

RESOLUTION NO. 21-268

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF KEY WEST, FLORIDA, APPROVING A TASK ORDER TO TETRA TECH, INC. FOR WATERFRONT FACILITIES INSPECTION AND DESIGN OF REPAIRS TO MOLE PIER BULKHEAD AT NAVY PORT OPS IN A TOTAL AMOUNT NOT TO EXCEED \$140,770.00; APPROVING NECESSARY BUDGET TRANSFERS OR ADJUSTMENTS; AUTHORIZING THE CITY MANAGER TO EXECUTE ANY NECESSARY DOCUMENTS UPON CONSENT OF THE CITY ATTORNEY; PROVIDING FOR AN EFFECTIVE DATE

WHEREAS, in lieu of rent payments to the Navy for use of the Mole Pier, the City has agreed to perform certain in-kind projects, as per the terms of Public Benefit Lease N69450-12-RP-00166 approved by Resolution 14-034, including the design and construction of a small craft berthing facility at Truman Harbor, as indicated in the attached in-kind authorization letter 11011 AM12/0114 dated July 18, 2019; and

WHEREAS, in Resolution No. 20-039, the City Commission approved a three-year contract with Tetra Tech, Inc. for Environmental Engineering Services; and

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF KEY WEST, FLORIDA AS FOLLOWS:

Section 1: That a Task Order to Tetra Tech, Inc. is hereby approved in an amount not to exceed \$140,770.00 for waterfront facilities inspection and design of repairs to the mole pier bulkhead at Navy Port Ops.

Section 2: That necessary budget transfers from Navy Reserves Account #602-1900-519-9800 to Navy Repairs and Maintenance Account #602-1900-519-4600 are hereby authorized. Navy approval of use of funds is authorized per RECO Letter 11011 AM12/0114 dated July 18, 2019, as assessment and repair is required to make the small craft berthing facility operational.

Section 3: That the City Manager is authorized to execute any contractual documents, with the advice and consent of the City Attorney, that are consistent with this Task Order and the approval granted herein.

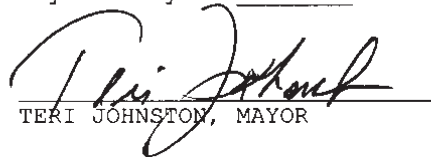
Section 4: That this Resolution shall go into effect immediately upon its passage and adoption and authentication by the signature of the Presiding Officer and the Clerk of the Commission.

Passed and adopted by the City Commission at a meeting held this 7th day of December, 2021.


Authenticated by the Presiding Officer and Clerk of the Commission on 8th day of December, 2021.

Filed with the Clerk on December 8, 2021.

Mayor Teri Johnston	<u>Yes</u>
Vice Mayor Sam Kaufman	<u>Yes</u>
Commissioner Gregory Davila	<u>Yes</u>
Commissioner Mary Lou Hoover	<u>Yes</u>
Commissioner Clayton Lopez	<u>Yes</u>
Commissioner Billy Wardlow	<u>Yes</u>
Commissioner Jimmy Weekley	<u>Yes</u>


TERI JOHNSTON, MAYOR

ATTEST:



CHERYL SMITH, CITY CLERK



THE CITY OF KEY WEST

Post Office Box 1409 Key West, FL 33041-1409 (305) 809-3700

EXECUTIVE SUMMARY

Date: November 19, 2021

To: Patti McLaughlin, City Manager

CC: Steve McAlearney, Engineering Director

From: Ian McDowell, Associate Engineer

Subject: Approving task order to Tetra Tech, Inc. for waterfront facilities inspection and design of repairs to mole pier bulkhead at Navy Port Ops.

Action Statement

This resolution would approve a task order with Tetra Tech, Inc. in the amount of \$140,770.00 utilizing Navy in-kind funds to conduct an assessment and design of repairs at the Navy mole pier. Tetra Tech, Inc. will perform the work specified in the task order under their environmental engineering services contract authorized by resolution 20-039.

Background

In lieu of rent payments to the Navy for the use of the Mole pier, the City of Key West (City) has agreed to facilitate authorized In-Kind Projects as per the terms of Public Benefit Lease (PBL) N69450-12-RP-00166, approved by Resolution 14-034. In accordance with this lease, the Navy has issued the attached In-Kind request letter 11011 AM12/0114 dated July 18, 2019 authorizing use of in-kind funds up to \$1,179,717.00 for design and construction of a small craft berthing facility at Truman Harbor.

