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ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

6500 N. Andrews Avenue • Fort Lauderdale, FL 33309 • Phone 954-776-1616

City of Key West

Design Services for Roadway Improvements

Greene Street, Elizabeth Street, and Caroline Street from Simonton Street to Simonton Street

Purpose and Objectives

The City of Key West proposes to implement roadway and streetscape improvements on Greene Street (from Simonton Street to Elizabeth Street), on Elizabeth Street (from Greene Street to Caroline Street), and Caroline Street (from Elizabeth Street to Simonton Street). The desired improvements include reconstruction of the existing roadway to implement a two (2) lane undivided roadway, new concrete sidewalks (minimum width 6 feet), a 5' wide bicycle lane in the southwest direction, parallel parking on one side of the road (northeast direction), landscape improvements, and decorative lighting installations.

Scope of Work

The CONSULTANT will provide engineering services for the design of roadway and streetscape improvements on Greene Street, Elizabeth Street and Caroline Street from Simonton Street to Simonton Street (approximately 1,357.94 linear feet, 0.257 miles).

SURVEY SERVICES:

The City of Key West will provide a topographic survey and right-of-way delineation of the project area in electronic format (AutoCAD (.dwg) or MicroStation (.dgn)). A Digital Terrain Model (DTM) will be provided.

ROADWAY ANALYSIS AND DESIGN:

Engineering design services for this project include design, analysis and agency coordination required to provide construction documents for the reconstruction of approximately 1,357.94 linear feet (0.257 miles) on Greene Street, Elizabeth Street and Caroline Street. On Greene Street and Elizabeth Street the proposed roadway will include one (1) 12 foot wide travel lane (southwest direction on Greene Street and northwest

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direction on Elizabeth Street), a 5-foot-wide bicycle lane (northeast direction on Greene Street and southeast direction on Elizabeth Street), a 7-foot-wide parallel parking lane with landscape bulb outs (southwest direction on Greene Street and northwest direction on Elizabeth Street), curb and gutter, and 11-foot-wide sidewalks on both sides of the street. On Caroline Street the proposed roadway design will include two (2) 11-foot-wide travel lanes, a 5-foot-wide bicycle lane in the southwest direction, a 7-foot-wide parallel parking lane with landscape bulb outs in locations as desirable in the northeast direction, curb and gutter, and 6-foot-wide sidewalks on both sides of the street. Drainage improvements will include modified/relocated drainage structures to maintain the existing drainage system and flow patterns. The City of Key West - Sea level Rise Policy recommends elevating existing roadways to accommodate the anticipated effects of sea level rise. Due to the need to maintain access to existing surrounding developments it is impractical to effectively elevate this roadway segment. As an alternative mitigation strategy to maintain roadway serviceability with potential for groundwater intrusion (sea level rise) into the roadway base structure, the design will propose the use of asphalt base (black base) for roadway reconstruction. *(Note: Consultant will work with City's Drainage/Resiliency consultant, Jacobs Engineering Group, to incorporate any additional resiliency improvements they may recommend)* Sidewalk improvements will be designed to accommodate required ADA criteria and applicable design standards. Assistance with public notification of the proposed project will be provided through attendance and participation at one public information meeting.

SIGNING AND PAVEMENT MARKINGS:

The CONSULTANT shall prepare Signing and Pavement Marking Plans in accordance with all applicable manuals, guidelines, standards, handbooks, and procedures. Signing & Marking plan sheets will include all necessary information related to the project design elements and all associated reference files.

SIGNALIZATION:

There is an existing traffic signal on Caroline Street at the intersection with Simonton Street. The existing traffic signal is a diagonal span wire assembly supported on joint use Keys Energy Services concrete strain poles. The proposed roadway improvements will include sidewalk bulb outs and/or adjustments to the horizontal alignment to avoid impacting the existing traffic signals. No modification to the existing traffic signalization is anticipated. Signalization Plans analysis and design are not included in this Task Work Order Scope of Services.

LIGHTING:

Decorative lighting is proposed along Greene Street, Elizabeth Street, and Caroline Street that is consistent with decorative lighting on other portions of Caroline Street and surrounding roadways. To establish a lighting system that provides for adequate levels of illumination and uniformity it is anticipated that the lighting system will utilize light fixtures mounted on low level decorative poles supplemented by higher level cobra head fixtures mounted on Keys Electric Services poles. The Consultant will coordinate the analysis and design of the lighting system with Keys Electric Services. The CONSULTANT shall prepare Lighting Plans in accordance with all applicable manuals, guidelines, standards, handbooks, and procedures. Lighting plan sheets will include all necessary information related to the project design elements and all associated reference files.

LANDSCAPE AND IRRIGATION:

The CONSULTANT shall prepare Landscape and Irrigation Plans for the project limits. Landscape plans will include both hardscape and landscape details. Hardscape plans will detail areas to receive decorative pavement, materials, and pattern. Proposed selection of street lighting, benches and trash receptacles will include details and specifications. Landscape plans will provide location of proposed trees, shrubs, sod and ground cover, details, technical specifications, and notes. Irrigation plans will show piping, sleeving, details, and technical specifications. The water source is to be municipal water.

UTILITIES:

The Consultant will identify existing utilities based on the survey provided by the City of Key West, as-built plans, records and redline markups provided by the City of Key West and Utility Agencies/Owners (UAO's). The Consultant will identify potential conflicts with the proposed plans and identified existing utilities and coordinate with the City of Key West and UAO's for necessary utility relocations. Relocation of existing utilities will be the responsibility of the City of Key West and/or UAO's as necessary and appropriate.

