR DOCK 2
 KEY WEST, MONROE COUNTY, FLORIDA

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Sheet Reference:
C-106
 Sheet 10 of 18



CROSS SECTION 4
STEEL SHEETPILE WITH TIE BACKS
NEAR DOCK ④

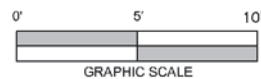
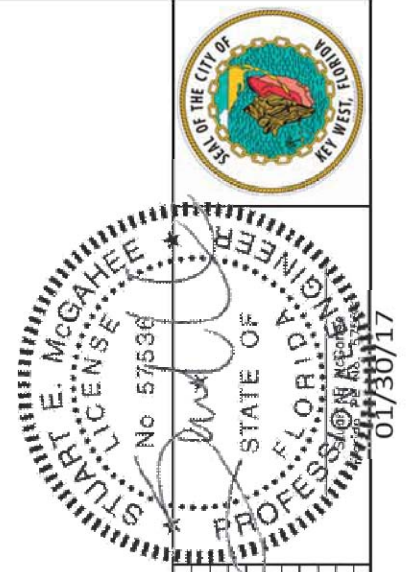


FIGURE 108-A: VIEW OF EXISTING SEAWALL EAST OF DOCK 4



FIGURE 108-B: VIEW OF EXISTING SEAWALL WEST OF DOCK 4



Mark	Description	Date	Appr.

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CITY OF KEY WEST
TRUMAN ANNEX SEAWALL RESTORATION
SEAWALL CROSS-SECTIONS NEAR DOCK 4
KEY WEST, MONROE COUNTY, FLORIDA

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Sheet Reference:
C-108
 Sheet 12 of 18