In August of 2021, the City of Key West began construction of a small craft berthing facility at the Navy mole pier (project OM19002001) in Truman Harbor. During excavation for underground electrical utilities, contractors discovered a cavity behind the seawall approximately 15' x 17' x 15'. A consultant contracted with the Navy was able to conduct further investigation which uncovered additional compromised areas along the seawall. Additional assessment is required to determine the cause of the cavities and the proper solution.

NAVFAC staff coordinated with city staff to explore potential solutions utilizing the in-kind contract that would expedite the assessment and design process. A task order proposal was received from Tetra Tech, Inc. on November 19th, 2021.

Purpose and Justification

The seawall at the mole pier is currently unsafe for vehicle and pedestrian use and is out of operation until this issue is resolved. This problem affects fueling of vessels, completion of projects, and use of the new small craft berthing facility.

Further assessment by Tetra Tech, Inc. will determine what caused the existing failures and damage. Design drawings and specifications developed by Tetra Tech, Inc. will provide construction ready documents for the Navy so that NAVFAC can pursue repair and remediation to make the mole pier full operational again.

Financial

Funds in the amount of \$140,770.00 will be transferred from the Navy reserves account #602-1900-519-9800 to Navy Repairs and Maintenance account #602-1900-519-4600 and used to fund a purchase order for Tetra Tech, Inc. Total project cost including this amount is \$827,520.00, well below the Navy approved maximum of \$1,179,717.00

Recommendation

Staff recommends approving the task order from Tetra Tech, Inc. in the amount of \$140,770.00 and authorizing the City Manager to execute this agreement and any necessary budget transfer/amendments.

Key to the Caribbean -- average yearly temperature 77 ° Fahrenheit.



PROPOSAL STATEMENT OF WORK

TASK # TBD: WATERFRONT FACILITIES INSPECTION AND DESIGN OF REPAIRS TO MOLE PIER 2 BULKHEAD AT NAVAL AIR STATION KEY WEST

Key West, FL

This proposal has been prepared in accordance with the current General Environmental Engineering Services Agreement between the City of Key West and Tetra Tech, Inc, Resolution No. 20-039, dated March 24, 2020. The work described herein will be performed on a Lump Sum basis in accordance with the fee schedule established in this agreement. Fees shall be not to exceed unless approved in writing by the City of Key West. This proposal is valid for a period of 90 days from the date on this page.

Prepared by: TETRA TECH, Inc.
November 20, 2021



759 South Federal Highway, Suite 214 Miami, FL 33194
Tel 772 781 3400 Fax 772 781 3411 www.tetrattech.com



Task 2 – Dive Inspection

1. Provide a four (4) man dive team and required equipment to safely perform dive operations.
2. Perform inspections, as directed by the engineer, of approximately 600 linear feet of sheet pile seawall.
3. Inspection tasks shall include, but not be limited to 100% level I visual inspection of the seawall, Level II and III inspections of select areas, Ultrasonic thickness readings, representative photographs of as-found conditions, evaluation of extent of corrosion, evaluation of extent of marine growth, evaluation of existing steel patches, evaluation and cataloging of any holes in sheet pile, coupons (base sheet pile metal samples) and measurements as directed.
4. Provide a plan and cost to remove and replace existing steel patches after evaluation of the same.
5. All work will be conducted in strict accordance with EM 385-1-1 safe practices for commercial diving.
6. Proposal includes testing of three (3) steel sheet pile coupons for carbon equivalent.
7. The locations of coupons taken, if not from an open hole in the wall, will be patched by the dive team.

(2) Dive Inspection: \$ 44,325

Task 3 – Structural Engineering

1. Attend 6-8 scheduled coordination and/or review meetings virtually to support this scope of work.
2. Have a structural engineer on site during the dive assessment and investigation for site condition verification and to provide immediate response and direction should questions arise from the dive activities. Assume 2 days on site plus travel.
3. Prepare a structural field investigation memo with summary of findings from the dive assessment and design analysis that outlines the design criteria and approach that will be used for repairs.
4. Prepare Structural Plans and Specs for repair of the steel sheet pile bulkhead by patching the existing holes that are allowing erosion of the backfill.
5. Provide quantities to the dive contractor for cost estimating. Then review the prepared cost estimate and provide comments.
6. Prepare a calculation package for submittal to reviewing authorities, as required.
7. Deliverables include Dive Investigation Memo, Design Analysis, 95% and 100% submittals.

