

Proposal for Task Order No.2

**City of Fort Lauderdale
Sidewalk Inspection and Management System
Project No 11762A**

Scope of Consulting Services
between

The City of Fort Lauderdale, Florida

and

CONSULTANT - Atkins North America, Inc.
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Dated the _____ day of _____, 20____

TASK ORDER No. 2

Dated this _____ day of _____, 20____

CITY PROJECT No. 11762A

FORT LAUDERDALE PUBLIC WORKS DEPARTMENT

PROJECT NAME: SIDEWALK INSPECTION AND MANAGEMENT SYSTEM

PROFESIONAL SERVICES

Describing a specific agreement between the City of Fort Lauderdale (CITY) and **CONSULTANT Atkins North America, Inc.** (CONSULTANT) in accordance with the terms of the agreement for professional services dated November 6, 2012 between CITY and CONSULTANT ("MASTER AGREEMENT") by City Commission on November 6, 2012.

PROJECT INFORMATION

INTRODUCTION

There are approximately 425 miles of existing concrete sidewalk within the City. Of the existing sidewalks a portion have been damaged and in need of repair. However, currently the City does not have a proper and accurate mechanism to identify the damaged sidewalk areas before they pose a risk to the City. Based on the current City Code of Ordinances (Sec. 25-58 (a)), the property owner is responsible for the maintenance of the sidewalk abutting their property, therefore, currently sidewalks are only inspected and repaired based on property owner complaints received or claims through the City's Risk Management Department. The City currently budgets a portion of the annual CIP funds to repair damaged sidewalks.

In order to properly identify areas of damaged sidewalk within the City Right of Way, a process needs to be implemented to identify the following:

- Locations of damaged sidewalks
- Does the termination of the sidewalk have an existing curb ramp (ADA accessibility will not be verified)?
- Does the existing curb ramp have detectable warning strips?
- Causes of damage
- Weighted sidewalk score
- Type of repairs required
- Approximate square footage of damages

- Cost of repair
- Recommendation for implementation of 5-year workplan based on cost estimates from inspections

This will allow the City to obtain an objective view of the sidewalk repair needs and in turn to be able to properly identify the need, prioritization, budget and implementation of the Sidewalk Management System.

This Sidewalk Management System will allow the City to take a proactive approach in identifying the location, type, and causes of sidewalk damage. Having accurate data which pinpoints areas of need will facilitate the planning and budgeting process for the sidewalk repair program and give the City a benchmark for improvement. It is recommended that the City implement this Sidewalk Management System by hiring a **CONSULTANT** to develop a software database that the City can maintain and update for future construction and inspections. Also, it is recommended that the City hire a **CONSULTANT** to perform the field inspection work of damaged sidewalks.

PROJECT DESCRIPTION

The proposed task order provides for project initiation, a condition matrix, field work preparation, field inspection, field quality control, GPS to GIS data conversion, producing an interactive dashboard database, and sidewalk defect identification for approximately 425 miles of the City. The proposed task order also provides electronic and hardcopies of the database which shall be owned, maintained and updated by the City.

SCOPE OF SERVICES

CONSULTANT shall provide all services described on the tasks herein below:

- o Task 1- Project initiation
- o Task 2- Develop condition matrix
- o Task 3- GIS Dataset and MS Access based application development
- o Task 4- Field inspections
- o Task 5- Field quality control
- o Task 6- Conversion of the field collected data to a GIS features
- o Task 7- Conclusions and recommendations report
- o Task 8 – Sustainability evaluation

City of Fort Lauderdale Sidewalk Inspection and Assessment

Task 1 – Project initiation

- Task 1: Project initiation
 - o Subtask 1: Project kickoff meeting
 - o Subtask 2: Inventory data collection

CONSULTANT will work with the City and hold a project kickoff meeting to discuss the scope, objectives/goals, deliverables, and schedule. Additionally, the City will provide copies of inspections performed to date and any other relevant information available at the time of the meeting.

