

Date: 03/03/2023

Robert McDonald, CGC, Project Manager  
City of Coconut Creek  
5295 Johnson Road  
Coconut Creek, FL 33073

**Ref: Proposal for South Creek Community Improvement Project  
Engineering and Construction Documents.**

Dear Mr. McDonald,

In response to your request for Professional Engineering Services for the above-referenced project, between Carnahan Proctor and Cross Team (CPC), which includes our Sub-Consultant Lakdas/Yohalem Engineering, Inc, and the City of Coconut Creek (City) and is pleased to provide the initial due diligence efforts to develop design and construction cost estimates for the engineering services for the above-referenced project. Per our understanding, this is to assist the City with the Surtax funding application to obtain design funds as a part of the Municipal Capital Projects (MCPs).

#### **I. PROJECT DESCRIPTION**

The City is proposing roadway improvements on approximately 9.5 centerline miles of City roadways in the South Creek community (area bounded by Lyons Road to the west, Coconut Creek Parkway to the north, Turnpike to the east, and Atlantic Blvd. to the south, see Figure 1). Per our understanding, the MCP design funding will cover the following design elements.

1. Installation of traffic calming devices (speed tables) within the residential neighborhood and near the elementary school to enhance safety
2. Pavement marking and signage (safety, bicycle, pedestrian, school zone)
3. Bridges (5) widening, repair and rehabilitation. Bridge widening to accommodate pedestrians and bicyclists. All bridges to be brought up to current code
4. 8'-10' shared use path (along NW 45th Ave, and near the Coconut Creek Elementary School) to accommodate pedestrians and bicyclists
5. Widening of selected existing sidewalks to 8' minimum (10' preferred)
6. Identify deficient (cracked, broken, raised tripping hazards), and missing sidewalks
7. Sidewalk and curbing improvements to be ADA compliant

The following ancillary design elements may be required due to impacts from the above improvements

1. Swale re-grading
2. Trimming tree roots and installation of root barriers
3. Tree relocation
4. Drainage improvements (minor)
5. Maintenance access structure and utility valve adjustments
6. Milling and resurfacing
7. Roadway reconstruction

The terms and conditions of this proposal shall be in accordance with the “Agreement between the City of Coconut Creek and Carnahan, Proctor and Cross for General Professional Engineering Services RFQ NO. 03-25-20-02”, dated September 20<sup>th</sup> 2020. CPC proposed services include the following:

## **II. SCOPE OF SERVICES**

### **REPAIR, WIDEN AND BRING FIVE BRIDGES TO THE CURRENT CODE**

Bridges consist of single-span, precast concrete solid slab between each bent and abutment on the north and south sides of the canal. It is our understanding that the existing roadway is to have a “Shared Use” Path on both sides of the widened bridge. The expansion of the width of the bridge varies from 8 to 10 feet for each bridge and each side, totaling ten new bridges on each side of the existing 5 bridges. Some of the existing utility lines will be adjusted or relocated to accommodate the stand-alone pedestrian loading bridge directly adjacent to the existing bridge deck.

#### **Task 1.0 Structural Condition Survey and Assessment**

- Review Recent FDOT Reports and Existing Construction Documents.
- Onsite Visual and Sounding Survey.
- Onsite Underwater Survey
- Evaluate Site Findings
- Compile a Brief Report with our Findings, Comments, and Recommendations for Corrective work (In Order of Priority) as required to have the bridges compliant with all applicable Codes and Standards.
- Cost estimate for Proposed Work

The underwater survey will be performed by a specialty engineer.

CPC will submit the following:

#### **Condition Survey & Assessment**

- Draft Report
- Final Report

We estimate a total of 18 weeks for our services, excluding time for city review and comments.

#### **Task 1.1 Specific Purpose Boundary and Topographic for 5 Bridges**

Prepare Special Purpose Topographic Survey for each of the 5 bridges. This will include the 3D Scanning of each of the 5 bridges and a topographic cross-section of the canal below each of the bridges. The survey shall show all visible utilities on the bridge and within the right of way adjacent to the bridge. The survey will also show all right-of-way lines adjacent to the bridge.

We estimate a total of 8 weeks for our services, excluding time for city review and comments.

### **Task 1.2 Geotechnical Investigation**

Perform 2 SPT Borings at 40' deep at each bridge including mobilization, drilling, and split- spoon samples collections, laboratory analysis and soils classifications, and piling recommendations report. The report will include collected soil classifications at one-foot increments starting at two feet below grade, vertical graphs for each boring numbered to correspond to its source location, and a keymap to depict source locations where each boring was taken. From the geotechnical examination of soil samples taken, a report will be produced with soil load-bearing capacities, both vertical and lateral loading. The report will also include piling design recommendations based on the structural engineer's assumed total loads, as well as soil improvement recommendations.