(3) Structural Engineering: \$ 39,080

Task 4 – Geotechnical Engineering

1. Perform six (6) Standard Penetration Test (SPT) borings in general accordance with ASTM D-1586 specifications to a depth of 50 feet at locations identified.
2. Provide a geotechnical engineering report including a description of findings and soil parameters for bulkhead repairs. In order to provide information concerning the engineering properties of the soils encountered, it is anticipated that tests may be performed to determine natural water content, organic content, and sieve analysis on representative soil samples collected from the site.
3. Base cost for the six (6) SPT borings shall be \$15,000. A contingency of \$2,500 is included for pre-work Ground Penetrating Radar, in the event it is required by the US Navy prior to drilling.
4. The six (6) SPT borings will be located by the divers such that they are coincidental with the existing patches on the seawall for the purpose of confirming the presence or absence of voids in addition to the geotechnical testing for soil properties noted above. No drilling will occur where a patch is confirmed via diving to be missing and a void is therefore known to exist and can be probed from the water side.





(4) Geotechnical Engineering: \$ 17,500

Task 5 – Services During Construction Engineering

1. Tetra Tech is prepared to provide Services During Construction at the request of the City.
2. The proposed course of action for repairing the seawall is contingent upon performance of the scope above and the ensuing recommendations. Since the recommended course of action is unknown as of this writing, a scope and fee for our efforts is impossible to assign at this time.
3. A budgetary estimate, as noted, is therefore assigned to this task with the implicit understanding that a scope will later be negotiated based upon the contract rates and required levels of effort. Depending upon the scope requested by the City, the fee may be adjusted accordingly through Change Order or similar mechanism.
4. This task does not include the fee for the actual construction repairs.

(5) Services During Construction: \$ 20,040

PROJECT ASSUMPTIONS

1. The City and US Navy shall make available to Tetra Tech all drawings, geotechnical information, surveys, as-builts, pile logs, welding logs, utility locations, sheetpile specifications, embedment depths, inspection reports, or other pertinent information on the original construction of the existing bulkhead as may be required to fully understand the problem and potential solutions.
2. Any site visits requested by the City beyond those detailed above will be billed on an hourly basis.
3. Permitting and fees (including for the local building permit) shall be the responsibility of others or may be provided for under a separate authorization.
4. The City will be responsible for producing front-end documents for inclusion into the bid package.
5. Efforts related to re-design or value engineering shall be made available through a separate authorization.
6. Price is based on two (2) travel days, mobilization, demobilization and three (3) days of field investigation working ten (10) hours per day exclusive of any time required to gain access to the work site.
7. Assumes that security / access / badging can be done such that a trip down to Key West prior to the start of inspection is not required.
8. Includes testing of three (3) steel pile coupons for carbon equivalent. Coupons are anticipated to be 1" x 1" if they can be saw cut, or 5" x 5" if they need to be cut with a torch. The cost of carbon equivalent testing is included with this proposal.
9. Pay rates utilized to develop pricing are not based on any department of labor imposed prevailing wage determination. Should a specific wage determination be required, pricing may be adjusted accordingly.
10. A secure storage area will be provided for the team's provided equipment.
11. A dive station will be set up at the seawall's edge such that diving takes place from land adjacent to the seawall.
12. Services During Construction, (potentially inclusive of Bid Support) scope & fee to be negotiated and adjusted at a later time.

PROJECT EXCLUSIONS

This Scope of Work excludes the following items which may be provided under separate authorization:





1. This scope does not include costs associated with removal, repair or replacement of the seven (7) steel patches mentioned in the RFP. The patch situation will be evaluated including steel chemistry and a plan with cost estimate will be provided after the completion of the evaluation.
2. Performance of the prescribed repairs.
3. Detailed cost estimating per Navy standards.
4. Global analysis and assessment of the existing bulkhead system for any external load cases, including mooring and berthing.
5. Repairs or inspections of the tieback system, if in place.
6. Berthing & mooring analysis.
7. Permitting through FDEP, SFWMD, USACE, NOAA/FKNMS, the US Navy or the local Building Department.
8. Benthic Assessments
9. Coral Studies, Mapping, Relocation Services or Mitigation Fees as may be required by NOAA/FKNMS.
10. Permit fees
11. Utility Engineering
12. Survey

Task	Description	Amount
1	Administration	\$ 19,825
2	Dive Inspections	\$ 44,325
3	Structural Engineering	\$ 39,080
4	Geotechnical Engineering	\$ 17,500
5	Services During Construction	\$ 20,040
TOTAL		\$ 140,770