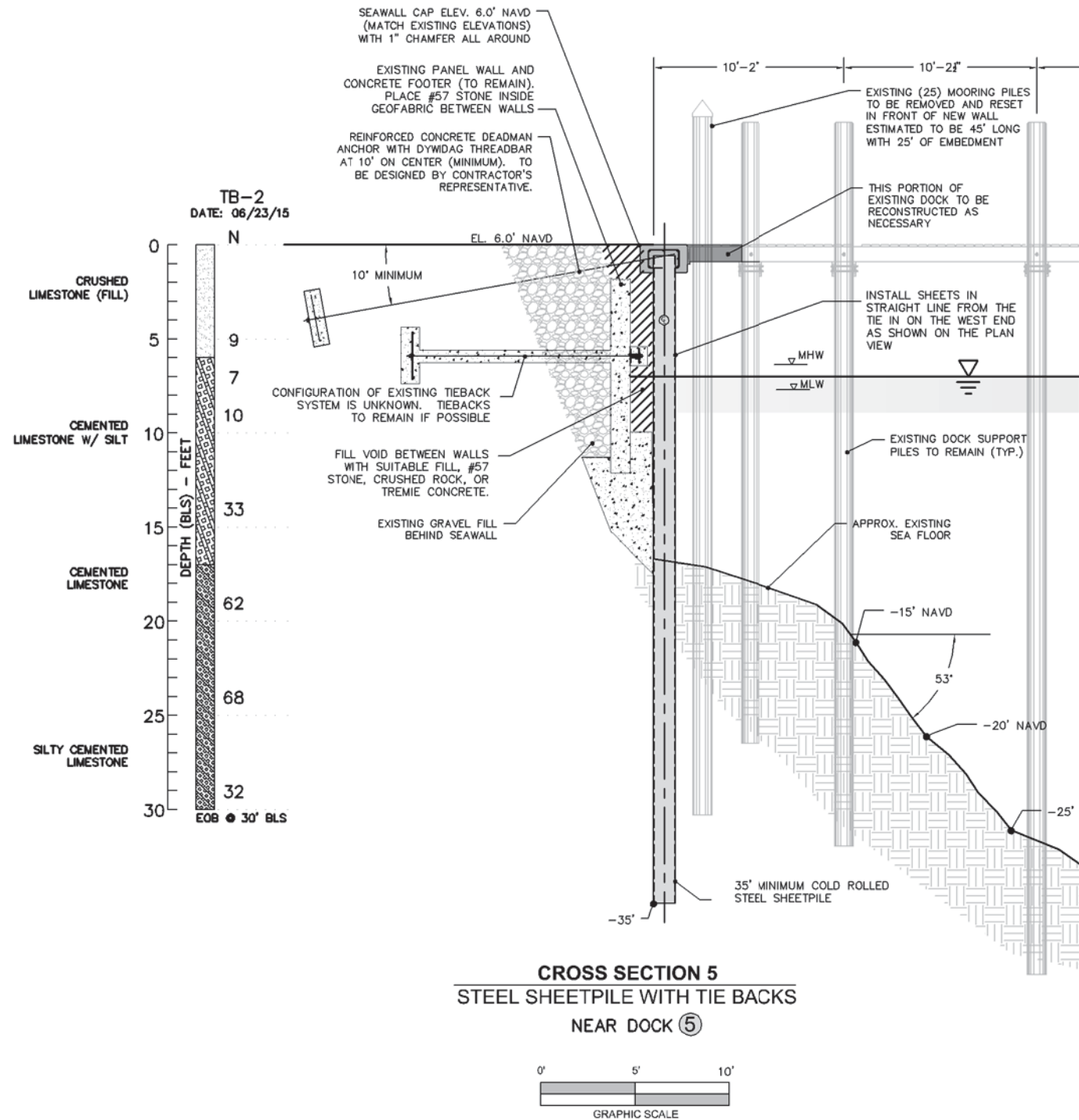
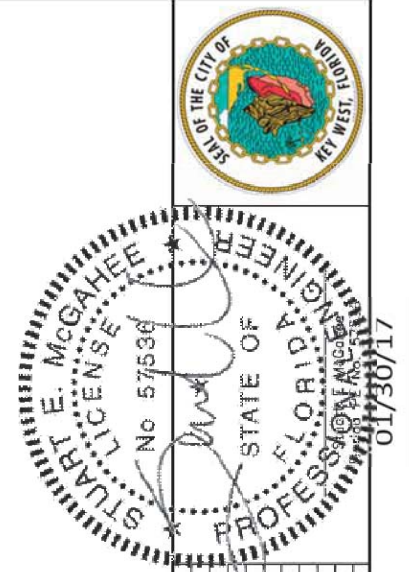


FIGURE 109-A: VIEW OF EXISTING SEAWALL EAST OF DOCK 5



FIGURE 109-B: VIEW OF EXISTING SEAWALL WEST OF DOCK 5



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CITY OF KEY WEST
 TRUMAN ANNEX SEAWALL RESTORATION
 SEAWALL CROSS-SECTIONS NEAR DOCK 5
 KEY WEST, MONROE COUNTY, FLORIDA

