



STATEMENT OF WORK

PORT AND MARINE SERVICES TASK #69: CHARTER BOAT ROW – SURVEYING, PRELIMINARY PLANS AND UTILITY COORDINATION, ENGINEERING FOR PERMITTING, BENTHIC ASSESSMENT AND ENVIRONMENTAL PERMITTING

Key West, FL

This proposal has been prepared in accordance with the current General Engineering Services Agreement between the City of Key West and Tetra Tech, Inc, dated March 29, 2023, Resolution 23-029. The work described herein will be performed on a Lump Sum and Time & Materials basis by Task 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.
October 16th, 2023

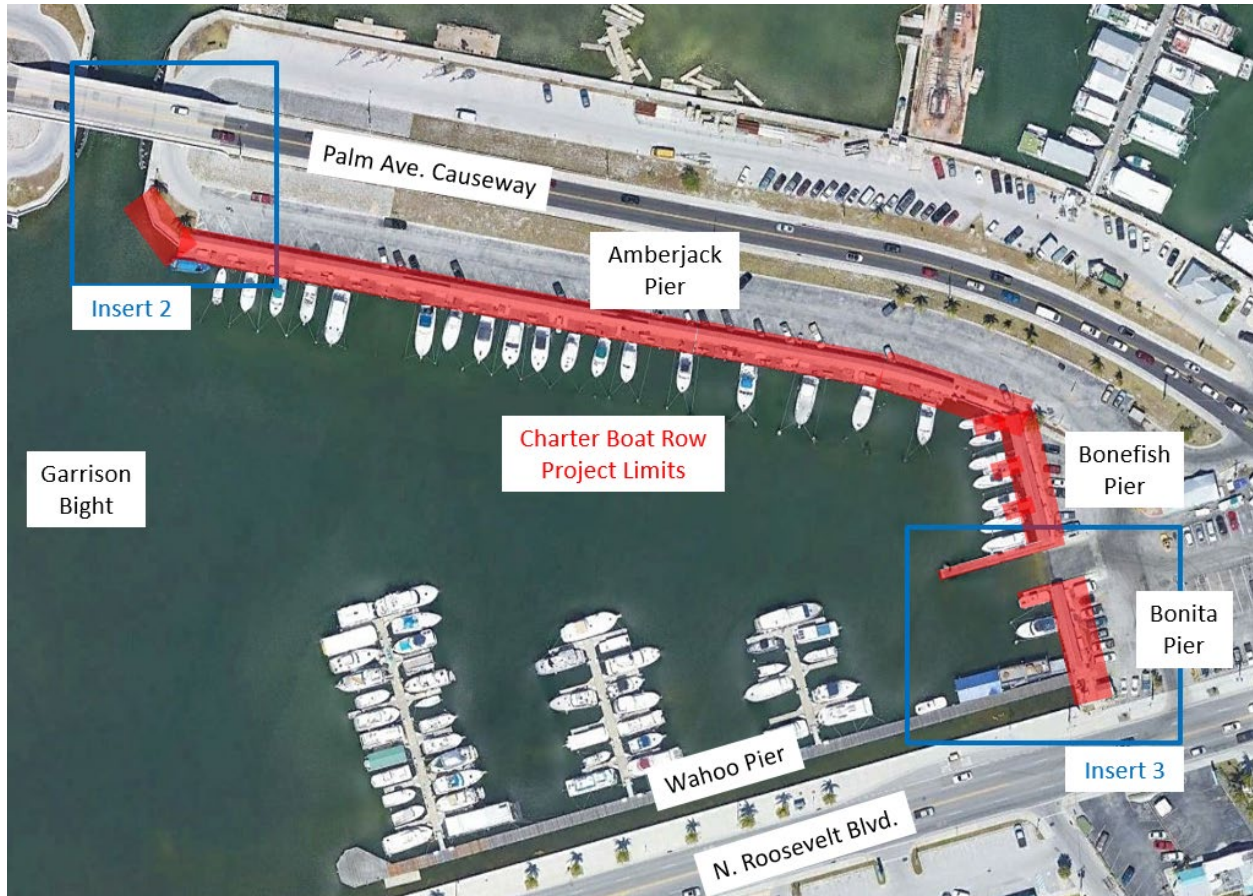




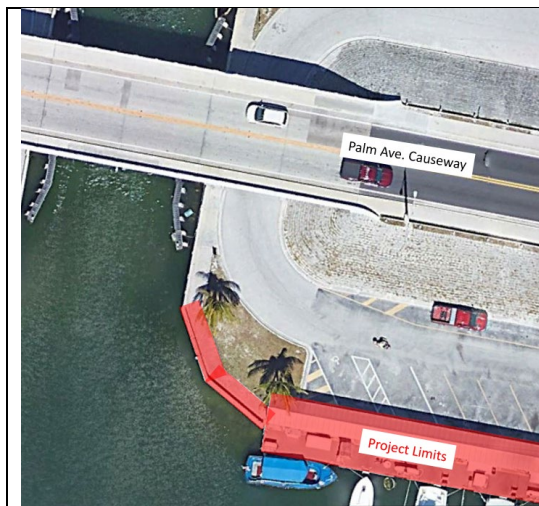
PROPOSAL / STATEMENT OF WORK

Tetra Tech, along with our subconsultant (Florida Keys Land Surveying (FKLS)) will work with the City of Key West Port and Marine Services (City) to perform Topographic & Bathymetric Surveying, Preliminary Engineering and Utility Coordination, Engineering Design for Permitting, Benthic Assessment, Prepare Permit Applications and Process Permit Applications for replacement of approximately 970 LF of the Charter Boat Row Seawall located at the City Marina in Garrison Bight along Palm Avenue Causeway in Key West, FL

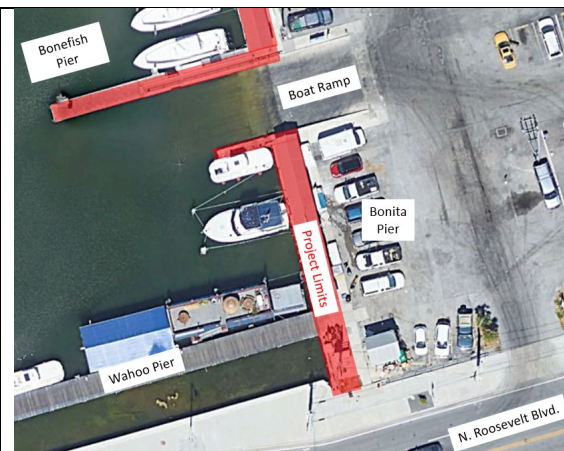
PROJECT LIMITS



Insert 1: Limits of Seawall Replacement Shown in Red



Insert 2: Limits of Seawall Replacement



Insert 3: Limits of Seawall Replacement

Project Understanding

Tetra Tech understands that the City of Key West wishes to replace the subject concrete pile & panel seawall system with a steel sheetpile system within the limits noted above. This proposal seeks to provide a 60% design, sufficient for permitting purposes to replace the seawall immediately waterward of the existing seawall for the limits shown above.

Tetra Tech proposes to support the project through the following Scope of Services:

Task 1 –Surveying (Topographic & Bathymetric)

FKLS will provide Topographic & Bathymetric Survey illustrating the improvements adjacent to the existing seawall at Garrison Bight Charter Boat Row. The scope of work area is defined in red on the sketch within the FKLS proposal (attached) as supplied to FKLS by the client and/or their agent.