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST
JACKSONVILLE, FL 32212-0030

11011
AM12/0114
July 18, 2019

Mr. Jim Scholl
Key West City Manager
P. O. Box 1409
Key West, FL 33040-1409


Dear Mr. Scholl:

**SUBJECT: APPROVAL TO SPEND UP TO \$1,179,717.00 OF IN-KIND FUNDS TO
CONSTRUCT A SMALL CRAFT BERTHING FACILITY AT THE MOLE
PIER (PORT OPERATIONS DEPARTMENT) TRUMAN ANNEX, NAVAL AIR
STATIN (NAS), KEY WEST, FLORIDA**

The enclosure requests the approval for the use of in-kind funds to construct a small craft berthing facility at the Mole Pier (Port Operations Department), Truman Annex, NAS Key West, Florida. This letter serves as approval of the enclosure for use of in kind funds for the construction fees associated with this project.

Costs associated with this purchase effort shall not exceed the total estimated cost of \$1,179,717.00 without prior written approval. Any request to exceed this authorized amount shall be requested of this office in advance of incurring such additional costs.

My point of contact for this action is Sue Romanelli, Lead Realty Specialist, who can be reached at (904)542-0094 or susan.romanelli@navy.mil.


ROBERT F. NOLAN, III
Real Estate Contracting Officer

Enclosure: 1. CO, NAS Key West Letter 11011 Ser N00/228 of 2 Jul 19

Copy to: Commanding Officer, NAS Key West
Public Works Officer, NAS Key West

From: Gauley, G Jeremiah LT USN NAVFAC SE JAX FL (USA)
To: Ian McDowell
Cc: Gardner, Christina A CIV USN NAVFAC SE JAX FL (USA)
Subject: [EXTERNAL] RE: [EXTERNAL] RE: [EXTERNAL] RE: [EXTERNAL] RE: Mole pier seawall proposal
Date: Monday, November 22, 2021 1:13:14 PM
Attachments: image001.png
image002.png

Approved. Do we have any idea on timeline for them to be out here?

Very Respectfully,

G. Jeremiah Gauley
LT, CEC, USN
Assistant Public Works Officer
PWD Key West
O: (305) 293-2478
C: (270) 302-0796
Email: gregory.j.gauley.mil@us.navy.mil

From: Ian McDowell <cimcdowell@cityofkeywest-fl.gov>
Sent: Monday, November 22, 2021 9:02 AM
To: Gauley, G Jeremiah LT USN NAVFAC SE JAX FL (USA) <gregory.j.gauley.mil@us.navy.mil>
Cc: Gardner, Christina A CIV USN NAVFAC SE JAX FL (USA) <christina.a.gardner2.civ@us.navy.mil>
Subject: [Non-DoD Source] FW: [EXTERNAL] RE: [EXTERNAL] RE: [EXTERNAL] RE: [EXTERNAL] RE: Mole pier seawall proposal

Good morning, Jeremiah,

Please see attached proposal with added cost for post-design services. Let me know if this is approved on your side and I will process in our system for commission approval.

Thanks,
Ian McDowell, E.I.
Assistant Engineer
City of Key West
(305) 809-3753



From: Frodsham, Dave <Dave.Frodsham@tetrattech.com>
Sent: Saturday, November 20, 2021 10:26 AM

To: Ian McDowell <cimcdowell@cityofkeywest-fl.gov>

Subject: [EXTERNAL] RE: [EXTERNAL] RE: [EXTERNAL] RE: [EXTERNAL] RE: Mole pier seawall proposal

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Ian,

Please find the attached revised proposal incorporating the Services During Construction task.

Thank you,



Dave Frodsham PE* | Senior Civil Engineer

Cell: 772.380.5491 | Direct: 772.781.3440

Main: 772.781.3400 | Fax: 772.781.3411

dave.frodsham@tetratech.com

* Registered in FL, GA, and SC

Tetra Tech

759 S. Federal Highway | Suite 314 | Stuart, FL 34994

www.tetratech.com



Think Green - Not every email needs to be printed.

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**WATERFRONT FACILITIES INSPECTION AND DESIGN OF
REPAIRS
AT NAVAL AIR STATION KEY WEST**
Key West, FL

The Scope of Architect-Engineer (A-E) Services (SAES) for this Task Order (T.O.) is described below and elsewhere in the referenced contract.

