CITY OF DELRAY BEACH
100 NW 1st AVENUE, DELRAY BEACH, FL 33444

AGREEMENT FOR PROFESSIONAL SERVICES

RFQ 2017-048 (918-42, 918-89, 906-56)

CRAVEN THOMPSON & ASSOCIATES, INC.

AGREEMENT
FOR
PROFESSIONAL SERVICES (CCNA)

AGREEMENT NO. RFQ 2017-048 (918-42, 918-89, 906-56)

THIS AGREEMENT is made and entered into this 31st day of August, 2017 (the "effective date"), by and between the **City of Delray Beach,** a Florida municipal corporation (hereinafter referred to as "City"), whose address is 100 NW 1st Avenue, Delray Beach, Florida, 33444, and **Craven Thompson & Associates, Inc.,** a Florida corporation (hereinafter referred to as "Consultant"), whose principal address is 3563 NW 53rd Street, Fort Lauderdale, Florida 33309.

WHEREAS, the City desires to retain the services of the Consultant to provide certain Professional Services in accordance with the City's Request for Qualifications RFQ 2017-048, Continuing Engineering, Surveying, and Landscaping Architectural Consulting Services (918-42, 918-89, 906-56), and the Consultant's response thereto, which are attached hereto and incorporated herein as Exhibit "A".

NOW, THEREFORE, in consideration of the mutual covenants and promises hereafter set forth, the Consultant and the City agree as follows:

ARTICLE 1. INCORPORATION OF REQUEST FOR QUALIFICATIONS

The terms and conditions of this Agreement shall include and incorporate the terms, conditions, and scope of services set forth in the City's Request for Qualifications, RFQ 2017-048, and the Consultant's response to the Request for Qualifications, including all addenda and documentation required thereunder.

ARTICLE 2. SCOPE OF SERVICES

The Consultant shall provide Professional Services to the City, under the following categories of work as defined in the Request for Qualifications:

a. Category(s)

i. Engineering Services
ii. Surveying/Mapping Services
iii. Landscape Architectural Services

The Consultant shall provide the services on an as-needed and project-by-project basis, based on work requests from City departments through the issuance of Service Authorizations.

ARTICLE 3. COMPENSATION

The City shall pay the Consultant for performing the Services based on the Prices and Rates shown in Exhibit "B", which is attached hereto and incorporated herein.

ARTICLE 4. TERM

The term of this Agreement shall be from the effective date until August 30, 2022, unless terminated beforehand as provided for in Article 5. Nothing contained in the Request for Qualifications or this Agreement shall be construed by the Consultant as a guarantee of work from the City. The City reserves the right to extend the Agreement for one, two-year term, providing all terms conditions and specifications remain the same, both parties agree to the extension, and such extension is approved by the City.

At the City's request, the Consultant shall continue services beyond the final expiration date. This extension period shall not extend for more than one year beyond the final expiration date of the Agreement. The Consultant shall be compensated at the rate in effect when this extension period is invoked by the City.

ARTICLE 5. TERMINATION

a. This Agreement may be terminated by the City, with or without cause, upon providing written notice to the Consultant. This Agreement may be terminated by the Consultant upon thirty (30) days' prior written notice to the City. Upon any such termination, the Consultant waives any claims for damages from such termination, including, but not limited to, loss of anticipated profits. Unless the Consultant is in breach of this Agreement, the City shall pay the Consultant for services rendered through the date of termination in accordance with the terms of this Agreement.

b. The continuation of this Agreement beyond the end of any fiscal year shall be subject to both the appropriation and the availability of funds in accordance with Florida law.

ARTICLE 6. LAW, JURISDICTION, VENUE, WAIVER OF JURY TRIAL

This Agreement shall be interpreted and construed in accordance with and governed by the laws of the state of Florida. All Parties agree and accept that jurisdiction of any controversies or legal problems arising out of this Agreement, and any action involving the enforcement or interpretation of any rights hereunder, shall be exclusively in the state courts of the Fifteenth Judicial Circuit in Palm Beach County, Florida, and venue for litigation arising out of this Agreement shall be exclusively in such

state courts, forsaking any other jurisdiction which either party may claim by virtue of its residency or other jurisdictional device. **BY ENTERING INTO THIS AGREEMENT, SECOND PARTY AND CITY HEREBY EXPRESSLY WAIVE ANY RIGHTS EITHER PARTY MAY HAVE TO A TRIAL BY JURY OF ANY CIVIL LITIGATION RELATED TO THIS AGREEMENT. IF A PARTY FAILS TO WITHDRAW A REQUEST FOR A JURY TRIAL IN A LAWSUIT ARISING OUT OF THIS AGREEMENT AFTER WRITTEN NOTICE BY THE OTHER PARTY OF VIOLATION OF THIS SECTION, THE PARTY MAKING THE REQUEST FOR JURY TRIAL SHALL BE LIABLE FOR THE REASONABLE ATTORNEYS' FEES AND COSTS OF THE OTHER PARTY IN CONTESTING THE REQUEST FOR JURY TRIAL, AND SUCH AMOUNTS SHALL BE AWARDED BY THE COURT IN ADJUDICATING THE MOTION.**

ARTICLE 7. ATTORNEY'S FEES

Any costs or expense (including reasonable attorney's fees) associated with the enforcement of the terms and for conditions of this Agreement shall be borne by the respective Parties, however, this clause pertains only to the Parties to this Agreement.

ARTICLE 8. MISCELLANEOUS PROVISIONS

a. Notice Format. All notices or other written communications required, contemplated, or permitted under this Agreement shall be in writing and shall sent by certified United States Mail, postage prepaid, return receipt requested, or sent by commercial express carrier with acknowledgement of delivery, or by hand delivery with a request for a written receipt of acknowledgment of delivery, addressed to the party for whom it is intended at the place last specified. The place for giving notice shall remain the same as set forth herein until changed in writing in the manner provided in this section. For the present, the Parties designate the following:

As to the City:
City of Delray Beach
100 NW 1st Avenue
Delray Beach, FL 33444
Attn: City Manager

With a copy to:
City of Delray Beach
200 NW 1st Avenue
Delray Beach, Florida 33444
Attn: City Attorney

As to the Consultant:

Craven, Thompson & Associates, Inc.
3563 NW 53rd Street
Fort Lauderdale, Florida 33309
Attn: Patrick J. Gibney, Vice President,
Engineering

b. Headings. The headings contained in this Agreement are for convenience of reference only and shall not limit or otherwise affect in any way the meaning or interpretation of this Agreement.

c. The documents listed below are a part of this Agreement and are hereby incorporated by reference. In the event of inconsistency between the documents, unless otherwise provided herein, the terms of the following documents will govern in the following order of precedence:

i. Terms and conditions as contained in this Agreement.

ii. Terms and conditions of RFQ 2017-048.

iii. Consultant's response to RFQ 2017-048 and any subsequent information submitted by Consultant during the evaluation and negotiation process.