### **Task 1.3 Preparation of Bridge Construction Documents**

Upon receipt of the survey information, the Consultant will develop the Design Plans. These plans will include layout on the updated survey, General Notes, Project Layout & Control, sidewalk and asphalt Demolition Plan, Erosion Control Plan and Paving (Sidewalks), Grading & Drainage Plan (PGD) and Typical Section Plan. Consultant will present the Design Plans & supporting documents to City staff for discussion. City will review and provide comments on Design Plans package to the Consultant within one (2) week of receipt of Plans from Consultant. Within one (2) week of receipt of City comments, the Consultant shall address City comments and schedule a meeting with City Staff to discuss City's comments and Consultant's responses. Consultant & City will determine next steps to proceed to subsequent Tasks and agree to a schedule for delivery of subsequent Tasks of the Design Plans.

- Data collection and Preliminary Design
- Review Existing Data
- Onsite Evaluation
- Verify Site Topography
- Prepare and Review Proposed Roadway Alignment and Preliminary Roadway Plans
- Preliminary Bridge Design with Preliminary Cost Estimate of New Bridge on Each Side of the Bridge Including all Roadway and Safety Improvements
- Structural Analysis
- Structural Plans
- Roadway Plans
- Paving and Drainage Plans
- Signing and Marking Plans
- Utility Adjustment Plans
- Stormwater Erosion Prevention Plans
- Material and Construction Specifications
- Engineer's Opinion of Probable Construction Cost

CPC will submit 30%, 60%, and 100% submittals during the preparation of construction documents.

We estimate a total of 26 weeks for our services, excluding time for city review and comments.

CD

## **PREPARATION OF CONSTRUCTION DOCUMENTS FOR ROADWAY AND SIDEWALK IMPROVEMENTS**

### **Task 2.0 Specific Purpose Boundary and Topographic for Roadway and Sidewalk**

Consultant shall perform a “Specific Purpose Survey” with Topographic Survey for the limits of the “Project”, See (Figure 1). The Project Limits (Figure 1) will be determined by existing platted lines, recovered monumentation, supplied information, existing easements and physical features. In completion of the topography all visible improvements, visible utilities, fences, and ground shots will be located within the Project Limits. Tree Locations will be shown. However, sizes & species will not be shown. Topography features will extend to the limits of the right of way and +/- 5’ beyond Project Limits, where relevant and accessible (Figure 1).

We estimate a total of 8 weeks for our services, excluding time for city review and comments.

### **Task 2.1 Geotechnical Investigation (if necessary)**

Consultant shall perform a Geotechnical Investigation for the purposes of providing soils composition and asphalt core for the roadway and sidewalk improvement. Copies of the Soils Report will be provided to the City within four (4) weeks of completion of the Geotechnical Investigation.

Limits of the above-described Geotechnical Inspection & Soils Report will be conducted to support engineering design for this project only. Any City required extension of the scopes described herein will be considered as Additional Services to this Authorization.

### **Task 2.2 Preparation of roadway and sidewalk Construction Documents**

Upon receipt of the survey information, the Consultant will develop the Design Plans. These plans will include layout on the updated survey, General Notes, Project Layout & Control, sidewalk and asphalt Demolition Plan, Erosion Control Plan and Paving (Sidewalks), Grading & Drainage Plan (PGD) and Typical Section Plan. Consultant will present the Design Plans & supporting documents to City staff for discussion. City will review and provide comments on Design Plans package to the Consultant within one (2) week of receipt of Plans from Consultant. Within one (2) week of receipt of City comments, the Consultant shall address City comments and schedule a meeting with City Staff to discuss City’s comments and Consultant’s responses. Consultant & City will determine next steps to proceed to subsequent Tasks and agree to a schedule for delivery of subsequent Tasks of the Design Plans.

We will submit 30%, 60%, and 100% submittals during the preparation of construction documents.

We estimate a total of 26 weeks for our services, excluding time for city review and comments.

### **Task 3.0 Optional Services - Bidding and Permitting Services**

- Assist city staff to obtain the necessary permits.
- Attend Pre-Bid Meetings
- Assist city staff with bidding and bid evaluation
- Reply to any bid RFI’S and if necessary, revise plans accordingly.
- Obtain the necessary permits where required:

**814 S. Military Trail, Deerfield Beach, FL 33442 Tel: 954.972.3959 Fax: 954.972.4178**

**CIVIL ENGINEERING GEOMATICS/SURVEY CONSTRUCTION SERVICES**

[www.cpc-eng.com](http://www.cpc-eng.com)

- South Florida Water Management District
- Broward County
- Coconut Creek Engineering Department

The following Services are not included in the above Scope and Fees are not included in Option 2:

1. Construction Engineering and Inspection (CEI) Services. A separate proposal for CEI services shall be provided to the City by CPC during Task 2.
2. MOT Plans will be prepared by the Contractor. This will be a requirement and Bid Item specified in the Construction Documents.