FOR BIDDING PURPOSES ONLY

Sheet Reference:
C-109
 Sheet 13 of 18

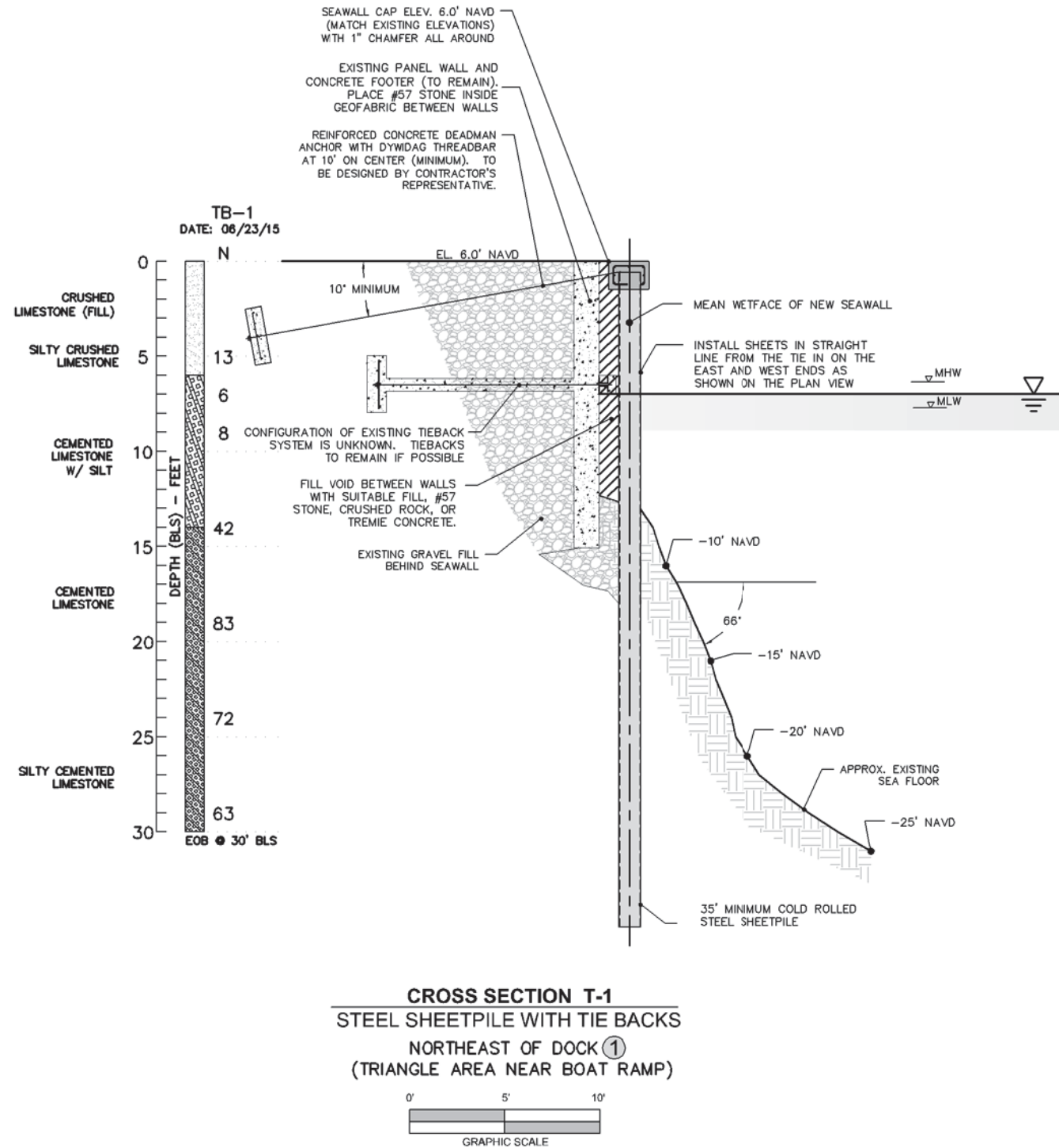
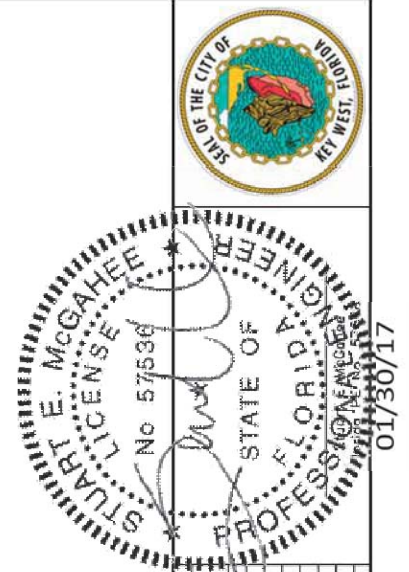