(The remainder of this page intentionally left blank)

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date hereinabove first written.

CITY OF DELRAY BEACH, FLORIDA

By: _____
Cary D. Glickstein, Mayor

ATTEST:

By: _____
Katerri Johnson, City Clerk

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

By: _____
R. Max Lohman, City Attorney

CONSULTANT

By: _____

Title: V.P. Engineer

WITNESSES:

By: Patricia A. Gilbert

Print Name: PATRICIA A. GILBERT

By: _____

Print Name: Leonard Gamble

Craven Thompson & Associates, Inc.
Project Management
Engineering
Landscape Architecture
Surveying & Planning
3563 NW 53rd Street, Fort Lauderdale, FL 33309
Phone: (954) 739-6400

PREPARED FOR

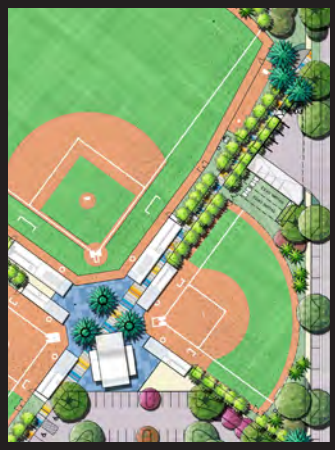
REQUEST FOR QUALIFICATIONS • RFQ NO. 2017-048

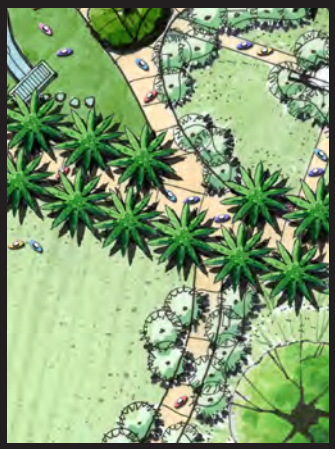
CONTINUING ENGINEERING, SURVEYING, AND LANDSCAPE ARCHITECTURAL CONSULTING SERVICES (918-42, 918-89, 906-56)

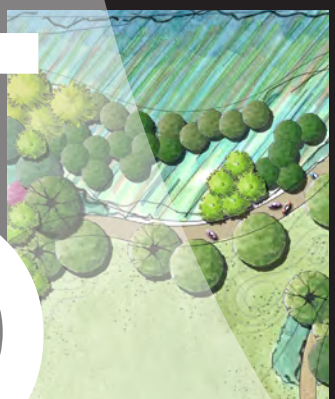
EXHIBIT A

MAY 30TH, 2017

PDF FORMAT







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CHAPTER 1

CHAPTER 1 - LETTER OF INTENT / PROPOSAL SUBMITTAL SIGNATURE PAGE

May 22, 2017

City of Delray Beach
Purchasing Office
100 NW 1st Avenue
Delray Beach, Florida 33444

RE: CONTINUING ENGINEERING, SURVEYING, AND LANDSCAPING ARCHITECTURAL CONSULTING SERVICES (918-42, 918-89, 906-56), RFQ NO: 2017-048

Dear Selection Committee:

In response to the **City of Delray Beach's** Request for Qualifications seeking a consulting firm to provide professional services for the "*Continuing Engineering, Surveying and Landscape Architectural Consulting Services*", **Craven Thompson and Associates, Inc.** (CTA) is pleased to submit this Statement of Qualifications for your consideration. CTA is requesting to be considered for a contract in the following categories:

- Engineering
- Surveying & Mapping
- Landscape Architectural Design
- Civil
- Transportation
- Water Resources/Stormwater

We have provided similar services to many of our past municipal clients. CTA is very familiar with the design, permitting and construction of projects such as that described in the Scope of Services for this RFQ. These types of projects have been the core of CTA's business for the past fifty-five years.

Over the years, we have provided civil and environmental engineering, surveying, G.I.S., landscape architectural and construction management services to numerous municipalities and governmental agencies including the City of Lake Worth, the City of Palm Beach Gardens, City of Greenacres, the City of Dania Beach, the City of Hallandale Beach, the City of Sunrise, the City of Plantation, the City of Weston, the City of Lauderdale Lakes, the City of Fort Lauderdale, the City of Hollywood, the City of Pompano Beach, the City of Oakland Park, the City of Coconut Creek, the City of Coral Springs, the City of Deerfield Beach, the City of Lauderhill, the City of Miramar, the City of Margate, the City of Miami Gardens, the City of Miami Springs, the City of North Miami, the City of North Miami Beach, the City of Miami Beach, the City of Aventura, the Town of Lauderdale-by-the-Sea, the Town of Davie, the Town of Lake Park, Broward County Highway Construction and Engineering Division, Broward County Water and Wastewater Services, School Board of Broward County, Port Everglades, Central Broward Water Control District, Tindall Hammock Irrigation and Soil Conservation District, and the Tri-County Commuter Rail Authority. We have a successful track record in providing infrastructure survey, studies, design, permitting and construction related services to numerous municipalities and governmental agencies.

We sincerely appreciate the opportunity of providing this Statement of Qualifications to the City of Delray Beach and would welcome the chance to demonstrate our capabilities to you and your staff.

Sincerely,

CRAVEN THOMPSON & ASSOCIATES, INC.

PATRICK J. GIBNEY, P.E.
Vice President, Engineering

PJG/tg

Form A - Proposal Submittal Signature Page

By signing this Proposal, the Proposer certifies that it satisfies all legal requirements as an entity to do business with the City, including all Conflict of Interest and Code of Ethics provisions.

Firm Name: Craven, Thompson & Associates, Inc.

Street Address: 3563 NW 53rd Street, Fort Lauderdale, Florida 33309

Mailing Address (if different from Street Address): Same

Telephone Number(s): (954) 739-6400

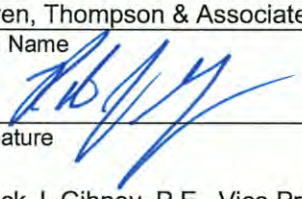
Fax Number(s): (954) 739-6409

Email Address: pgibney@craventhompson.com

Federal Identification Number: 59-0948029

Acknowledged by:

Craven, Thompson & Associates, Inc.
Firm Name



Signature

May 22, 2017
Date

Patrick J. Gibney, P.E., Vice President, Engineering
Printed Name and Title

By signing this document, the Proposer agrees to all terms and conditions of this RFQ which includes the Sample Agreement.

THE EXECUTION OF THIS FORM CONSTITUTES THE UNEQUIVOCAL OFFER OF PROPOSER TO BE BOUND BY THE TERMS OF ITS PROPOSAL. FAILURE TO SIGN THIS SOLICITATION WHERE INDICATED ABOVE BY AN AUTHORIZED REPRESENTATIVE SHALL RENDER THE PROPOSAL NON-RESPONSIVE. THE CITY MAY, HOWEVER, IN ITS SOLE DISCRETION, ACCEPT ANY PROPOSAL THAT INCLUDES AN EXECUTED DOCUMENT WHICH UNEQUIVOCALLY BINDS THE PROPOSER TO THE TERMS OF ITS PROPOSAL.