The inventory data will be quality checked, corrected if necessary, and used as a guide for data collection in Task 2.

Task 2 – Develop condition matrix

- Task 2: Inspection
 - o Subtask 1: Identify condition matrix based on agreed upon defects
 - o Subtask 2: Software coordination on matrix.

CONSULTANT will work with the city in developing a condition matrix that will be utilized for the duration of the project.

Condition matrix will include:

1. Damage location (GPS location in state plane coordinates with nearest address)
2. Length of damage
3. Photo of damage
4. Damage type (swale tree root, owner's tree root, uplift, broken sidewalk, water box separation, FPL box separation, cable box separation, phone box separation, gas box separation, other box separation)

Task 3 – Preparation of MS Access application and GIS dataset development

- Task 3: Field work preparation
 - o Sub Task 3.1: Database Design
 - o Sub Task 3.2: Geospatial data Design
 - o Sub Task 3.3: ArcPad application Design
 - o Sub Task 3.4: ArcPad application Development
 - o Sub Task 3.5: MS Access application Design
 - o Sub Task 3.6: MS Access application development: Create Data Edit Forms
 - o Sub Task 3.7: MS Access application development: Create basic Queries
 - o Sub Task 3.8: MS Access application development: Create basic Reports
 - o Sub Task 3.9: Testing of The System
 - o Sub Task 3.10: QC and upload inspection data
 - o Sub Task 3.11: Synchronize Data to Access Database
 - o Sub Task 3.12: Development of user manual.

- o Sub Task 3.13: Create GIS dataset of sidewalk assessment

This task will consist of creating functional requirement for an ArcPad based data collection tool and a companion Access Database to host the collected data. This solution will consist of entries of defective side walk defects segments. Each defect entry will consist of multiple ArcPad data entry screens with beginning and end points, one or more images and one or more GPS coordinate. The Access database will consist in a data entry form for capturing additional comments and recommendations for the surveyed features; some predefined basic queries and, some basic reports showing a listing of all of the records containing defective sidewalks entries (developed under Task 4). Selecting a specific entry will provide the user with a page that contains the data collected associated with the entry, all of the images associated with the entry and the specific coordinate(s) associated with this entry. Sub Task 7 consists of testing the system with the goal of removing any defects encountered. Sub task 9 will allow the city to continue sidewalk assessments, produce reports and maps of sidewalks to be repairs for planning purposed, show mitigation of deficiencies, identify new sidewalk defect and load associated pictures.

Task 4 – Field inspections

- Task 4: Field inspections
 - o Subtask 4.1: Train inspectors on developed application
 - o Subtask 4.2: Conduct field inspections

Using the application developed under Task 3, CONSULTANT and SUBCONSULTANT (**Premiere Design Solutions, Inc.**) will conduct an inspection of approximately 425 miles of existing sidewalk within the limits of the City of Fort Lauderdale. This task is proposed as an hourly (not to exceed) task as there are various unknowns that can occur during the execution of this task. Our estimated hours for this task are based on each inspector having the ability to assess approximately 8-10 miles of sidewalk per day.

Sidewalk defects will be identified and registered into the GPS Trimble unit during this task. Prior to inspection, CONSULTANT shall submit a map showing inspection schedule.

Task 5 – Field quality control

- Task 5: Field quality control
 - o Subtask 1: Spot check sample points to confirm information collected on the field is accurate.

CONSULTANT and SUBCONSULTANT (**Premiere Design Solutions, Inc.**) will provide quality control for the work performed under Task 4. Quality control measures include but are not limited to review of inspector's daily assessment, field verification to confirm field assessment is accurate and coordination to prevent routes being duplicated. After Initial 5% of area has been inspected, CONSULTANT shall submit draft information for City review and approval. City will inspect and verify field quality inspection data within two weeks of draft information and submit comments to CONSULTANT in writing. CONSULTANT shall incorporate comments into 90% completion submittal.