### III. TIME OF PERFORMANCE

**Schedule: The Total Estimated Time to complete Tasks 1 through 3, is approximately 18 months after receipt of Notice to Proceed, including City’s time for review and comments. A detailed schedule will be submitted to the City for review and comments and approval, within 15 working days after receipt of the Notice to Proceed.**

### IV. COMPENSATION

The following summary of fees outlines the Lump Sum cost for each task to be provided by CPC for the scope of work above:

**SUMMARY OF FEES**  
**South Creek Community Improvement Project - Phase 4**  
**Coconut Creek FL 33066**

Task	Description	Lump Sum Fee	Hourly Fee
1	Structural Condition Survey and Assessment	\$82,555	
1.1	Specific Purpose Boundary and Topographic for 5 Bridges	\$102,500	
1.2	Geotechnical Investigation	\$47,500	
1.3	Preparation of Bridge Construction Documents	\$580,500	
2	Specific Purpose Boundary and Topographic for Roadway and Sidewalk	\$308,000	
2.1	Geotechnical Investigation (if necessary)	\$25,500	
2.3	Preparation of roadway and sidewalk Construction Documents	\$427,000	
3	Optional Services - <i>Bidding and Permitting Services</i>		\$49,500
	<b>Total</b>	<b>\$1,623,055</b>	

### V. EXCLUSIONS (Work Not Included in this Proposal)

- ALTA/NSPS Land Title Survey
- Asbestos Survey and/or Asbestos Abatement Plan

- Environmental Assessments and/or Remediation Plans
- Wetlands Assessments and/or Permitting
- Tree Inventory, Sizes and/or Species
- Title Search
- Platting Services
- Surveys and/or Design Services beyond the Project Limits (Figure 1)
- Utility Services Allocations or Capacities
- Paving, Grading and Drainage Design beyond the Project Limits (Figure 1)
- Parking, Pavement Markings or Signage beyond the Project Limits (Figure 1)
- Additional Lighting within or beyond the Project Limits (Figure 1)
- Traffic Study or Transportation Planning Services
- All Scopes of Design and/or Services not specifically described in this Services Authorization

### END OF SCOPE OF SERVICES

Please let me know if you have any questions or need additional information. CPC is ready to commence this important City Project upon receipt of the Purchase Order and the City's Notice to Proceed.

Sincerely,



Dan Tintner, P.E.  
Senior Vice President  
Carnahan Proctor and Cross, Inc.



# *South Creek Improvements*

*CPC Project No. 230214*

## *ESTIMATE OF PROBABLE COST*

*FOR*

### *Roadway, Sidewalk and Bridge Improvements*

*3/3/2023*

**NOTE:**

This cost estimate is preliminary, based on numerous assumptions which may vary greatly. This estimate was based on a preliminary site plans. The accuracy of this estimate cannot be guaranteed.