(Remainder of page intentionally left blank)

Form A - Signature Authority

Indicate below Proposer's type of organization and provide the required documentation as applicable to demonstrate that the executor of Proposer's Proposal is duly authorized to execute on behalf of, and as the official act of, Proposer.

Select	Type of Organization	Officer Who Signed Proposal Submittal Signature Page	Required Authorizing Documentation
☑	Corporation	President, Vice President, or Chief Executive Officer	None
☐	Corporation	Director, Manager, or other title	Corporate resolution
☐	Limited Liability Company (LLC) – Member-Managed	Member	Articles of Organization or Operating Agreement
☐	Limited Liability Company (LLC) – Manager-Managed	Manager	Articles of Organization or Operating Agreement
☐	Limited Partnership	General Partner	Document demonstrating the legal authority to bind the Limited Partnership
☐	Partnership	Partner	None
		CEO, Director, Manager or other title	Authorizing documentation
☐	Individual	Individual	None

☑ **Documentation is not required.**

☐ **The required authorizing documentation is included with Proposal.**

CHAPTER 2

CHAPTER 2 - PROPOSER'S STATEMENT OF ORGANIZATION / W-9

PROPOSERS STATEMENT OF ORGANIZATION

A. **Legal contracting name including any dba:**

Craven, Thompson & Associates, Inc.

B. **State of organization or incorporation:**

Florida

C. **Ownership structure of proposer's company:**

Corporation

D. **Provide a Complete W-9**

See W-9 in this Section.

E. **Contact information for proposer's corporate headquarters:**

Corporate Headquarters
3563 NW 53rd Street
Fort Lauderdale, Florida 33309
Phone: (954) 739-6400

F. **Contact information for Proposer's Local Office (if any):**

New Delray Beach Satellite Office
4723 N. Atlantic Avenue
Delray Beach, Florida 33445
Phone: (561) 688-5010

G. **Contact information for proposer's primary representative during this RFQ process:**

Patrick J. Gibney, P.E., Vice President, Engineering
Phone: (954) 739-6400
Email: pgibney@craventhompson.com
3563 NW 53rd Street
Fort Lauderdale, Florida 33309

H. **Contact information for proposer's secondary representative during this RFQ process:**

Richard D. Pryce, P.S.M., Vice President, Surveying & GIS
Phone: (954) 739-6400
Email: rpryce@craventhompson.com
3563 NW 53rd Street
Fort Lauderdale, Florida 33309

I. List of Officers, Owners or Partners of Proposer:

Principals:

Thomas M. McDonald
President / Owner
Craven Thompson & Associates, Inc.
3563 NW 53rd Street
Fort Lauderdale, Florida 33309
Phone: (954) 739-6400
Email: tmcdonald@craventhompson.com

Patrick J. Gibney, P.E.
Vice President, Engineering
Craven Thompson & Associates, Inc.
3563 NW 53rd Street
Fort Lauderdale, Florida 33309
Phone: (954) 739-6400
Email: pgibney@craventhompson.com

Joseph D. Handley, R.L.A.
Vice President, Planning & Landscape Architecture
Craven Thompson & Associates, Inc.
3563 NW 53rd Street
Fort Lauderdale, Florida 33309
Phone: (954) 739-6400
Email: jhandley@craventhompson.com

Richard D. Pryce, P.S.M.
Vice President, Surveying & G.I.S.
Craven Thompson & Associates, Inc.
3563 NW 53rd Street
Fort Lauderdale, Florida 33309
Phone: (954) 739-6400
Email: rpryce@craventhompson.com

J. Current or pending litigation:

Date: Case filed June 4, 2013 / Dismissed - February 2015 / Case re-opened March 2017
Monetary Amount Involved: None.
Case No.: Palm Beach County Case No. 502013CA007785XXXXMBAJ
Name of Case: The Edge No. One Condominium Association, Inc. vs. The Edge Investors, L.P.; Coastal Construction of South Florida, Inc.; Trans Coastal Construction Company; Steven Feller, P.E., P.L.; Cohen, Freedman, Encinosa & Associates-Architects, P.A.; CHM Consulting Engineers, Inc.; Craven Thompson & Associates, Inc.
Explanation: Plaintiff claimed unspecified problems with the building. It was unclear what civil engineering issues were relevant. The contractor, architect and the entire design team were defendants.

K. Provide Details of any Ownership Changes to Proposer's Organization in the Past Three Years or Changes Anticipated within Six Months of the Due Date and Time:

Prior to February 19, 2014, Ownership of Company:

Thomas M. McDonald - 90%
Robert D. Cole, III - 10%

As of February 19, 2014, Ownership of Company:

Thomas M. McDonald - 100%

Form **W-9**
(Rev. December 2014)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

Print or type
See Specific Instructions on page 2.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
Craven, Thompson & Associates, Inc.

2 Business name/disregarded entity name, if different from above
Same

3 Check appropriate box for federal tax classification; check only **one** of the following seven boxes:
☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☑ S Corporation ☐ Partnership ☐ Trust/estate
☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____
Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner.
☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):
Exempt payee code (if any) _____
Exemption from FATCA reporting code (if any) _____
(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.)
3563 NW 53rd Street

Requester's name and address (optional)

6 City, state, and ZIP code
Fort Lauderdale, Florida 33309

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Social security number
			-			-				

or

Employer identification number
5	9	-	0	9	4	8	0	2	9

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here | **Signature of U.S. person ▶** [signature] **Date ▶** May 16, 2017

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at *www.irs.gov/fw9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See *What is backup withholding?* on page 2.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

CHAPTER 3

MINIMUM REQUIREMENTS

A. **Must be registered with the State of Florida, Division of corporations to do business in Florida.**

Yes, Craven Thompson & Associates is registered with the State of Florida, Division of Corporations. The document number is 254407.

B. **Must have been in business for a minimum of twenty-four (24) months prior to the Due Date and Time.**

Craven, Thompson & Associates, Inc. was incorporated on January 1, 1962:

State of Florida
Department of State

I certify from the records of this office that CRAVEN, THOMPSON & ASSOCIATES, INC. is a corporation organized under the laws of the State of Florida, filed on January 1, 1962.

The document number of this corporation is 254407.

I further certify that said corporation has paid all fees due this office through December 31, 2017, that its most recent annual report/uniform business report was filed on January 10, 2017, and that its status is active.

I further certify that said corporation has not filed Articles of Dissolution.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Tenth day of January, 2017.