SAES OUTLINE: This SAES is comprised of the following sections and attachments -

Reference List
Attachment List

- A. General Contract Information
- B. Project Points of Contact
- C. A-E Services (General)
- D. Design Service Deliverables
- E. Engineering Service Deliverables
- F. Meeting/Conferences/Conference Calls
- G. Specialty Engineering and Testing Deliverables.

REFERENCES: The guidance and requirements provided in the references listed below form the basis for this T.O. scope. Unless noted otherwise, use the latest versions of these references as of the award date of this T.O. as the basis for providing the required products. In the event of conflict between this document and any documents referenced herein, the requirements of this document govern.

- (a) MIL-STD-3007, DEPARTMENT OF DEFENSE, Standard Practice for Unified Facilities Criteria, May 2000
- (b) UFC 4-150-07: O&M – Maintenance of Waterfront Facilities, June 2001; change 1, 1 September 2012
- (c) UFC 4-150-08: O&M – Inspection of Mooring Hardware, April 2001
- (d) UFC 4-152-01: Design of Piers and Wharves
- (e) ASCE, Waterfront Facilities Inspection and Assessment, 2015
- (f) US Army Corps of Engineers (USACE) “Safety and Health Requirements Manual” (EM 385-1-1) located at <http://www.publications.usace.army.mil/USACEPublications/EngineerManuals.aspx>
- (g) Department of Defense (DoD) Facilities Criteria (FC) 1-300-09N (“Design Procedures”) located at http://www.wbdg.org/ccb/DOD/UFC/fc_1_300_09n.pdf
- (h) Waterfront Facilities Inspection Data Requirements Rev 2.1
- (i) Unified Facilities Guide Specifications (UFGS) located at http://www.wbdg.org/ccb/browse_org.php?o=70
- (j) NAVFAC Regional Specifications located at http://www.wbdg.org/ccb/browse_cat.php?o=3&c=43
- (k) UFC 1-200-01: DoD Building Code (General Building Requirements), 20 June 2016
- (l) UFC 3-301-01: Structural Engineering, with Change 3, 01 June 2016

ATTACHMENTS: The attachment listed below provides additional guidance and/or requirements for this T.O. Unless noted otherwise, use the latest versions as of the award date of this T.O. as the basis for providing the products under this T.O.

- 1) Project Facility List
- 2) Location of Project Site

- 3) Childs' Engineering Summary of Findings
- 4) Additional Photos

A. GENERAL CONTRACT INFORMATION:

Perform all A-E Services that are required for this T.O. in accordance with this document and the guidance provided in the references and attachments listed above.

a) Background

The purpose of this task order is to provide a design of repairs and construction solicitation package for the repair of a section of the facility titled "Breakwater 442" at NAS Key West.

On September 10, 2021, a large cavity was revealed in the approximate area shown in attachment (2) of this document. Childs Engineering was onsite beginning September 13, 2021 to perform a routine inspection of the facility, and was able to determine the likely cause of the cavity, and determined that there are likely other areas of concern along this section of the facility. Childs' initial findings following their routine inspection of the facility can be found in attachment (4).

This effort will include onsite engineering survey work to include the removal of existing steel panels that are covering holes in the sheet pile to provide inspection ports at the areas where more cavities are expected. These panels will then need to be reinstalled appropriately.

Based on the discovery of this cavity, and the additional information provided by Childs, the area approximately 20' back from the seawall has been blocked off to pedestrian loading only until the extent of damage can be further investigated.

b) Project Scope:

- i. This Task Order requires engineering services, in accordance with References (b) through (m), to create a design of repairs package with full plans and specifications. Additionally, underwater work to include welding will be required to facilitate the removal and reinstallation of the steel panels to create inspection ports. The facilities with any special instructions per facility are listed in Table 1. Assessment and design repairs of the waterfront facilities includes but is not limited to the following:

- Underwater and above water design level inspection of structural, electrical and mechanical system components
- Generation of documents to support environmental permit documentation
- Proper permit approval to perform underwater welding and cutting
- Engineering analysis of existing conditions
- Engineering calculations
- Recommendation of appropriate remediation actions
- Documentation of assessments
- Generation of construction drawings and specifications directing recommended repairs
- Generation of detailed cost estimates of design repairs
- Review of existing facility drawings
- Review of existing facility work orders or maintenance plans
- Review of Base Facility Requirements
- Review and implementation of most recent soil and concrete boring samples

c) Design Criteria:

This T.O. will require the contractor to generate full plans and specifications.