Task 6 – Conversion of field collected data to a GIS feature

- Task 6: GPS to GIS conversion and geocode
 - o Subtask 1: Convert field gathered GPS data to GIS

Following field QC efforts, CONSULTANT will convert all field gathered GPS data & attributes to a GIS Polyline feature class capable of incorporation into the enterprise GIS. Perform a geoprocess to assign attribution of situs address where a sidewalk deficiency has been identified by field inspectors. Utilize &

incorporate observations from Task 4 and Task 5 into final GIS product & perform spot checks of address accuracy as part of the GIS data development (Quality Assurance) QA process. The GPS field data collector will be designed to capture all of the required attributes needed to gather, verify sidewalk condition (As previously defined by city staff). The GIS data will be used to assist in criticality evaluation by city staff, as well as for use with the database.

Task 7– Conclusions and Recommendations Report

- Task 7: Format and deliver data
 - Subtask 7.1: Provide electronic and hard copies of the database
 - Subtask 7.2: Prepare and finalize a 5-yearwork plan with costs.

CONSULTANT will provide electronic database (in PDF and raw data format) along with a hard copy of the dashboard elements from the damaged inspections identified in Task 3 and 4. Additionally, CONSULTANT will prepare a summary report with following categories:

- Location of damaged sidewalk (nearest address based on data collection)
- Cause of damage (determination to be made by Consultant)
- Weighted sidewalk score (based on condition matrix developed by Consultant)
- Type of repair required (replacement or local repair)
- Approximate square footage of damage (based on data collected during inspection)
- Cost of repair (determination to be made by Consultant)
- Recommendation for implementation of 5-year workplan based on cost estimate from inspections (determination to be made by Consultant)
- Access Database that will allow the user to continue with the sidewalk assessment and maintenance of the program. Consultant will also give “All rights reserved” to the city on all the field data collected and developed software and computer programs.

Task 8– Sustainability Evaluation

- Research, review, evaluate, and determine cost associated with items and recommendation of alternative materials for sidewalk replacement.
 - CONSULTANT will research alternative sustainable materials in the industry and identify parameters for most efficient use within the City. This evaluation will consist of recycled material, porous pavement, and other sustainable systems. CONSULTANT will incorporate the options into the recommendations for the improvements.

DELIVERABLES

Task 1 – Project initiation

- Meeting minutes for kickoff meeting in PDF format (and revisions as needed)

Task 2 – Develop condition matrix

- Established protocol based on coordination with City

Task 3 – Preparation of MS Access application and GIS dataset development

- Copy of maps and exhibits utilized for field data collection
- MS Access database with forms and reports
- Geospatial datasets

Task 4 – Field inspections

- None.

Task 5 – Field quality control

- None.

Task 6 – Conversion of field collected data to a GIS feature

- A line feature shapefile representing areas identified as deficient by field staff. The shapefile will be delivered in the preferred coordinate system of the city. The delivered shapefile will include all field gathered deficiency attributes, a GIS derived situs address & relationship key for associated field photography.

Task 7– Conclusions and recommendations report

- Report with executive summary and findings/conclusions

Task 8– Sustainability Evaluation

- Matrix with options and recommendations for utilization in improvement program.

PROJECT ASSUMPTIONS

Specific assumptions for the project:

- CONSULTANT will interface with City GIS personnel to collaborate on GIS data development
- The application will target the ArcPad platform
- The system will contain 1 report with simple selection criteria
- NTP for Tasks 1-8 must occur at the same time.
- Web based software will be hosted on City server (by others)

CITY'S RESPONSIBILITIES

- Provide GIS support as needed, including but not limited to; providing high resolution aerial photography & GIS data layers needed for reference & interpolation purposes.
- Provide access to field inspection team
- Provide responses to any questions in a timely fashion

PERFORMANCE SCHEDULE

The CONSULTANT shall perform the services identified in Task 1 through 8 inclusive within 90 calendar days of written Notice to Proceed. The CONSULTANT shall submit progress report at 90% completion for city review and comment. The City shall provide all comments in writing within 5 days & CONSULTANT shall submit final 100% deliverable within 15 days. After final submission of documents, CONSULTANT shall be responsible to finish any inspections that were excluded from reporting.