Ken Detzner
Secretary of State

Tracking Number: CC3899139892

To authenticate this certificate, visit the following site, enter this number, and then follow the instructions displayed.

https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication

C. Must hold a current, valid license to provide engineering, surveying and/or landscaping architectural services in the State of Florida:

Professional Engineering License:

State of Florida

Board of Professional Engineers

Attests that

Craven, Thompson & Associates, Inc.

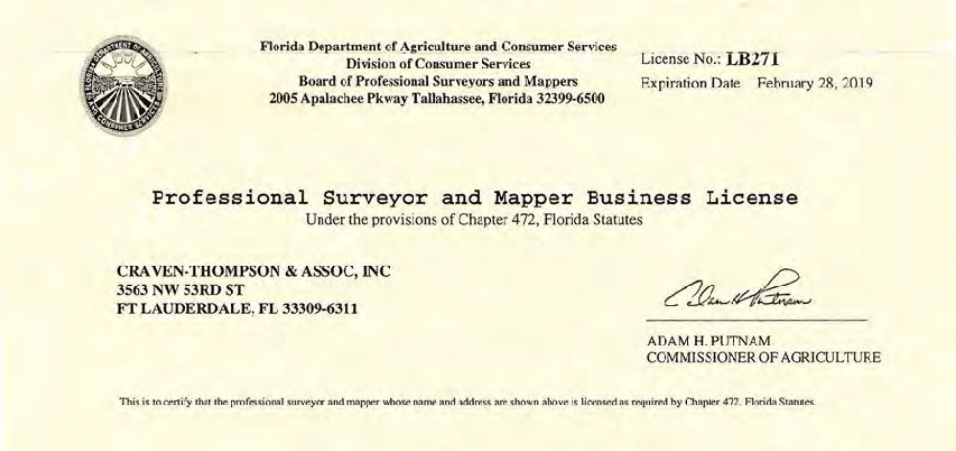
FBPE
FLORIDA BOARD OF PROFESSIONAL ENGINEERS

Is authorized under the provisions of Section 471.023, Florida Statutes, to offer engineering services to the public through a Professional Engineer, duly licensed under Chapter 471, Florida Statutes.

Expiration: 2/28/2019
Audit No: 228201900274 R

CA Lic. No: 271

Professional Surveyor and Mapper License:



Florida Department of Agriculture and Consumer Services
Division of Consumer Services
Board of Professional Surveyors and Mappers
2005 Apalachee Pkway Tallahassee, Florida 32399-6500

License No.: LB271
Expiration Date: February 28, 2019

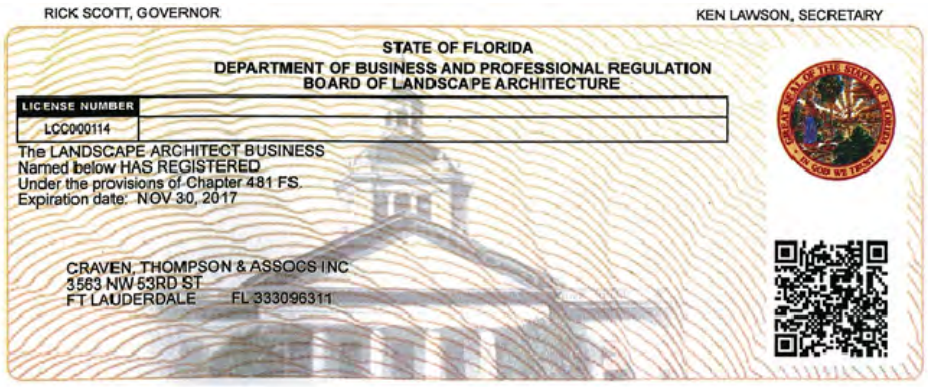
Professional Surveyor and Mapper Business License
Under the provisions of Chapter 472, Florida Statutes

CRAVEN-THOMPSON & ASSOC, INC
3563 NW 53RD ST
FT LAUDERDALE, FL 33309-6311

ADAM H. PUTNAM
COMMISSIONER OF AGRICULTURE

This is to certify that the professional surveyor and mapper whose name and address are shown above is licensed as required by Chapter 472, Florida Statutes.

Professional Landscape Architecture License:



RICK SCOTT, GOVERNOR

KEN LAWSON, SECRETARY

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
BOARD OF LANDSCAPE ARCHITECTURE

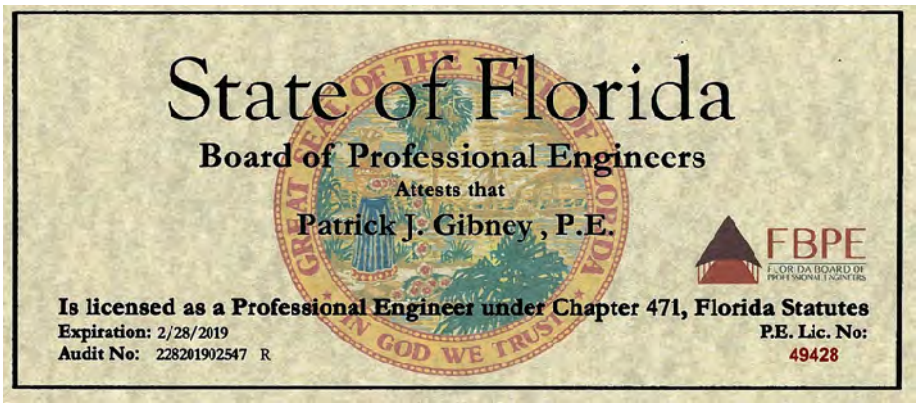
LICENSE NUMBER
LCC000114

The LANDSCAPE ARCHITECT BUSINESS
Named below HAS REGISTERED
Under the provisions of Chapter 481 FS.
Expiration date: NOV 30, 2017

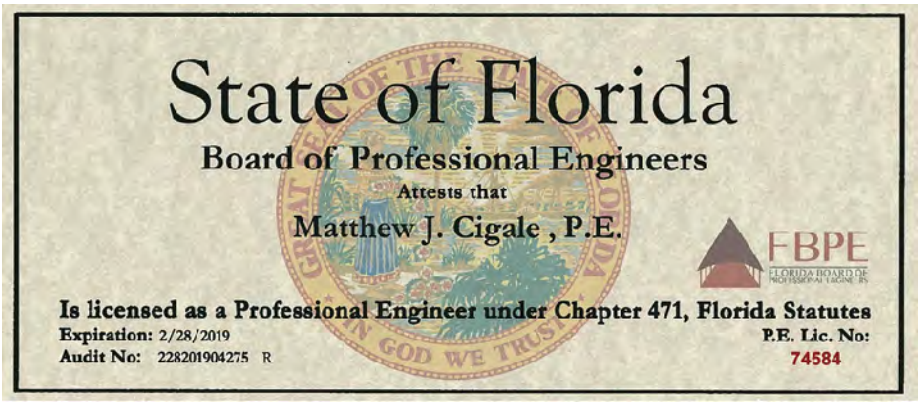
CRAVEN, THOMPSON & ASSOCS INC
3563 NW 53RD ST
FT LAUDERDALE FL 333096311

D. Must employee a minimum of two individuals who holds a current, valid Florida license in engineering, surveying and/or landscaping architecture:

- PROFESSIONAL ENGINEERING LICENSES:

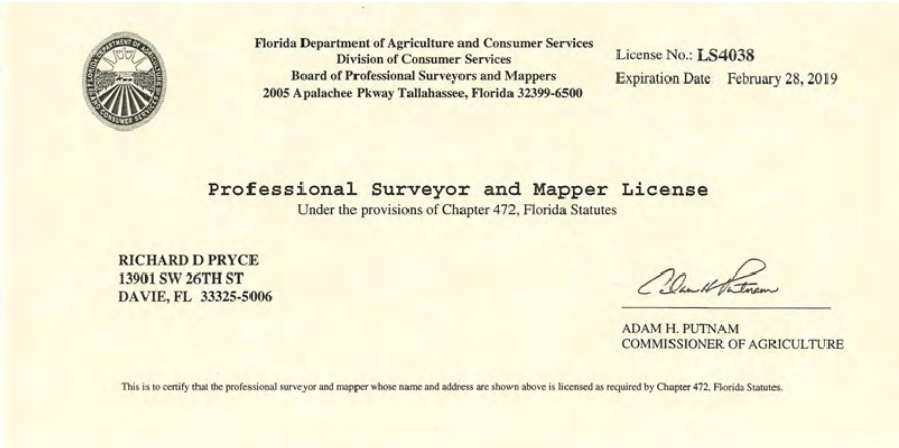


State of Florida
Board of Professional Engineers
Attests that
Patrick J. Gibney , P.E.
FBPE
FLORIDA BOARD OF PROFESSIONAL ENGINEERS
Is licensed as a Professional Engineer under Chapter 471, Florida Statutes
Expiration: 2/28/2019
Audit No: 228201902547 R
P.E. Lic. No:
49428



State of Florida
Board of Professional Engineers
Attests that
Matthew J. Cigale , P.E.
FBPE
FLORIDA BOARD OF PROFESSIONAL ENGINEERS
Is licensed as a Professional Engineer under Chapter 471, Florida Statutes
Expiration: 2/28/2019
Audit No: 228201904275 R
P.E. Lic. No:
74584

- PROFESSIONAL SURVEYOR AND MAPPER LICENSES:



Florida Department of Agriculture and Consumer Services
Division of Consumer Services
Board of Professional Surveyors and Mappers
2005 Apalachee Pkway Tallahassee, Florida 32399-6500

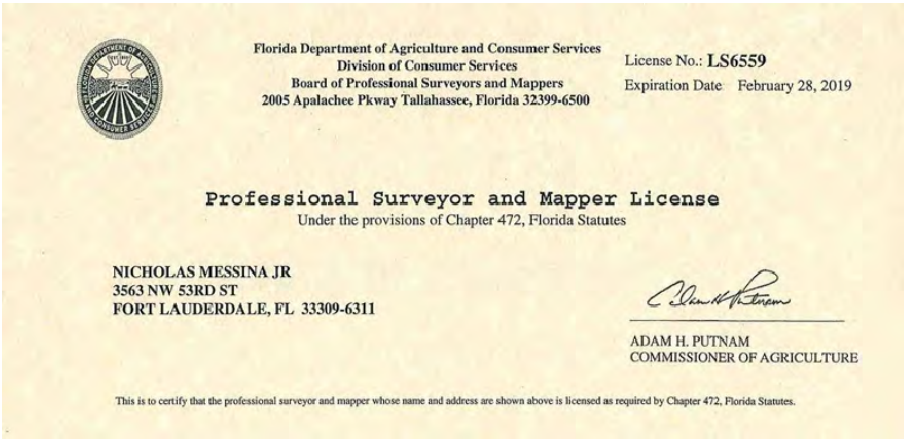
License No.: LS4038
Expiration Date February 28, 2019

Professional Surveyor and Mapper License
Under the provisions of Chapter 472, Florida Statutes

RICHARD D PRYCE
13901 SW 26TH ST
DAVIE, FL 33325-5006

ADAM H. PUTNAM
COMMISSIONER OF AGRICULTURE

This is to certify that the professional surveyor and mapper whose name and address are shown above is licensed as required by Chapter 472, Florida Statutes.



Florida Department of Agriculture and Consumer Services
Division of Consumer Services
Board of Professional Surveyors and Mappers
2005 Apalachee Pkway Tallahassee, Florida 32399-6500

License No.: LS6559
Expiration Date February 28, 2019

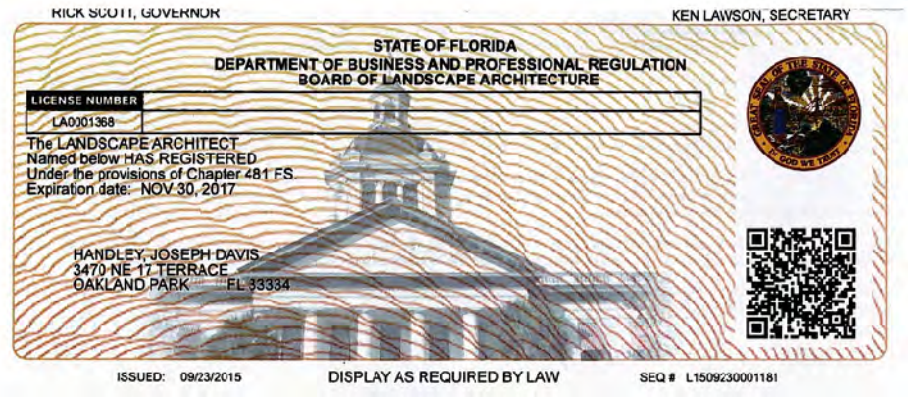
Professional Surveyor and Mapper License
Under the provisions of Chapter 472, Florida Statutes

NICHOLAS MESSINA JR
3563 NW 53RD ST
FORT LAUDERDALE, FL 33309-6311

ADAM H. PUTNAM
COMMISSIONER OF AGRICULTURE

This is to certify that the professional surveyor and mapper whose name and address are shown above is licensed as required by Chapter 472, Florida Statutes.