FIGURE 110-A: VIEW OF EXISTING SEAWALL EAST OF TRIANGLE



FIGURE 110-B: VIEW OF EXISTING SEAWALL WEST OF TRIANGLE



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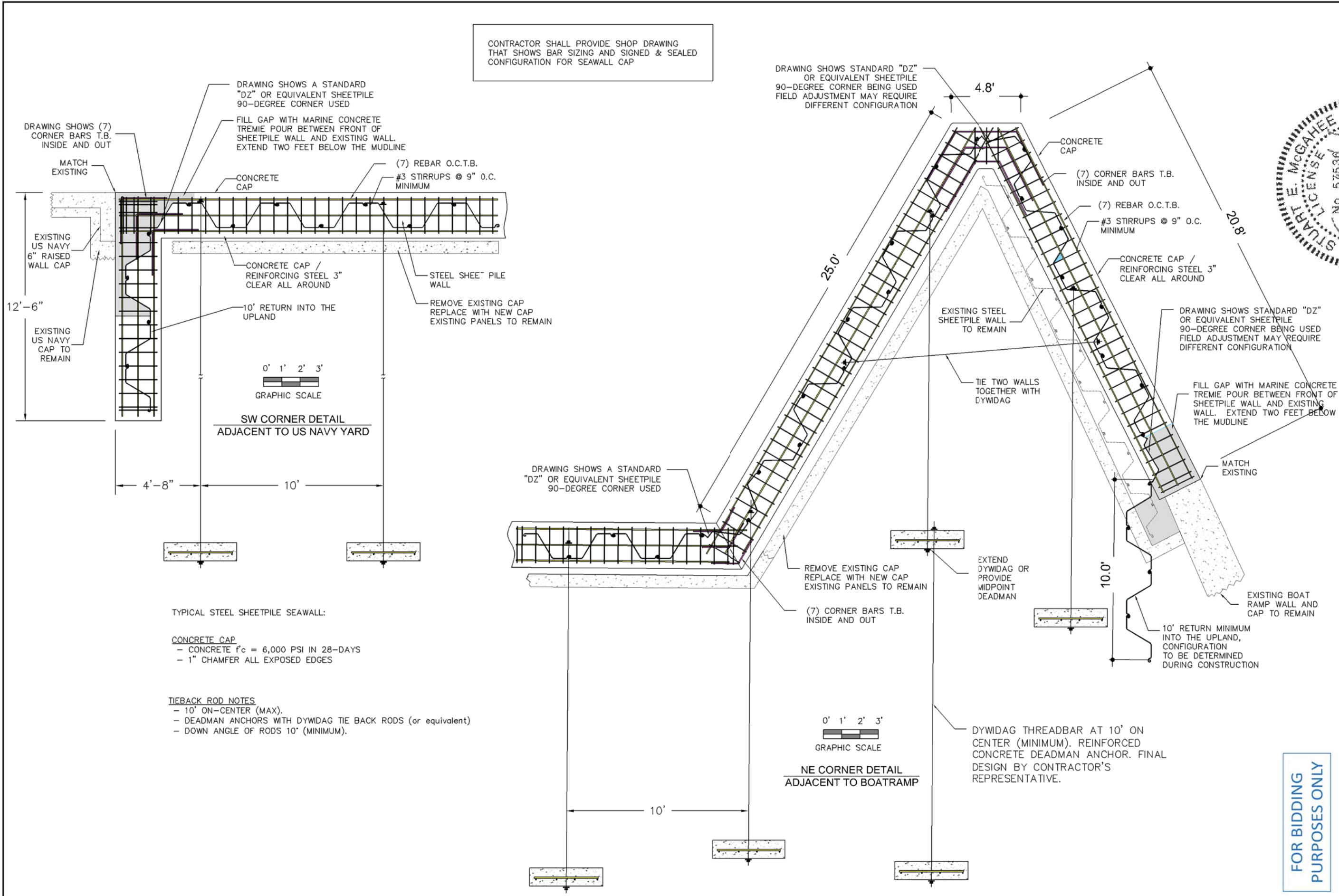


CITY OF KEY WEST
 TRUMAN ANNEX SEAWALL RESTORATION
 SEAWALL CROSS-SECTIONS NE OF DOCK 1
 KEY WEST, MONROE COUNTY, FLORIDA