- FKLS will locate the approximate R/W line / property line between the City of Key West and FDOT R/W
- FKLS will locate the MHW line on the existing seawall with the elevation
- FKLS will locate the mooring pilings and piling clusters (~60' from seawall) and the bay bottom elevation at these locations.
- FKLS will attempt to the best of their ability to locate the marginal dock supports *(see note (1) below)
- FKLS will attempt to the best of their ability to locate the previous dock supports *(see note (1) below)
- FKLS will attempt to the best of their ability to locate the pilings under the wood dock and connections on the east side. *(see note (1) below)
- FKLS will locate utilities, including: where possible, locating the utilities running under the marginal docks and along the existing seawall. FKLS will attempt to locate the penetrations through the existing seawall. *(see note (1) below) & (see note (2) below)
- FKLS will locate the pump stations, meters, valves, and any other visible above ground utilities under the existing canopy and within the vicinity of the seawall.
- FKLS will locate the bridge fenders on both sides of the access channel under the bridge with a dimension between the said fenders.
- FKLS will locate all fire cabinets within the project vicinity.



City of Key West Port & Marine Services, Key West Bight
Charter Boat Row – Surveying, Preliminary Plans and Utility Coordination,
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- Bathymetry out from the existing seawall (~60' from seawall). Including where possible a shot on the shelf in front of the existing seawall and shots off the marginal dock.
- Horizontal coordinates will be referenced to grid north, based on the 2011 Adjustment of the North American Datum of 1983 (NAD 83/2011), of the Florida State Plane Coordinate System (Transverse Mercator Projection), East Zone.
- Elevations will be in feet and based on the National Geodetic Vertical Datum of 1929 (NGVD 1929).