- PROFESSIONAL LANDSCAPE ARCHITECTURE LICENSES:



RICK SCOTT, GOVERNOR KEN LAWSON, SECRETARY

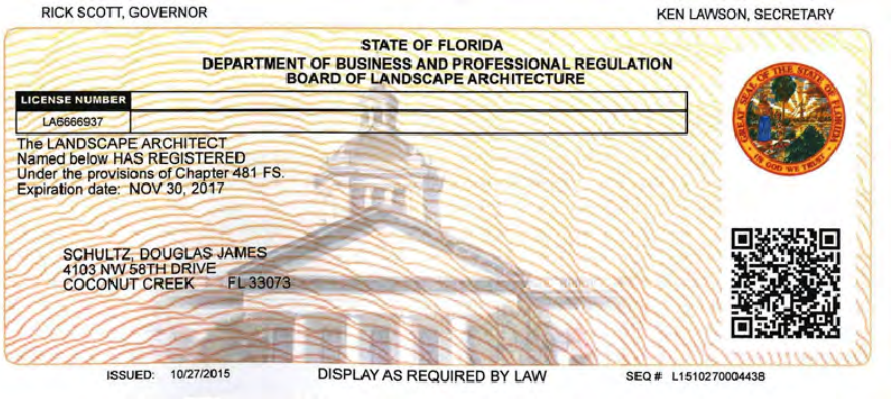
STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
BOARD OF LANDSCAPE ARCHITECTURE

LICENSE NUMBER
LA0001368

The LANDSCAPE ARCHITECT
Named below HAS REGISTERED
Under the provisions of Chapter 481 FS.
Expiration date: NOV 30, 2017

HANDLEY, JOSEPH DAVIS
3470 NE 17 TERRACE
OAKLAND PARK FL 33334

ISSUED: 09/23/2015 DISPLAY AS REQUIRED BY LAW SEQ # L1509230001181



RICK SCOTT, GOVERNOR KEN LAWSON, SECRETARY

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
BOARD OF LANDSCAPE ARCHITECTURE

LICENSE NUMBER
LA6666937

The LANDSCAPE ARCHITECT
Named below HAS REGISTERED
Under the provisions of Chapter 481 FS.
Expiration date: NOV 30, 2017

SCHULTZ, DOUGLAS JAMES
4103 NW 58TH DRIVE
COCONUT CREEK FL 33073

ISSUED: 10/27/2015 DISPLAY AS REQUIRED BY LAW SEQ # L1510270004438

E. Has no reported conflict of interests in relation to this RFQ.

Craven, Thompson & Associates, Inc. has no conflict of interests in relation to this RFQ.

CHAPTER 4

A. Experience, Background, Reference Feedback

i. Identify each Professional Service discipline and/or sub-discipline in which Proposer wishes to be considered for an award of an agreement.

Craven Thompson & Associates, Inc. (CTA) wishes to be considered for award of an agreement with the City for the following disciplines:

- Engineering
- Surveying and Mapping
- Landscape Architectural Design Services
- Civil
- Transportation
- Water Resources/Stormwater Management

ii. Submit a detailed narrative description documenting Proposer's overall background and experience in each Professional Service discipline

a. Experience

CATEGORY 1 - ENGINEERING

CTA primarily works for governmental agencies, and more specifically municipalities (as the prime consultant). We have performed as City Engineers for the City of Greenacres (since 2007), the City of Aventura (since 2001), the City of Oakland Park (since 2003), and the City of Miami Springs (since 2014). We are also District Engineers for the Central Broward Water Control District (Since 2007), and the Tindall Hammock Soil Conservation and Irrigation District (since 2004). We have also acted as Port Engineer for Port Everglades (since 1996). In addition, we currently have twenty-eight (28) continuing service contracts with various governmental entities with the vast majority of those being municipalities.

In this capacity, we have performed general engineering services ranging from the design of sidewalk replacement and ADA ramp installation, up to the development of the City's Capital Improvement Plan. Our duties also involved Basis of Design Review (BODR) reports, feasibility studies, the management of sub-consultants, project administration and management, plan and permit review, preparing miscellaneous studies, capital improvement plans, calculations, specifications, permitting, conducting the necessary public meetings and hearings, bidding projects, coordinating and accommodating with stakeholders, inspecting the construction, performing contract administration for the construction, final certification loan/grant administration when applicable, attendance at board and commission meetings, capital improvement and representation of the City at meetings for jurisdictional agencies, and many other duties.

CATEGORY 2 - SURVEYING AND MAPPING

Providing Surveying services has been, and continues to be, an important portion of CTA's business since 1961. Through selection and training of personnel and a program to obtain the best equipment available, we have developed a skilled and technically equipped Surveying Department, capable of conducting almost any type of survey. We are qualified and certified by

the State of Florida, Department of Natural Resources, for both horizontal and vertical control for Second Order accuracy. In addition to conventional boundary topographic and construction surveys, we have the experience to provide the latest in 3D Laser Scanning - High Definition Surveying, Geodetic Control, PLSS Retracement, Hydrographic, Cadastral, Photogrammetric Control, Right-of-Way and Construction Surveys.

Over the years, we have provided surveying and engineering services to over twenty-five municipalities and the following governmental and quasi-governmental agencies, including: the Florida Department of Environmental Protection; Florida East Coast Railway; Florida Department of Transportation; Florida GAS; Port Everglades Authority; the Broward County Highway Construction and Engineering Division; Broward County Water and Wastewater Services; Waste Management Inc.; Central Broward Water Control District; the Tri-County Commuter Rail Authority; and the Seminole Tribe of Florida.

Some of our recent projects include: Lake Worth 2020 Master Plan Year 1 Improvements Survey, Lake Worth 2" Watermain Replacement Program Phase 2 Survey, Greenacres Original Section Survey, Greenacres Hydrographic Survey, Lake Park Canal Outfall Survey, North Riverside Right-of-Way Survey, Hallandale Beach City-Wide Survey, Plantation Watermain Rehabilitation Route Survey, Apollo Park Survey, Port Everglades Sketch and Legal Descriptions, Broward County Convention Center Boundary Survey, Lauderdale Lakes Canal Cross-Sections, Central Broward Water Control District Canal Cross-Sections, Greenacres 10th Avenue North Intersection and Sanitary Sewer Survey, City of Oakland Park NE 38th Avenue Complete Streets Survey, and the City of North Miami Survey and Plat Review. In addition, CTA's GIS project experience includes the Broward County Regional Reuse Water Master Plan through Broward County Natural Resources Department, Fire Hydrant Maintenance Program for the City of Sunrise, the City of North Miami Beach Water & Sewer Service Area G.I.S. system, and the Commercial Stormwater Assessment GIS database for the City of Oakland Park.

CATEGORY 3 - LANDSCAPE ARCHITECTURAL DESIGN SERVICES

CTA has designed many projects within the South Florida tri-county area, including parks, streetscape, complete streets, traffic calming, beautification projects, neighborhood identification signage, master planning, plan review, and median landscape and irrigation design.

Our staff has overseen the construction of multiple exciting and innovative waterfront parks, including a four-acre riverfront promenade park in Kentucky that consisted of large public plazas, elaborate fountains, a unique performance pavilion and one of the largest and most creatively themed fully ADA accessible playgrounds in the region. CTA also provided construction services for the installation of a nature themed waterfront park in Sunrise, designed to include created wetlands with a boardwalk and pavilions, nature trails, themed play zones and educational signage. CTA acts as the consulting Landscape Architect for the City of Coconut Creek DRC, plan review, and permitting. Our firm provides landscape plan code/permit review as well as meeting with residents on landscape issues.