B. A-E SERVICES (GENERAL): Perform all A-E Services that are required under this T.O. in accordance with reference (a) and this T.O. SAES.

a) Responsibility of the A-E:

- i. The A-E is responsible for all drawings, and other services to be provided under this contract in accordance with reference (a).
- ii. Members of the engineering team assigned to this T.O. must meet the professional requirements identified by discipline in the Whole Building Design Guide, and appropriate dive schooling, outlined in reference (g).
- iii. Immediately upon award, apply for all the necessary passes for A-E personnel and vehicles to enter military areas in accordance with the latest applicable requirements. While performing the required engineering services, the A-E inspection team will be required to conform with security requirements prior to entry into the installation and into restricted areas therein. The Defense Biometric Identification System (DBIDS) program is the primary process for obtaining pass/IDs for installation access. Obtaining DBIDS capability may take upwards of five weeks from time of document submittal. The Navy Public Works Department will identify any special requirements prior to commencement of work. Escort by activity personnel may be required for access into critical security areas or spaces. Each vehicle operator from the A-E inspection team shall possess and provide a valid/current driver's license, vehicle registration, and proof of insurance. The A-E contractor shall not publicly disclose any information concerning any aspect of the services related to the Task Order without the prior written approval/permission from the Contracting Officer.

b) Field Investigations/Site Visits:

- i. The design commencement date and the time period shall be established by mutual agreement between the City of Key West and the Contractor.
- ii. A-E Safety Plan/Accident Prevention Plan (APP) and Dive Operations Plan (DOP): The A-E Contractor shall submit a site specific APP in accordance with reference (g) at least three (3) weeks prior to starting any on-site work.
- iii. Inspection: Systems and Components: Perform an above and underwater design level inspection of the structural systems and components (e.g. deck, beams, pile caps, piles, fendering system, mooring hardware and fasteners) per references (c), (d) and (f) to identify and quantify deficiencies affecting the facility's capabilities and requiring repair.
- iv. Permit Requirements: The contractor shall procure all required permits to support the underwater work required to remove and appropriately reinstall the steel panels to create inspection ports in the sheet pile.
- v. Security Requirements of Inspection Contracts: The military areas of work expected under this T.O. may or may not allow the entry of foreign nationals/non-US residents. The A-E's inspection team and field crews must be comprised of personnel who can qualify for access to these areas. The A-E must adhere to the latest applicable base access requirements prior to and during all meetings, site visits, and field investigations.
- vi. Plans and Specifications: As per References (b), (c), (d), (e), (h), (j), (k), (l) and (m) the A&E contractor shall prepare plans and specifications for the repairs of the facilities listed in Table 1. The A-E contractor shall prepare design drawings, engineering calculations, and construction cost estimates. Field notes along with other pertinent reference documents will form the basis from which plans and specifications will be written.
- vii. Permit Support: Obtaining environmental permits for the proposed repairs is NOT part of this scope of work. The A-E contractor shall provide summaries of the design of the repairs,

including drawings and sketches, as required, to NAVFAC. The design should minimize any environmental disturbance to the mudline which would require extensive environmental review and permitting. Concept drawings will be required for submission to regulatory agencies at 35%. The A/E should plan to attend an "over-the-shoulder" design review with the permit authority after the 65% design in order to expedite the permit approval process.

viii. Design Review Meetings: The A&E shall attend design review meetings with City of Key West staff and Navy PWD staff after the 35% design is prepared.

C. **DESIGN SERVICE DELIVERABLES:** The following Engineering Service Deliverables are required for this T.O.:

- Design Submittals
- Drawings/Plans
- Specifications
- Project Cost Estimate

a) **Design Submittals:**

- i. **35% Design:** The submittal shall be the 35% plans and specifications and will include preliminary construction cost estimates, and documentation for permits as required, and the initial berthing and mooring analysis.
- ii. **65% Design:** The submittal shall be the 65% plans and specification and cost estimate.
- iii. **100% Design:** The submittal shall be the 100% plans and specification with cost estimate and the finalized berthing and mooring analysis.
- iv. **Final Design:** The submittal shall be the final repair contract bid documentation and construction cost estimates, and be in accordance with references (k,l).

Submissions for the design reviews shall be made as outlined in Attachment 3, "Schedule and Distribution of Design Submittals".

b) **Drawings/Plans:** For specific requirements, refer to Reference (h)/FC 1-300-09N.