METHOD OF COMPENSATION

The services performed will be accomplished using a Not to Exceed method of compensation. All tasks shall be completed concurrently. Reimbursable expenses associated with these services are not included in the fees and will be itemized separately, subject to an established Not to Exceed limit. A fee schedule and cost breakdown is included on Exhibit A.

A summary of the proposed tasks is shown below:

Task Description	Totals
Task 1: Project initiation	
Task 1 Total	\$ 1,688.00
Task 2: Develop condition matrix	
Task 2 Total	\$ 2,700.00
Task 3: Preparation of MS Access application and GIS dataset development	
Task 3 Total	\$ 61,290.00
Task 4: Field inspections	
Task 4 Total	\$ 33,370.00
Task 5: Field quality control	
Task 5 Total	\$ 6,341.00
Task 6: Conversion of field collected data to a GIS feature	
Task 6 Total	\$ 12,288.00
Task 7: Conclusions and recommendations report	
Task 7 Total	\$ 13,060.00
Task 8: Sustainability Evaluation	
Task 8 Total	\$ 6,672.00
Total	\$ 137,409.00

Reimbursable expenses will have a not to exceed value of \$10,000. Trimble Unit rentals will be submitted to the City as a reimbursable expense (6 units @ \$1,300/month for 1 month). Any expenses incurred in the project will require pre-approval from the City.

Estimated breakdown of Trimble Unit rental costs:

Model- Geo XT 6000 (submeter accuracy)

- \$65/day
- \$325/week
- \$1,300/month

Receipts from vendor will be provided as supporting documentation at time of invoice submittal.

IN WITNESS OF THE FOREGOING, the parties have set their hands and seals the day and year first above written.

CITY

WITNESSES:

CITY OF FORT LAUDERDALE, a municipal corporation of the State of Florida:

By _____
LEE R. FELDMAN, City Manager

Witness Print Name

Witness Print Name

(CORPORATE SEAL)

ATTEST:

JONDA K. JOSEPH, City Clerk

Approved as to form:

CARRIE L. SARVER, Assistant City Attorney

CONSULTANT

WITNESSES:

Atkins North America, Inc.

By: _____

Print Name

Name: David J. Carter

Title: Senior Vice President

ATTEST:

Print Name

By: _____

Name: _____

Title: _____

(CORPORATE SEAL)

STATE OF FLORIDA:
COUNTY OF _____:

_____ and _____ as _____ (Authorized person's title) and _____ (Attest person's title) respectively, of Atkins North America, Inc. acknowledged the foregoing instrument before me this _____ day of _____, 2014, on behalf of the corporation. They are personally known to me and did not take an oath.

Notary Public, State of Florida
(Signature of Notary taking Acknowledgement)

Name of Notary Typed, Printed or Stamped

My Commission Expires

Commission No.