CTA designed approximately seventy (70) miles of Greenways in Broward County. These included the C-14 Canal/Cypress Creek Greenway, New River/SR 84 Greenway, Flamingo Road Trail, Dixie Highway/FEC Trail and Griffin/Orange Drive Greenway. Many of our other projects

include master plans, design, permitting and construction services for streetscapes, median landscaping and hardscape, right-of-way enhancements, active and passive parks, recreational amenities for upscale residential projects, landscape and hardscape for libraries, community centers, fire stations, city halls, and urban redevelopment throughout South Florida.

CTA's active park design, permitting, and construction experience involves preparing design documents that include sports fields (natural grass and artificial turf), path systems, exercise trails, vehicular circulation, stormwater detention, play areas, visitor facilities and interpretive signage. Our passive park projects incorporate elements, including a number of nature trails, picnic areas, and gathering spaces that take advantage of existing natural features. Passive parks can also act as social spaces for people to interact. The maintaining of natural green space is not only environmentally important, but moreover, is much less costly from a maintenance perspective. A sample of current, in the design phase or completed park projects include: Bluesten Park, the Don Soffer Trail, Sawgrass Sanctuary Park, Sabal Pines Park, Mill Pond Park, Snake Warrior Island, Pine Island Road & NW 50th Street Athletic Complex, Indian Trace Park, Oak Hammock Park, Oscar Wind Park, Flamingo Park, the Urban Art Park, Jaco Pastorius Park, Pioneer Park, and Waterways Park.

Our landscape architects create master plans, designs for public facilities such as libraries, community centers, city halls and other municipal facilities that promote the building architecture and emphasize the character of the surrounding neighborhood. We consider that a building is not an invasion of the landscape, but a vital extension of it. Where a building rests on the land, and how it rests on the land, sets the context for its evolving construction, development, and use.

We have designed a number of right-of-way landscaping and traffic calming projects in the South Florida area. Aesthetic features, such as street and pedestrian lights, trees, berming, shrubs and other landscaping, can contribute to the unique character of a street and assist in mitigating resident concerns with regards to traffic, noise, and security concerns. Two recently finished Complete Streets projects included NW 34th Court, and NE 38th Street in the City of Oakland Park.

Examples of other landscape architecture projects either in design or completed include:

<u>Streetscape</u>

- Miramar Complete Streets Project
- Strada Streetscape, Coconut Creek
- NE 5th Avenue Streetscape, Oakland Park
- NE 14th Avenue Streetscape, Hallandale Beach
- Floranada Traffic Calming Improvements, Oakland Park

<u>Median Improvements</u>

- Oakland Park Boulevard Median Improvements, Oakland Park
- Powerline Road Median Improvements, Oakland Park
- Miramar Boulevard and Miramar Parkway Median Improvements
- U.S. 1 Median Improvements, Juno Beach

CATEGORY 4 - CIVIL

CTA recently completed the surveying, civil engineering design, permitting, and construction services for the new Young at Art Museum in Davie. This was a 55,000 square foot Gold-LEED certified project. We have also provided site civil engineering services for the Broward County Courthouse, the Greenacres Municipal Complex, the Clematis Street Garage, the Oaks Fire Station, Coconut Creek Community Center, the South Florida DEA Laboratory, the City of Miramar Multi-Service Center, the Nova Southeastern University – Center of Excellence for Coral Reef Ecosystem Sciences, Parkland Fire Station and others.

CTA has acted as the prime consultant on all of our neighborhood improvement projects. Many of our large neighborhood projects have included extensive lengths of roadway and right-of-way reconstruction. The North County Neighborhood Improvement Project, NE Quadrant, Bid Package 9 included a reuse water distribution system consisting of 22,000 linear feet of 4" diameter, and 1,800 linear feet of 12" diameter main, over 70,000 linear feet of roadway, over 160,000 linear feet of swale reconstruction, 80,000 linear feet of sidewalk, hundreds of driveway restorations, swales, ADA ramps, ADA improvements, drainage/stormwater design and extensive pavement marking & signage. The Neighborhood County Neighborhood Improvement Projects, NE Quadrant Bid, Package 10 included a reuse water distribution system consisting of a reuse water distribution system consisting of 31,000 linear feet of 4" diameter, and 1,800 linear feet of 16" diameter main over 70,000 linear feet of roadway, thousands of linear feet of swale reconstruction, thousands of feet of sidewalk, hundreds of driveways, ADA improvements, drainage/storm water design. The Central County Neighborhood Improvement Project included 39,000 linear feet of roadway, along with the same type of improvements associated with the NCNIP. Finally, the South County Neighborhood Improvement project included 285,000 linear feet of roadway reconstruction, 420,000 linear feet of sidewalk, 181,000 linear feet of storm pipe, and swales at various locations. CTA provided topographic survey, design, permitting and construction engineering and inspection services on each of these projects. Permitting was performed through the Health Department, County Wastewater, FDOT and SFWMD.

In addition, CTA has provided design, permitting and construction services as prime consultant on LAP Projects for the City of Aventura (Exercise Path Project, Biscayne Boulevard Lighting, & Yacht Club Bridge), for the City of Oakland Park (NE 5th Avenue, NE 34th Court, and NE 38th Street), and for the City of Miami Gardens (Resurfacing and ADA Walk Improvement Project).

CATEGORY 7 - TRANSPORTATION

Transportation projects where CTA was the prime consultant include the NE 38th Street Complete Streets Project, the NE 34th Court Complete Streets project, the NE 5th Avenue Streetscape and Roadway Reconstruction Project, the NE 14th Avenue Streetscape Project, and the Floranada Road Traffic Calming Improvement Project, the 136th and 14th Street Roundabout Project, and the Hiatus and 26th Street Roundabout project. Each of these projects involved traffic calming elements, as well as sidewalks, drainage, pavement marking & signage, and ADA considerations, and construction engineering & inspection services.

As the prime consultant for projects such as the 6th Avenue South project in Lake Worth, the 207th Street Milling & Resurfacing, the Country Club Drive Milling & Resurfacing, the NW 191st Street

Milling & Resurfacing, the NE 29th Court, NE 201st Terrace, NE 27th Court, and the Frontage Road along NE 203rd Street Milling & Resurfacing, the NE 188th Street, NE 185th Street, and NE 31st Avenue Milling & Resurfacing projects all in the City of Aventura, and the 191st Street Milling & Resurfacing project in Miami Gardens, we also generally included a storm sewer & associated structures, swales, sidewalks, ADA improvements and pavement, signage and pavement marking improvements.