DESIGN STANDARDS:

The engineer shall prepare a complete set of construction plans following technical standards set forth in the Florida Department of Transportation (FDOT) design criteria set forth in the *Standard Specifications, Standard Plans*, and the *Manual of Uniform Minimum Standards for Design, Construction, and Maintenance of Standard Streets* (Florida Green Book). Additional criteria from the American Society of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets*, Federal Highway Administration (FHWA) *Manual on Uniform Traffic Control Devices (MUTCD)* and Institute of Traffic Engineers (ITE) *Traffic Engineering Handbook* may also be applicable.

DELIVERABLES:

The construction plans shall include the following:

- Roadway Typical Sections
- Roadway Plans / Details identifying areas of pavement to be resurfaced, ADA ramp and Sidewalk modifications and drainage modifications.
- Plans shall also include sidewalk restoration details and tree protection details
- Location and identification of utilities within the right of way area provided by the City of Key West
- Re-striping of roadway alignment (shown of signing and marking plan sheets)
- Standard Maintenance of Traffic narrative referencing applicable FDOT standard Indexes
- General Notes, Details, and specifications

Deliverables supplied to the CITY shall include the following:

- 30% Construction Plans and Cost Estimate
 - Two hard copies
 - One electronic file (PDF format)

- 60% Construction Plans and Cost Estimate
 - Two hard copies
 - One electronic file (PDF format)
- 90% Construction Plans and Cost Estimate
 - Two hard copies
 - One electronic file (PDF format)
- 100% Construction Plans and Cost Estimate
 - Two hard copies
 - One electronic file (PDF format)
- Final “Approved for Construction” Plans and Cost Estimate
 - One original signed and sealed
 - One electronic file (PDF format)
- Final “Approved for Construction” Plans – one CD with Electronic files (MicroStation format)
- Final “Approved for Construction” Cost Estimate - One electronic file (Excel format)

Project Schedule and Staff Hours Estimate

This is a lump sum Task Work Order (TWO) with the exception of Landscape and Irrigation Design services which will be invoiced on a Time and Materials (T&M) basis. The CONSULTANT agrees to begin work upon issuance of the TWO and complete all work tasks within twelve (12) months from NTP.

The CONSULTANT shall prepare and submit to the CLIENT monthly project invoice and progress reports. Project staff hours estimates are provided in **Exhibit A**.

1. ROADWAY ANALYSIS AND DESIGN..... \$107,965
2. SIGNING AND PAVEMENT MARKINGS..... \$ 15,035
3. LIGHTING..... \$ 21,070
4. LANDSCAPE AND IRRIGATION (T&M).....\$ 46,045
5. UTILITIES..... \$ 11,720

Total estimated fees \$201,835.00

(Including staff hours cost, proposed traffic data collection and other direct expenses)

Consultant:

City of Key West:

Date:

Date:

C. Bryan Wilson, PE
Practice Leader – Transportation
KCI TECHNOLOGIES INC

Patti McLauchlin
City Manager
City of Key West



Exhibit A - Staff Hours Estimate

Name of Project: Design Services for Roadway Improvements- Greene Street, Elizabeth Street, and Caroline Street
 County: Monroe
 FPN: N/A
 FAP No.: N/A

Consultant Name: KCI Technologies, Inc.
 Consultant No.: 451900205.00
 Date: 1/31/2022
 Estimator: **SMK**

Staff Classification	Principal	Director	Senior Project Manger	Project Manager	Senior Associate	Associate 2	Associate 1	CADD Technician	Admin. Assistant	Field Crew Supervisor	Project Suveyor	SH By Activity	Salary Cost By Activity	Average Rate Per Task
	\$225.00	\$190.00	\$175.00	\$150.00	\$135.00	\$110.00	\$95.00	\$85.00	\$65.00	\$95.00	\$135.00			
Task 1. Roadway Analysis and Design	0	38	104	257	233	114	0	0	0	0	0	746	\$107,965	\$144.73
Task 2. Signing and Pavement Marking	0	4	12	35	35	20	0	0	0	0	0	106	\$15,035	\$141.84
Task 3. Lighting	0	6	19	49	49	24	0	0	0	0	0	147	\$21,070	\$143.33
Task 4. Landscape and Irrigation	0	12	40	107	107	57	0	0	0	0	0	323	\$46,045	\$142.55
Task 5. Utilities	0	4	12	28	28	8	0	0	0	0	0	80	\$11,720	\$146.50
Total Staff Hours	0	64	187	476	452	223	0	0	0	0	0	1,402		
Total Staff Cost	\$0.00	\$12,160.00	\$32,725.00	\$71,400.00	\$61,020.00	\$24,530.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$201,835.00	\$143.96

SALARY RELATED COSTS:	\$201,835.00
OVERHEAD: 0.000%	\$0.00
OPERATING MARGIN: 0.000%	\$0.00
FCCM (Facilities Capital Cost Money): 0.000%	\$0.00
EXPENSES: 0.000%	\$0.00
SUBTOTAL ESTIMATED FEE:	\$201,835.00
Subconsultant:	\$0.00
SUBTOTAL ESTIMATED FEE:	\$201,835.00
Traffic Data Collection	\$0.00
SUBTOTAL ESTIMATED FEE:	\$201,835.00
Other Direct Expenses	\$0.00
GRAND TOTAL ESTIMATED FEE:	\$201,835.00