FOR BIDDING PURPOSES ONLY

Sheet Reference:
C-110
 Sheet 14 of 18

CONTRACTOR SHALL PROVIDE SHOP DRAWING THAT SHOWS BAR SIZING AND SIGNED & SEALED CONFIGURATION FOR SEAWALL CAP

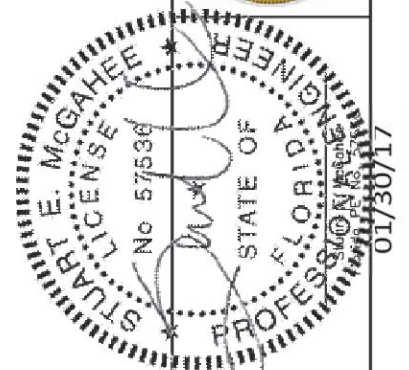


TYPICAL STEEL SHEETPILE SEAWALL:

CONCRETE CAP
 - CONCRETE $f_c = 6,000$ PSI IN 28-DAYS
 - 1" CHAMFER ALL EXPOSED EDGES

TIEBACK ROD NOTES
 - 10' ON-CENTER (MAX).
 - DEADMAN ANCHORS WITH DYWIDAG TIE BACK RODS (or equivalent)
 - DOWN ANGLE OF RODS 10' (MINIMUM).

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Date	Description	Mark

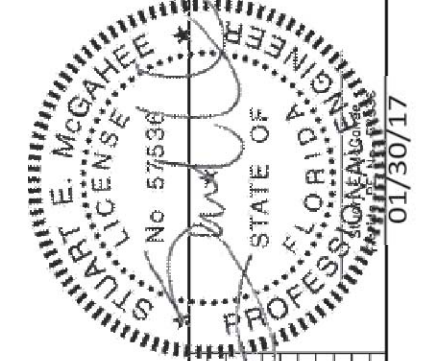
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CITY OF KEY WEST
 TRUMAN ANNEX SEAWALL RESTORATION
 SEAWALL CAP CORNER DETAILS
 KEY WEST, MONROE COUNTY, FLORIDA