*Note (1) – Tetra Tech to assist FKLS with these tasks by supplying a diver and or dive team with communication capabilities to work under the existing marginal dock and/or existing seawall cap and document (to the best of their abilities based what is visible to the diver) and communicate items back to the FKLS field crew to be able to accurately map items under the marginal dock and seawall cap. FKLS will not have field crew personnel in the water at any time for this survey work.

*Note (2) – The City of Key West is to provide a city employee familiar with the underground utilities in the area to assist with locating underground lines that cannot be visually seen on-site for the duration of the utility survey field work. FKLS will not excavate any areas in this survey to map underground utilities. The City of Key West to provide a city employee(s) with the capability to temporarily remove wood deck boards on the marginal dock for access below, if deemed necessary by FKLS or Tetra Tech.

(1) Topographic & Bathymetric **\$ 26,876**
Surveying: _____

Task 2 – Preliminary Plans and Utility Coordination

1. Upon receipt of the survey, Tetra Tech will prepare preliminary (30% conceptual) plan set for the seawall replacement that depict the project limits and reference the intended replacement. The project design will match the survey datum of NGVD 1929. The anticipated 30% conceptual plan set would include the following:
 - a. Cover Sheet with Vicinity Map
 - b. Existing Conditions Plan
 - c. Proposed Conditions Plan depicting new seawall waterward of existing
 - d. Typical Conceptual Section of Seawall Replacement
2. Tetra Tech will show replacement of the marginal dock in similar dimensions to the existing dock.
3. Tetra Tech will show the in-kind replacement of three fixed docks at Bonefish Pier, the floating dock abutting the boat ramp to its north, and the fixed dock abutting the boat ramp to its south.
4. Tetra Tech will show removal and replacement of the concrete pilings nearest the seawall for disconnection and reconnection of the docks along Bonefish Pier, just north of the boat ramp and Wahoo Pier, south of the boat ramp.
5. Tetra Tech will show the removal and replacement of all mooring piles along Amberjack Pier.
6. Tetra Tech will create a design ticket with Sunshine 811 and distribute the plan set to all responding utilities requesting confirmation of the presence or absence of utilities in the area. Any responding utility as-builts will be incorporated into future plan sets and design considerations. Should utilities need to be relocated, an additional authorization will be required.
7. Tetra Tech will coordinate with the City Engineering Department for as-built records of utilities within the vicinity of the project.
8. Tetra Tech will coordinate with Keco Pump & Equipment for records on existing pump sizes and sewer pumpout pipes.



(2) Preliminary Plans and Utility Coordination: \$ 20,520

Task 3 – Engineering for Permitting

Tetra Tech will conduct a structural analysis based upon the results of the existing Nutting geotechnical report dated July 2020 and surveying efforts and select a sheetpile solution tailored to fit the project’s unique requirements. Tetra Tech will develop a set of 60% permit drawings to be used in the preparation of permit applications. These drawings may be refined pending any comments received from the City or the regulatory agencies. We assume up to one (1) round of revisions for each agency (FKNMS-NOAA, FDEP and USACE).

Drawings will be focused on the replacement of the seawall with a cantilever steel sheet pile wall with a reinforced concrete cap. Should tie-back rods or other lateral reinforcement be required, they may be designed in a subsequent authorization. The elevation of the replacement seawall top-of-cap will be at the existing seawall cap elevation unless otherwise directed by the City.

Tetra Tech will show the in-kind replacement of three fixed docks at Bonefish Pier, the floating dock abutting the boat ramp to its north, and the fixed dock abutting the boat ramp to its south.

The anticipated 60% permanent seawall replacement permitting plan set will include the following:

1. Cover Sheet with Vicinity Map
2. Soil Boring Logs
3. Existing Conditions Plan
4. Proposed Conditions Plan depicting new seawall waterward of existing and new marginal dock waterward of existing
5. Typical Section(s) of Seawall Replacement, marginal dock replacement, finger pier replacement, and mooring pile replacement
6. Opinion of Probable Construction Cost

(3) Engineering for Permitting: \$ 34,148

Task 4 – Scientific Diving and Benthic Assessment

The benthic resource survey will be performed by a standard SCUBA team of scientific divers as required by the Florida Keys National Marine Sanctuary. Tetra Tech will coordinate with the Florida Keys National Marine Sanctuary to perform the certified resource survey for the permitting process and prepare a written report cataloging the resources and showing their position and size along the face of the existing wall and within 5 LF of the wall for the length of the project. This resource survey will be presented to NOAA for comment and will ultimately be used during the permitting process with FDEP and the USACE.