BY: P.K.  
 DATE: 3/3/2023  
 JOB NO. 230214

**South Creek Improvements**  
**Roadway, Sidewalk and Bridge Improvements**

**ENGINEER'S ESTIMATE**

Item #	Description	Quantity	Unit	Unit Price	Estimated Cost
<b>A. ROADWAY</b>					
1	1" Asphalt Pavement Milling and Resurfacing	140,500	S.Y.	\$ 12.00	\$ 1,686,000.00
2	2" Asphalt Pavement Type 9.5	35,130	S.Y.	\$ 17.00	\$ 597,210.00
3	2" Asphalt Pavement Removal	35,130	S.Y.	\$ 22.00	\$ 772,860.00
4	Scarify 4" of Existing Limerock Base	36,610	S.Y.	\$ 6.00	\$ 219,660.00
5	New Type "D" Curb	6,870	L.F.	\$ 18.00	\$ 123,660.00
<b>Subtotal Roadway</b>					<b>\$ 3,399,390.00</b>
<b>B. SIDEWALK</b>					
1	New 4" Concrete Sidewalk Widening (additional)	29,250	S.Y.	\$ 15.00	\$ 438,750.00
2	Removal of 4" Concrete Sidewalk	5,160	S.Y.	\$ 10.00	\$ 51,600.00
3	New 4" Concrete Sidewalk	3,500	S.Y.	\$ 15.00	\$ 52,500.00
4	6" Limerock Base	3,650	E.A.	\$ 6.00	\$ 21,900.00
5	ADA Handicap Ramps Single	50	E.A.	\$ 1,300.00	\$ 65,000.00
6	Detectable Warning	130	E.A.	\$ 50.00	\$ 6,500.00
<b>Subtotal Sidewalk</b>					<b>\$ 636,250.00</b>
<b>C. DRAINAGE IMPROVEMENTS</b>					
1	Type C Drainage Structure	10	E.A.	\$ 3,500.00	\$ 35,000.00
2	4'x4' Exfiltration Trench	300	L.F.	\$ 200.00	\$ 60,000.00
3	Swale regrading	32,050	S.Y.	\$ 12.00	\$ 384,600.00
4	Sod (Bahia)	32,050	S.Y.	\$ 4.00	\$ 128,200.00
<b>Subtotal Drainage Improvements</b>					<b>\$ 607,800.00</b>
<b>D. TREE REMOVAL</b>					
1	Tree Relocation / Removal	5	LS	\$ 2,500.00	\$ 12,500.00
2	Tree Root and Tree Root Barrier	3,250	L.F.	\$ 75.00	\$ 243,750.00
<b>Subtotal Tree Removal</b>					<b>\$ 256,250.00</b>
<b>TOTAL ROADWAY &amp; SIDEWALK CONSTRUCTION COST</b>					<b>\$ 4,899,690.00</b>
<b>E. BRIDGE WIDENING AND REHABILITATION</b>					
1	Structural Bridge Widening and safety Rehabilitation	5	LS	\$ 800,000.00	\$ 4,000,000.00
1	Bridge pavement, sidewalk Utility Relocation, Concrete Barrier with railing and Code Compliance	5	LS	\$ 210,000.00	\$ 1,050,000.00
<b>Subtotal Bridge Widening and Rehabilitation</b>					<b>\$ 5,050,000.00</b>
<b>Total Bridge Widening Construction Cost</b>					<b>\$ 5,050,000.00</b>
<b>SUB TOTAL CONSTRUCTION COST</b>					<b>\$ 9,949,690.00</b>





BY: P.K.  
 DATE: 3/3/2023  
 JOB NO. 230214

**South Creek Improvements**

Roadway, Sidewalk and Bridge Improvements

ENGINEER'S ESTIMATE

<b>F</b>	<b>MISCELANEOUS CONSTRUCTION COST</b>				
	<b>General Requirements</b>				
1	Lump sum including Surveying, Stake-out and As-Built Drawings	1	LS	7%	\$ 342,978.30
	<b>Contractor Mobilization and Demobilization</b>				
2	Lump sum for the cost of mobilizing and demobilizing contractors equipment and personnel for this project	1	LS	5%	\$ 244,984.50
	<b>Stormwater Pollution Prevention</b>				
3	Including furnish, install and remove inlet protection system within and adjacent to the project site	1	LS	2%	\$ 97,993.80
	<b>Maintenance of Traffic</b>				
4	Lump sum for the cost of installing, maintaining through construction, and removing appropriate maintenance of traffic measures to ensure the safety of all vehicles and pedestrians passing the project site during construction of this project	1	LS	5%	\$ 244,984.50
	<b>Pavement and Markings</b>				
5	Traffic calming futures and required re-stripe and new pavement marking and signage due to pavement resurfacing	1	LS	6%	\$ 293,981.40
	<b>Permitting and Additional Work Allowance</b>				
6	Permit: Contractor to obtain preapproval from PM and submit receipt for reimbursable	1	LS	5%	\$ 244,984.50

<b>Subtotal Miscellaneous Construction Cost</b>					<b>\$ 1,469,907.00</b>
---	--	--	--	--	------------------------

<b>Subtotal all Construction Cost</b>					<b>\$ 11,419,597.00</b>
---------------------------------------	--	--	--	--	-------------------------

<b>Contingency ( includes 5 year inflation at 3% per year average )</b>				25%	<b>\$ 2,854,899.25</b>
---	--	--	--	-----	------------------------

<b>GRAND TOTAL ESTIMATE OF CONSTRUCTION COST</b>					<b>\$ 14,274,496.25</b>
--	--	--	--	--	-------------------------

<b>Design Services for Civil Engineering, Surveying, Structural, Geotechnical (see proposal dated 03/03/2023)</b>			11.37%	Grand Total of Construction Cost	<b>\$ 1,623,055.00</b>
---	--	--	--------	----------------------------------	------------------------