



THE CITY OF KEY WEST

3140 Flagler Ave, Key West, FL 33040 (305) 809-3792

EXECUTIVE SUMMARY

TO: Jim Scholl, City Manager

FROM: Jim Bouquet, Director of Engineering

CC: Greg Veliz, Assistant City Manager
Mark Finigan, Finance Director

DATE: February 2, 2016

SUBJECT: Rest Beach Armored Shoreline Design and Permitting

ACTION STATEMENT

Approve Tetra Tech proposal in the amount of \$172,327.00 for the design, permitting and construction document preparation to support permanent armoring of the Rest Beach shoreline. Approve required budget amendment.

BACKGROUND

At the City Commission Budget Workshop on July 22, 2014, effectiveness of the planned project to renourish the sand on Rest Beach and the associated seagrass mitigation project was questioned. In lieu of ongoing sand replacement, it was suggested that staff consider a permanent hardening of the shore line (e.g., riprap armoring, wall). Based on research and discussions with Engineering Services staff and the City's consultant for sand replacement on Rest and Smathers Beaches, the following was noted:

- The area of Rest Beach above the high water mark is subleased by the City from the Florida Department of Natural Resources, Division of Parks and Recreation (sublease date June 7, 1989). The City subsequently developed a Rest Beach Management Plan for upland improvements and renourishment (circa 1990).
- The last major renourishment of Rest Beach (approximately 4,200 tons of sand) occurred in 1994. Less extensive berm rebuild and replanting projects funded under FEMA grants were conducted following five storms between 1995 and 2009. Sand placed during these

projects ranged from 682 tons to 1,064 tons. A 275 ton winter erosion project was conducted in 2012.

- A long term (10 year) Joint Coastal Permit (JCP) for beach renourishment at Rest Beach was issued by the Florida Department of Environmental Protection (FDEP) and the US Army Corps of Engineers (USACE) in March 2015. The sand placement portion of the project is funded (including two TDC grants) and a contract previously awarded in the amount of \$587,600. However, the JCP requires seagrass mitigation (plantings) at an alternative location (the Legacy Site) be conducted concurrent with beach renourishment. In addition to plantings, the USACE is requiring the purchase of seagrass mitigation credits. The purchase of these credits, plus mitigation and associated five-year monitoring, is expected to increase the project cost by approximately \$1.5 million.
- Periodic sand replenishment of the beach and five (5) year (minimum) monitoring of the mitigation site will be required.
- The sloped shoreline along the beachfront continues to erode due to wave and wind action.

Considering the increased project cost due to permit required mitigation and future sand placements, as well as the need to protect the existing shoreline from future erosion, Engineering Services requested a proposal from Tetra Tech to provide planning, engineering, design and permitting to armor (e.g., riprap) the sloped shoreline along Rest Beach. A copy of this proposal dated January 29, 2016 is attached. Work will be performed on a time and materials basis in accordance with the Environmental Engineering Services Agreement between Tetra Tech and the City as authorized under Resolution 14-359. Tetra Tech proposes the following tasks to complete the required scope of work:

Geotechnical Investigation

Topographic, Bathymetric, Boundary and FDEP Permit Surveys

Conceptual Design, Cost Evaluation, Modeling, FDEP Pre-Application Meeting

Preliminary Design and Permitting

FDEP Permit Application and Processing

Final Design, Plans and Specifications

Bid Phase Support

Total not-to-exceed fee as proposed by Tetra Tech is \$172,327.00.

PURPOSE AND JUSTIFICATION

The existing sloped shoreline along Rest Beach is experiencing significant erosion due to wave and wind action. Tetra Tech will provide permitting, design and construction documents to solicit contractor bids to construct long term armoring protection along the shoreline.

Armoring of the Rest Beach sloped shoreline to mitigate further loss of uplands is consistent with the 2011 Key West Strategic Plan Infrastructure Goal # 3, *Parks and recreation areas are accessible to all residents and visitors*, and Goal #4, *Long term sustainability of the City's hard assets*.

FINANCING

The proposed fee of \$172,327.00 will be funded from Account No. 101-1900-519-4600 Rest Beach Seawall (Project IS19001602) in the amount of \$50,000 and a budget amendment of \$122,327.00 from Account No. 101-1900-519-3400, Rest Beach Seagrass Mitigation (Project EN1407).

City shall be responsible to pay the \$8,600.00 Coastal Construction Line Permit application fee. This fee will be paid via Account No. 101-1900-519-3400, Rest Beach Seagrass Mitigation (Project EN1407).

RECOMMENDATION

Approval of the Tetra Tech proposal in the amount of \$172,327.00 for the design, permitting and construction document preparation to support permanent armoring of the Rest Beach shoreline and the required budget amendment is recommended.