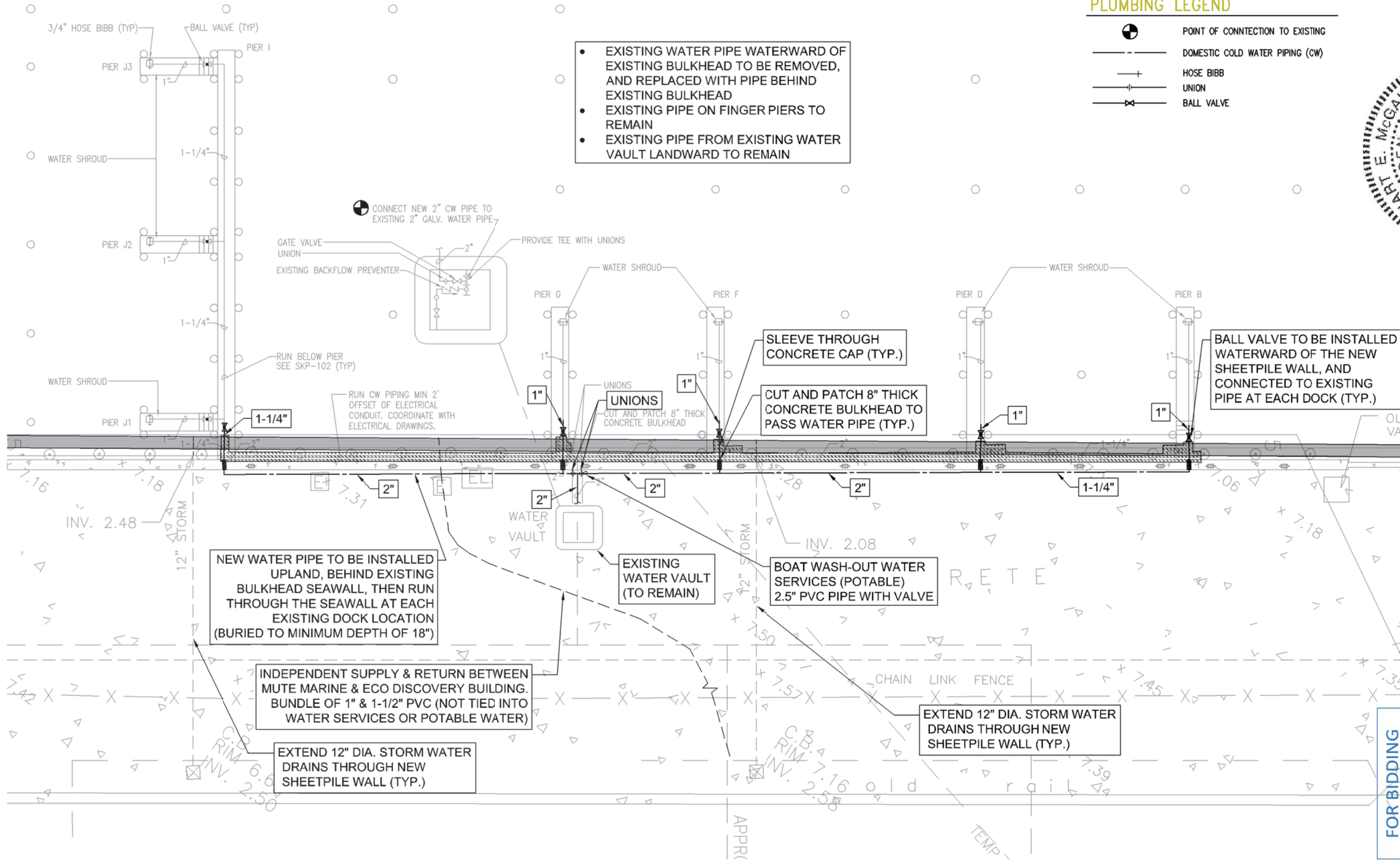
Sheet Reference:
C-111
 Sheet 15 of 18



PLUMBING LEGEND

- POINT OF CONNECTION TO EXISTING
- DOMESTIC COLD WATER PIPING (CW)
- HOSE BIBB
- UNION
- BALL VALVE

- EXISTING WATER PIPE WATERWARD OF EXISTING BULKHEAD TO BE REMOVED, AND REPLACED WITH PIPE BEHIND EXISTING BULKHEAD
- EXISTING PIPE ON FINGER PIERS TO REMAIN
- EXISTING PIPE FROM EXISTING WATER VAULT LANDWARD TO REMAIN



Date	Description	Mark

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CITY OF KEY WEST
 TRUMAN ANNEX SEAWALL RESTORATION
 WATER UTILITY CONNECTION
 KEY WEST, MONROE COUNTY, FLORIDA

FOR BIDDING PURPOSES ONLY

PLUMBING SITE PLAN

SCALE: 1" = 20'-0"

THE PURPOSE OF THIS DRAWING IS TO ASSIST THE CONTRACTOR WITH IDENTIFYING THE BURIED UTILITY LINES BEHIND THE EXISTING SEAWALL, AND TO PROVIDE A DESIGN OPTION FOR THEIR REPLACEMENT. THERE MAY BE ADDITIONAL UTILITIES BURIED IN THE AREA THAT ARE NOT SHOWN ON THE AS-BUILT.
 BOAT DOCK AS-BUILT PREPARED BY: GLENN & SADLER 05/09/03



GENERAL NOTES

1. DIMENSIONS INDICATED ARE FOR COORDINATION ONLY. SEE PIER CONSTRUCTION DRAWINGS FOR ACTUAL DIMENSIONS.
2. WIRING SHALL BE CONTINUOUS FROM CIRCUIT BREAKER TO PULL BOXES.
3. PROVIDE INSULATED BUSHINGS ON ALL CONDUIT CONNECTIONS AT BOXES, CABINETS, ETC.
4. CONTRACTOR SHALL FOLLOW THE 2014 NEC FOR INSTALLATION.