This cost includes the preparation of the benthic resource survey report with mitigation plan but does not include the physical coral relocation or mitigation. Our mitigation plan will need to be reviewed by NOAA before any mitigation can be performed. It is expected that the benthic resource survey will take 2 days of field time.

As part of this task and where visible, Tetra Tech’s divers will take videos of the underside of the dock to document the location of utilities. Tetra Tech will take videos and photos of the locations where utilities penetrate the seawall. If feasible, Tetra Tech divers will measure conduit sizes. They will also



City of Key West Port & Marine Services, Key West Bight
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communicate with FKLS to relay information to the FKLS field crew to add items under the marginal dock and seawall cap on the survey. This portion of the task is anticipated to take 2 days of field time (see Task #1, *Note (1) above).

(4) Benthic Assessment: \$ 55,104

Task 5 – Prepare Permit Applications

Upon completion of the 60% permitting drawings, Tetra Tech will prepare and submit a permit application for a Verification of Exemption to the Florida Department of Environmental Protection (FDEP) and an application for an Nationwide Permit (NWP-28) to the U.S. Army Corps of Engineers (USACE). Tetra Tech will provide the USACE package to FKNMS-NOAA to expedite their portion of the USACE review. This fee includes up to a total of \$500 in permit application fees (paid by Tetra Tech) at the time of submittal.

(5) Prepare Permit Applications: \$ 9,384

Task 6 – Process Permit Applications

Tetra Tech will process the permit applications through FDEP and the USACE. No coral relocation services are proposed as part of this scope of services. Should these services be required by the permitting agencies, a separate scope and budget can be prepared. We have budgeted up to \$5,000 of coral mitigation fees for this task and \$500 in permit application fees. Should additional coral mitigation fees be required a separate scope and budget can be prepared.

Tetra Tech cannot guarantee the permits will be issued or the length of the review process. It is expected that the permit processing could take over six months to complete. This application processing task includes time for the permit processing of the applications and preparation of one (1) round of required requests for additional information (RFIs).

(6) Process Permit Applications: \$ 14,884

PROJECT ASSUMPTIONS

1. Up to one (1) round of plan revisions for each permitting agency.
2. Tetra Tech reserves the right to rely upon the Geotechnical report prepared by Nutting Engineers prepared during the assessment of this seawall and dated July 2020.
3. The City of Key West is to provide a city employee familiar with the underground utilities in the area to assist with locating underground lines that cannot be visually seen on-site for the duration of the utility survey field work. No excavation will be performed by Tetra Tech or its subcontractors.
4. The City of Key West will provide a city employee with the capability of temporarily removing wood deck boards on the marginal dock for access below, if deemed necessary by FKLS or Tetra Tech.
5. The City owns the Garrison Bight submerged lands and therefore no submerged lands lease work is required.

PROJECT EXCLUSIONS

This proposal does not include the following services, which may be provided under separate authorization:



City of Key West Port & Marine Services, Key West Bight
 Charter Boat Row – Surveying, Preliminary Plans and Utility Coordination,
 Engineering for Permitting, Scientific Diving and Benthic Assessment and Environmental Permitting

- Geotechnical Investigation
- Structural assessment
- Ground penetrating radar
- Coral relocation
- Mitigation Fees beyond \$5,000
- Permitting fees beyond \$500
- Project phasing
- Preparation of construction documents including specifications
- Final engineering
- Design of barriers, fish carving stations, locations of cleats, or features beyond the seawall, cap, and marginal dock
- Replacement of the boat ramp or adjacent wingwalls
- Replacement of Wahoo Pier (see Insert 1 for location)
- City or County permitting
- Utility engineering and/or utility permitting
- Bid support
- Services During Construction

Task	Description	Amount	Terms
1	Surveying	\$ 26,876	LS
2	Preliminary Plans and Utility Coordination	\$ 20,520	T&M
3	Engineering for Permitting	\$ 34,148	T&M
4	Scientific Diving and Benthic Assessment	\$ 55,104	T&M
5	Prepare Permit Applications	\$ 9,384	T&M
6	Process Permit Applications	\$ 14,884	T&M
TOTAL		\$ 160,952	



FLORIDA KEYS LAND SURVEYING

21460 OVERSEAS HWY, SUITE 4, CUDJOE KEY, FL 33042

PHONE: (305) 394-3690

EMAIL : FKLSemail@gmail.com

www.floridakeyslandsurveying.net

SURVEY WORK ORDER

September 8, 2023

RE: Garrison Bight – Charter Boat Row
Key West, FL
Tetra Tech
C/O Dave Frodsham PE
dave.frodsham@tetratech.com

SCOPE OF WORK: Topographic & Bathymetric Survey illustrating the improvements adjacent to the existing seawall at Garrison Bight Charter Boat Row. The scope of work area is defined in red on the attached sketch as supplied to FKLS by the client and/or their agent.