- i. **Soft Metric Units Design:** The project drawings and specifications will be prepared in English/inch-pound (I-P) units with the equivalent metric units displayed in adjacent brackets.
- ii. **Computer Graphics:** All drawings to be provided for this T.O. must be accomplished and developed using computer-aided design and drafting (CADD) software and procedures in accordance with Reference (h)/FC 1-300-09N.

c) **Specifications:** For specific requirements, refer to Reference (j)/ Unified Facilities Guide Specifications (UFGS) and Reference (k)/NAVFAC Regional Specifications. All project specifications must be prepared in the SPECSINTACT SGML format. Contact the Navy PWD Staff, to verify the latest guide specification, specification format, clauses, etc. that are to be used for this T.O.

d) **Project Cost Estimate:** Provide the cost estimate for this T.O. in accordance with Reference (h)/FC 1-300-09N. Prepare all detailed cost estimates in the NAVFAC Work Breakdown Structure (WBS) to the Assembly level using the SuccessEstimator™ (SUCCESS) estimating program. For projects over \$500,000, use the latest SUCCESS version and submit both hard and electronic copies of cost estimates with each submittal. Use of the latest Tri-Service database or commercially available data for use with SUCCESS is highly recommended. The detail for each cost estimate submittal must be commensurate with the level of design required for that submittal.

D. ENGINEERING SERVICE DELIVERABLES: The following Engineering Service Deliverables are required for this T.O.:

- Inspection Execution Schedule
 - Accident Prevention Plan
 - Dive Operations Plan
 - Preliminary Assessment Letter
 - Exit Brief Meeting
- a) **Inspection Execution Schedule:** The A-E Contractor shall submit a site specific inspection schedule within two (2) weeks of task order award to the Navy PWD Staff. Inspection schedule shall be provided in MSPProject format, updated as required and at minimum include the following line items:
- Task Order Award (milestone)
 - Project Planning
 - Mobilization
 - In-Brief Meeting
 - Project Execution
 - Exit Brief Meeting
- b) **Accident Prevention Plan (APP):**
The A-E Contractor shall submit a site specific APP in accordance with reference (g) at least three (3) weeks prior to starting any on-site work. An electronic copy (Adobe PDF) shall be sent and a paper copy of the accepted APP shall be retained and producible by the A-E contractor at all times while on-site activities are underway. The Contractor shall evaluate the tasking and site conditions to determine which APP supplemental plans are required; see attachment (2) for specific instructions. As part of the APP, the A-E contractor shall meet the requirements in accordance with reference (g) for one person to be Site Safety and Health Officer (SSHO) qualified and designated as the SSHO at all times.
- i. This person cannot be the diver or standby diver.
 - ii. If the primary SSHO will be the diver or standby diver, then an alternate SSHO must be designated in writing and must meet all SSHO requirements of reference (g) and (a) above.
- c) **Dive Operations Plan Submittal:**
As part of the APP, but as a standalone document, the A-E Contractor shall submit a site specific Dive Operations Plan in accordance with reference (g) to Navy PWD Staff at least three (3) weeks prior to starting any on-site work. An electronic copy (Adobe PDF) shall be sent to Navy PWD Staff and a paper copy of the accepted Dive Operations Plan shall be retained and producible by the A-E contractor at all times while on-site dive operations are underway. See attachment (2) for specific instructions.
- d) **Contractor Daily Reports:**
Complete a Contractor Daily Report for each day at the installation and provide the following day to the COR. Required information includes date, environmental conditions, hours on site, facility(s) inspected, crew size, equipment used, activities performed. Reports are to be signed and dated by the supervisor. The Navy PWD Staff, upon request, shall provide a Contractor Daily Report template prior to commencement of the job.

E. MEETINGS/CONFERENCES/CONFERENCE CALLS:

- a) **Meeting/Conference/Conference Call Minutes:**

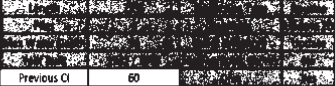
Record all meeting/conference/conference call minutes and provide an electronic copy of these minutes in Adobe PDF format to the Navy PWD Staff within five (5) working days after each meeting.

F. SPECIALTY ENGINEERING AND TESTING DELIVERABLES:

- a) Underwater Cutting and Welding: Underwater cutting and welding may be required to remove and appropriately reinstall the steel panels to create inspection ports to view additional voids.
- b) Soil Borings: Two soil bore specimens shall be collected and tested in accordance with local building codes. Results shall be incorporated into the engineering analysis and report.