NOTES THIS SHEET

SHEET LAYOUT NOTES

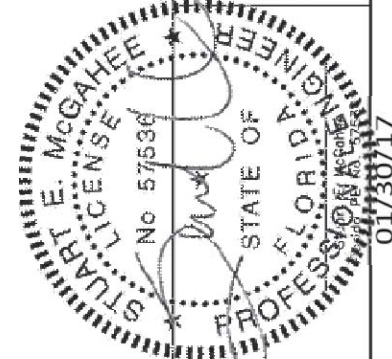
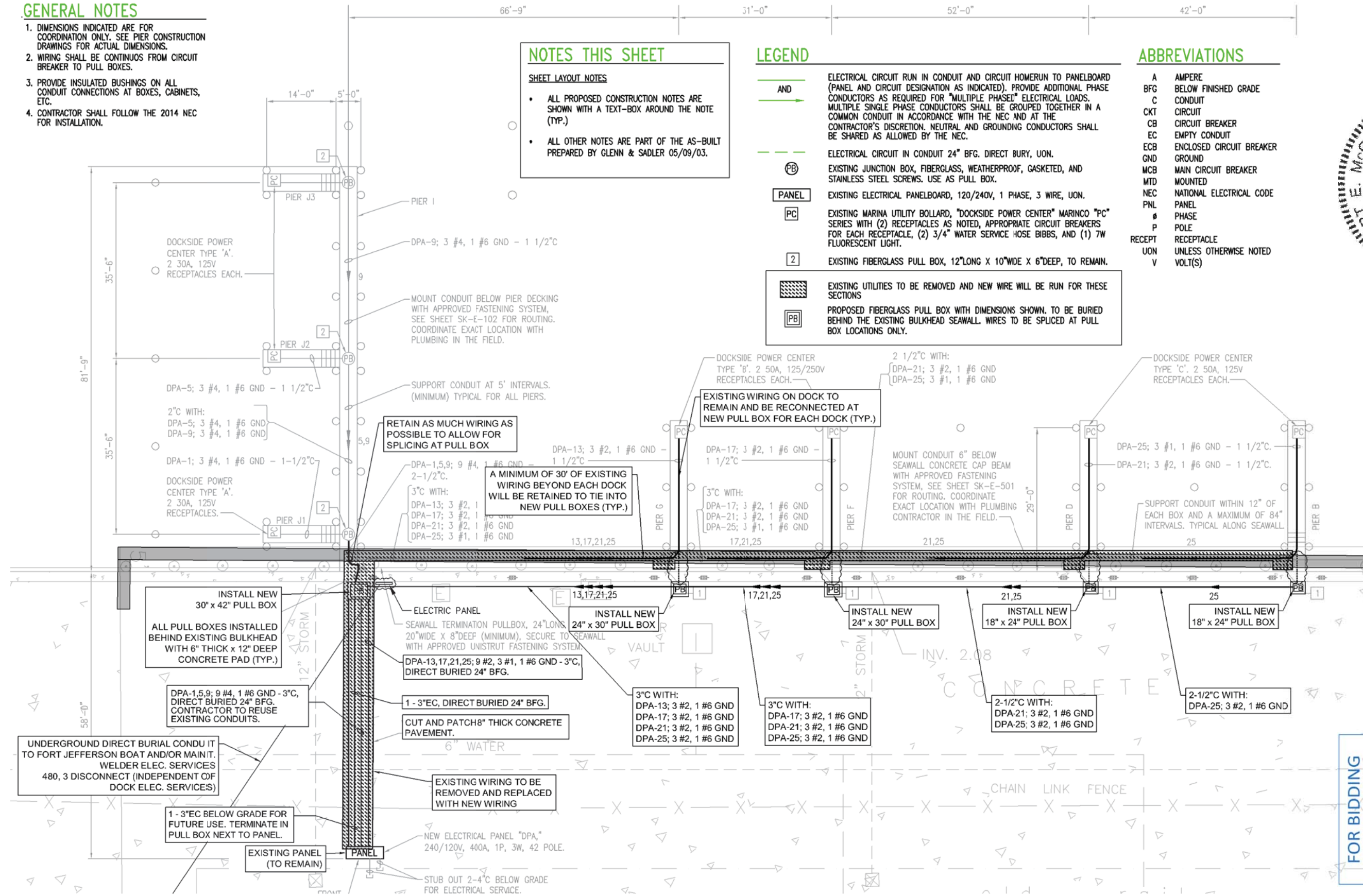
- ALL PROPOSED CONSTRUCTION NOTES ARE SHOWN WITH A TEXT-BOX AROUND THE NOTE (TYP.)
- ALL OTHER NOTES ARE PART OF THE AS-BUILT PREPARED BY GLENN & SADLER 05/09/03.