EXHIBIT A

FEE SCHEDULE, REIMBURSABLES AND OTHER COSTS

Task Description Labor category in FTL GEC contract	Labor Hours										Totals
	Atkins (Rates based off contract)						PDS (Rates based off contract)				
	Project Principal	Senior Project Manager	Engineer II (Civil Engineer)	Engineer II (GIS Analyst)	Project Manager (Software Developer)	Project Manager (Software Developer)	Project Manager (GIS Specialist II)	Principal	Resident Engineer (PE)	Technician II	
\$ 200.00	\$ 159.00	\$ 90.00	\$ 90.00	\$ 148.00	\$ 148.00	\$ 148.00	\$ 145.00	\$ 122.00	\$ 65.00		
Task 1: Project initiation											
1.1 Project Kickoff Meeting	1	2	3		1				1		8
1.2 Inventory data collection			3	4							7
Task 1 Total Hours	1	2	6	4	1	0	0	0	1	0	15
Task 1 Total	\$ 200.00	\$ 318.00	\$ 540.00	\$ 360.00	\$ 148.00	\$ -	\$ -	\$ -	\$ 122.00	\$ -	\$ 1,688.00
Task 2: Develop condition matrix											
2.1 Identify condition matrix	1	8		4	4						17
2.2 Software coordination on matrix				2	2						4
Task 2 Total Hours	0	8	0	6	6	0	0	0	0	0	21
Task 2 Total	\$ -	\$ 1,272.00	\$ -	\$ 540.00	\$ 888.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,700.00
Task 3: Preparation of MS Access application and GIS dataset development											
3.1 Database Design		4			8		4				16
3.2 Geospatial Data Design		4		8							
3.3 ArcPad application Design						24					
3.4 ArcPad application Development						40					
3.5 MS Access application Design		4			30						34
3.6 Create Data Edit Forms					24						24
3.7 Create basic Queries		4			24						28
3.8 Create basic Reports		4			24		24				52
3.9 Testing of the System		4			12	16	24				56
3.10 QC and upload inspection data		2			12		16				30
3.11 Synchronize Data to Access Database					4						
3.12. Development of user manual					24						
3.13 GIS dataset of sidewalk assessment	2	4		40	40						86
Task 3 Total Hours	2	30	0	48	202	80	68	0	0	0	326
Task 3 Total	\$ 400.00	\$ 4,770.00	\$ -	\$ 4,320.00	\$ 29,896.00	\$ 11,840.00	\$ 10,064.00	\$ -	\$ -	\$ -	\$ 61,290.00
Task 4: Field inspections											
4.1 Train inspectors on developed application	1	8		4	4			4	16	32	69
4.2 Conduct field inspections		16								366	382
Task 4 Total Hours	1	24	0	4	4	0	0	4	16	398	451
Task 4 Total	\$ 200.00	\$ 3,816.00	\$ -	\$ 360.00	\$ 592.00	\$ -	\$ -	\$ 580.00	\$ 1,952.00	\$ 25,870.00	\$ 33,370.00
Task 5: Field quality control											
5.1 Field quality control		8	4	2	12	4		1	8	16	55
Task 5 Total Hours	0	8	4	2	12	4	0	1	8	16	55
Task 5 Total	\$ -	\$ 1,272.00	\$ 360.00	\$ 180.00	\$ 1,776.00	\$ 592.00	\$ -	\$ 145.00	\$ 976.00	\$ 1,040.00	\$ 6,341.00
Task 6: Conversion of field collected data to a GIS feature											
6.1 Convert field gathered GPS data to GIS		4		90	16	8					118
Task 6 Total Hours	0	4	0	90	16	8	0	0	0	0	118
Task 6 Total	\$ -	\$ 636.00	\$ -	\$ 8,100.00	\$ 2,368.00	\$ 1,184.00	\$ -	\$ -	\$ -	\$ -	\$ 12,288.00
Task 7: Conclusions and recommendations report											
7.1 Format and deliver data	4	20		12	10	8					54
7.2 Cost estimate and Syr workplan		8	24	8	8						48
Task 7 Total Hours	4	28	24	20	18	8	0	0	0	0	102
Task 7 Total	\$ 800.00	\$ 4,452.00	\$ 2,160.00	\$ 1,800.00	\$ 2,664.00	\$ 1,184.00	\$ -	\$ -	\$ -	\$ -	\$ 13,060.00
Task 8: Sustainability Evaluation											
8.1 Research, review, and evaluation		8	60								68
Task 8 Total Hours	0	8	60	0	0	0	0	0	0	0	68
Task 8 Total	\$ -	\$ 1,272.00	\$ 5,400.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,672.00
Total Hours (all tasks)	8	112	94	174	259	100	68	5	25	414	1,088
Total (all tasks)	\$ 1,600.00	\$ 17,808.00	\$ 8,460.00	\$ 15,660.00	\$ 38,332.00	\$ 14,800.00	\$ 10,064.00	\$ 725.00	\$ 3,050.00	\$ 26,910.00	\$ 137,409.00