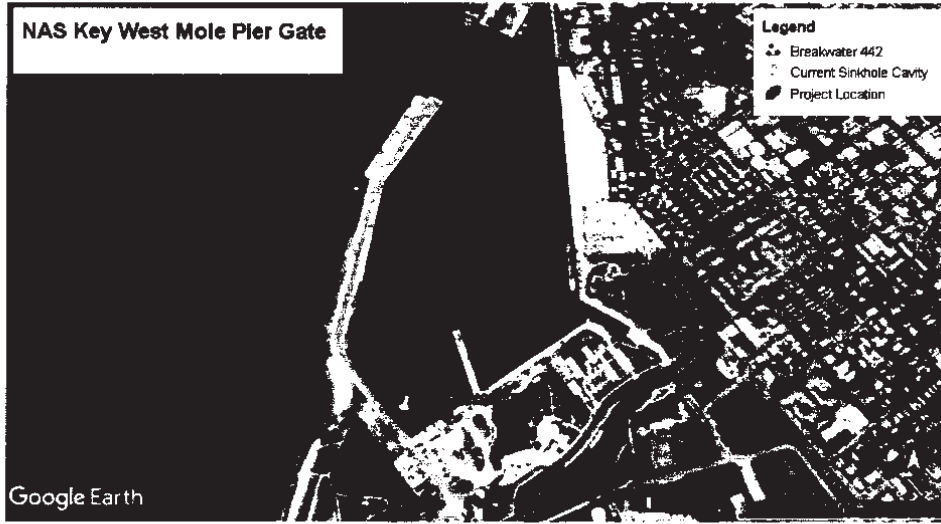
ATTACHMENT (1)

Table 1: Facility List

Mole Pier Gate	NFA200000148323	241510	OUTER MOLE PIER #2 (Breakwater 442)		Project area to include approximately 600 linear feet of seawall shown in Attachment (2)
				Previous CI	60

ATTACHMENT (2)

Location of Project Site



ATTACHMENT (3)

The following is a short summary of the condition of the steel sheet pile bulkhead at Outer Mole Pier 2.

There are four different types of sheet pile located along the facility which are in satisfactory condition overall. The section of sheet pile, however, from 0+00 to 9+55 is in fair conditions with localized areas of failures due to poor construction or past repair failures. This section is comprised of flat sheets and has no coating or cathodic protection system protecting the steel from corrosion. There is typically up to 1/2 inch thick corrosion by product but exposed steel does not exhibit significant section loss and has only minor pitting. There are seven locations where plates were welded onto the sheets, at these locations the welds are in poor condition or the plates were sized incorrectly. At 1+18, a void in the sheet pile exists due to a missing plate. The void is 2 feet wide and 3 feet tall. The fill material is exposed behind the seawall and significant loss of fill material has occurred. This was made evident by a breach in the ground from the topside during a recent small excavation project. The loss of fill has caused a sinkhole roughly 30 feet long along the sheet pile, 15 feet wide behind the sheet pile and up to 17 feet deep. The loss of material is estimated to be greater than 200 cubic yards. The void in the backfill has exposed 3 piles supporting the concrete encasements on top of the sheet pile and 2 tie rods which appears to have corrosion. These items are not currently accessible for further inspection. Below this void, an 18 inch high plate is welded to the sheet pile, the welds are in poor condition with significant section loss. At station 1+26, an additional hole in the sheet pile roughly 18 inches wide and 2 feet high exhibits loss of fill and is expected to be contributing to the large sinkhole. Additional plates with poor quality welds or improper sizing causing small voids in the sheet pile are located at 1+02, 1+24, 1+44, 1+60, and 5+01. At station 1+44, an 8 foot long section of the bulkhead has a void along the mudline up to 1/2 inch tall. This void is visible through the sheet pile knuckles as well as the sheet pile webs indicating that it may be the bottom of the sheets that have become exposed due to the lowering of the mudline from previous dredging project.

The sheet pile is split due to obstructions during construction in 2 locations, station 6+85 and 9+05, fine fill material is seen coming out of the narrow sheet pile splits but no major loss of fill is currently evident. The sheet pile from 9+55 to the end at 23+55 is comprised of four different section types. No major issues were seen along this length of the facility. The sheet pile beyond 9+55 is generally satisfactory with less than 10% coating loss, exposed steel is smooth and does not exhibit section loss. Electrical potential testing confirm that no cathodic protection system is in place on the sheet pile.

ATTACHMENT (4)