LEGEND

- AND
- ELECTRICAL CIRCUIT IN CONDUIT 24" BFG. DIRECT BURY, UON.
- (PB) EXISTING JUNCTION BOX, FIBERGLASS, WEATHERPROOF, GASKETED, AND STAINLESS STEEL SCREWS. USE AS PULL BOX.
- (PANEL) EXISTING ELECTRICAL PANELBOARD, 120/240V, 1 PHASE, 3 WIRE, UON.
- (PC) EXISTING MARINA UTILITY BOLLARD, "DOCKSIDE POWER CENTER" MARINCO "PC" SERIES WITH (2) RECEPTACLES AS NOTED, APPROPRIATE CIRCUIT BREAKERS FOR EACH RECEPTACLE, (2) 3/4" WATER SERVICE HOSE BIBBS, AND (1) 7W FLUORESCENT LIGHT.
- (2) EXISTING FIBERGLASS PULL BOX, 12"LONG X 10"WIDE X 6"DEEP, TO REMAIN.
- EXISTING UTILITIES TO BE REMOVED AND NEW WIRE WILL BE RUN FOR THESE SECTIONS
- (PB) PROPOSED FIBERGLASS PULL BOX WITH DIMENSIONS SHOWN. TO BE BURIED BEHIND THE EXISTING BULKHEAD SEAWALL. WIRES TO BE SPLICED AT PULL BOX LOCATIONS ONLY.

ABBREVIATIONS

- A AMPERE
- BFG BELOW FINISHED GRADE
- C CONDUIT
- CKT CIRCUIT
- CB CIRCUIT BREAKER
- EC EMPTY CONDUIT
- ECB ENCLOSED CIRCUIT BREAKER
- GND GROUND
- MCB MAIN CIRCUIT BREAKER
- MTD MOUNTED
- NEC NATIONAL ELECTRICAL CODE
- PNL PANEL
- Ø PHASE
- P POLE
- RECEPT RECEPTACLE
- UON UNLESS OTHERWISE NOTED
- V VOLT(S)



Date	Description	Mark

Designed By: S. MCGAHEE
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 Checked By: [Signature]
 Reviewed By: [Signature]
 Design File No: [Signature]
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TC
 CITY OF KEY WEST
 TRUMAN ANNEX SEAWALL RESTORATION
 ELECTRICAL UTILITY CONNECTION
 KEY WEST, MONROE COUNTY, FLORIDA

ELECTRICAL SITE PLAN
 SCALE: 1" = 20'-0"

THE PURPOSE OF THIS DRAWING IS TO ASSIST THE CONTRACTOR WITH IDENTIFYING THE BURIED UTILITY LINES BEHIND THE EXISTING SEAWALL, AND TO PROVIDE A DESIGN OPTION FOR THEIR REPLACEMENT. THERE MAY BE ADDITIONAL UTILITIES BURIED IN THE AREA THAT ARE NOT SHOWN ON THE AS-BUILT. BOAT DOCK AS-BUILT PREPARED BY: GLENN & SADLER 05/09/03



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