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➤ FIELDWORK - 2 Days of a Water Field Crew Including Boat @ 2,500.00 Day =	\$5,000.00
➤ FIELDWORK - 7 Days of a 1-3 Man Field Crew @ 1680.00 Day =	\$11,760.00
➤ AUTOCAD DRAFTING – 32 Hours @ \$150.00 Hour =	\$4,800.00
➤ PROFESSIONAL SURVEYOR AND MAPPER – 8 Hours @ \$175.00 HOUR =	\$1,400.00

TOTAL SURVEY COST:

\$22,960.00 due upon completion

Accepted By: _____ Date: _____
PRINT NAME SIGNATURE

RR

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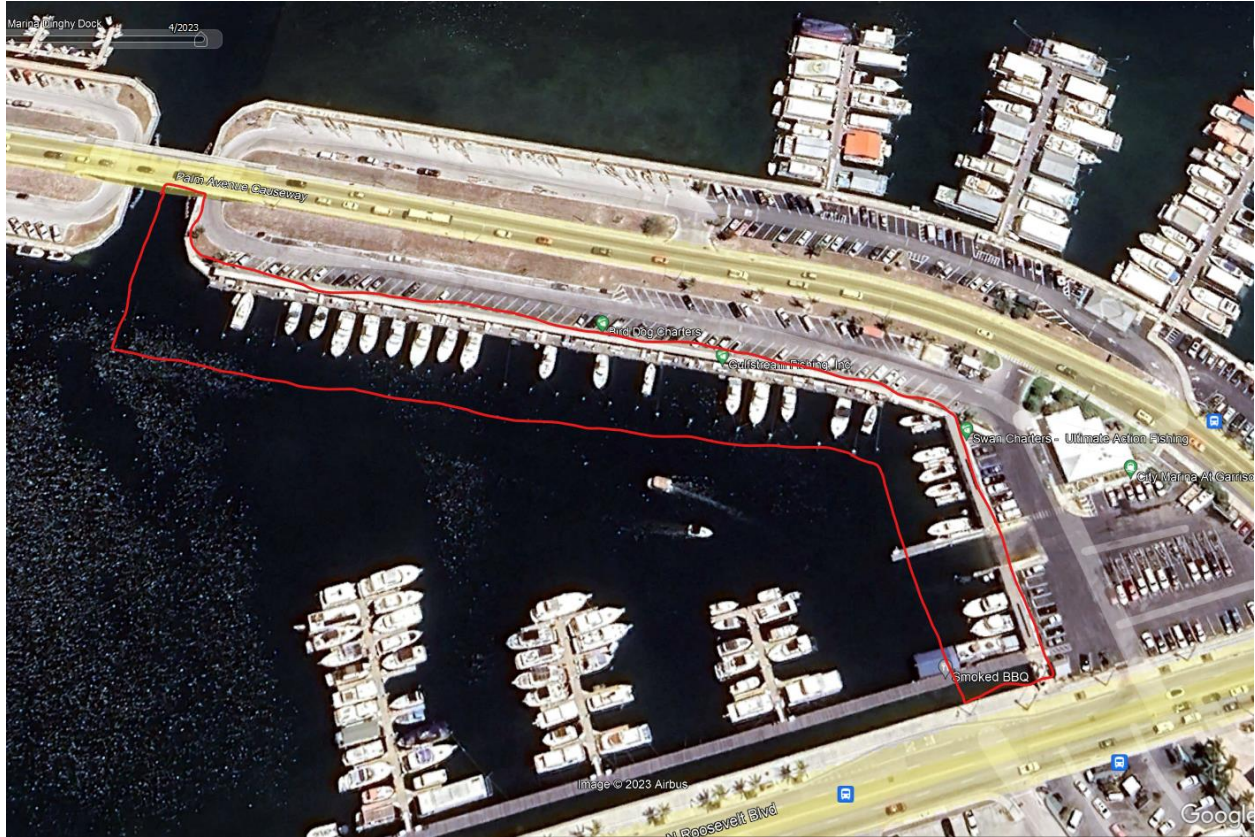
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