CTA has also provided designs for various other neighborhood projects involving roadway, drainage, swales sidewalks and ADA improvements including; Miami Gardens Livable Neighborhood Improvements – Vista Verde, Garden Acres Neighborhood Improvements, NW 21st Avenue, SW 41st Place, Oakland Park Sense of Place Neighborhood Monument Signage, 125th Street Swale Improvements, Fleming Avenue Reconstruction. In addition, we designed and permitted Fleming Avenue, and Bowman Street for the City of Greenacres, N M Street, N K Street, N F Street, N J Street, 11th Avenue North, and 15th Avenue North for the City of Lake Worth.

Lastly, CTA has provided design, permitting and construction engineering and inspection services for collector roads such as: Sunrise Boulevard, Pine Island Road, and Miramar Parkway.

CATEGORY 9 - WATER RESOURCES/STORMWATER MANAGEMENT

Water and Sewer

CTA has completed infrastructure Neighborhood Improvement Projects, and numerous sections of the Utility Zone Analysis (UAZ) Program (including both water and sanitary sewer), City of Lake Worth Watermain Replacement, City of Hollywood Watermain Replacement, City of Plantation Watermain Replacement, the City of Oakland Park Watermain and Sanitary Replacement, and the Town of Davie Watermain and Sanitary Replacement. CTA has surveyed, designed, permitted, bid and managed the construction of thousands of acres of watermain, sanitary, and lift station replacement infrastructure. The following is a tabulation of some of that work:

Government Entity	Watermain (LF)	Sanitary (LF)	Forcemain (LF)	ROW Rest. (LF)	Water Services (EA)	Lift Stations (EA)
Broward County	620,000	618,000	70,000	561,500	3,800	37
Oakland Park	49,000	7,000	7,000	41,200	800	9
Hollywood	190,000	0	0	62,200	520	2
Lake Worth	20,000	0	0	14,300	510	0
Plantation	51,000	0	0	43,500	520	0
North Miami Beach	14,500	0	0	4,600	170	0
Davie	28,000	12,750	3,000	29,800	260	0
Greenacres	1,000	7,500	0	6,400	0	0
TOTAL	973,500	645,250	80,000	763,500	6,580	48

Stormwater

CTA has prepared master plans, conceptual permits, and studies. We have designed, permitted, bid and managed the construction of thousands of acres of stormwater infrastructure improvements. CTA understands the importance of flood protection measures as standing water promotes unhealthy conditions as well as inhibits essentials services from accessing the area.

CTA has prepared comprehensive stormwater management plans for the Cities of Sunrise, Sebastian, Hallandale Beach, Miami Gardens, Greenacres, the Town of Davie, Study Area #1 modification for Pompano Beach, Tindall Hammock Irrigation and Soil Conservation District (THISCD), and the Central Broward Water Control District (CBWCD) providing planning, Capital Improvements costs, final design and construction administration services which resolved flooding and environmental concerns for the Cities. CTA has performed major and minor stormwater basin studies and has implemented recommendations of those studies through the design, permitting, and construction management of basin-wide improvements.

Our stormwater master planning projects have included computer modeling using Streamline Technologies ICPR Software as well as PCSWMM, the commercial version of US EPA SWMM5 Software. CTA has used the ICPR software for the past twenty (20) years, and currently uses the latest update, Version 4.

CTA has recently created the Stormwater Master Plan for the City of Hallandale Beach (2,816 Acres), the Western C-11 Basin Study for the CBWCD (15,952 acres), and for a major portion of the City of Greenacres known as Original Section (250 Acres). These projects included development of scheduled improvements to be implemented over a number of fiscal years to mitigate flooding conditions. We are currently working as the Prime with Hazen and Sawyer (a sub-consultant to CTA) on the Comprehensive Stormwater Master Plan for the City of Aventura; and we are a sub-consultant to Hazen and Sawyer (the Prime) on the City of Fort Lauderdale Stormwater Master Plan, and also are in the process of completing the East Basin Study (14,938 acres) for the CBWCD.

We have been managing the Aventura NPDES MS4 program since 2002. This involves preparing the annual report and assembling the required back-up documents and reports. In addition, CTA has assisted the City in performing NPDES inspections throughout the year; documenting inspections and meetings; attending audit inspections with the Florida Department of Environmental Protection (FDEP) representatives; responding to RFI's; preparing permit criteria related to NPDES compliance and monitoring; providing Best Management Practices (BMP) for City CIP projects; and preparing and updating a City-wide drainage map identifying all drainage facilities with special emphasis on public outfalls.

b. Experience in other related services

Construction Engineering & Inspection

CTA has extensive experience with Construction Administration Services such as Resident Project Representative Services, and Construction Inspection Services, and various other services during construction of improvements. Our services include inspections, progress meetings, reports, pay request processing, change order negotiation and processing, and all other aspects involved in providing Resident Project Representative Services to our Clients. CTA has provided Construction Administration services for over 6,000 acres of infrastructure replacement / rehabilitation for the past twenty four (24) years. CTA's vast wealth of experience in Construction Administration for Neighborhood Redevelopment Improvement Projects in both suburban and urban settings is unrivaled by any firm in South Florida. Our Construction Management Department has provided these services to Private and Public clients with great success in the past and moving into the future.

FEMA/FIRM Mapping Experience

Our experience with FEMA initiated mapping changes which included extensive negotiations on the revised maps on behalf of the City of Geenacres. CTA, along with aerial photogrammetry consultant, Pickett & Associates, created a detailed FEMA level LiDAR survey for the entire City that defined elevations much more accurately throughout the City. The revised survey along with detailed calculations allowed CTA to successfully prove to FEMA's consultant that much of the area designated within the 100 year base flood on the revised map was not actually in the base flood limits. FEMA has issued draft FIRMs depicting ninety percent of the areas previously shown in the base flood limits to now be located out of the base flood limits.

c. Awards, Certification, and Recognition


QUALIFIED
STORMWATER MANAGEMENT
INSPECTOR
The undersigned hereby acknowledges that
Matthew Cigale
has successfully met all requirements necessary to be fully qualified through the Florida Department of Environmental Protection Stormwater Erosion and Sedimentation Control Inspector Training Program
May 16, 2013
Inspector Number 28937
Hal Lunsford
Lee Marchman, P.E.


QUALIFIED
STORMWATER MANAGEMENT
INSPECTOR
The undersigned hereby acknowledges that
Peter Aquart
has successfully met all requirements necessary to be fully qualified through the Florida Department of Environmental Protection Stormwater Erosion and Sedimentation Control Inspector Training Program
April 21, 2016
Inspector Number 34918
Hal Lunsford
Beth Alvi

QUALIFIED
STORMWATER MANAGEMENT
INSPECTOR

The undersigned hereby acknowledges that

Adolfo Gonzalez

has successfully met all requirements necessary to be fully qualified through the Florida Department of Environmental Protection Stormwater Erosion and Sedimentation Control Inspector Training Program

May 16, 2013

Hal Lunsford — Inspector Number 28943 — Lee Marchman, P.E.

The American Traffic Safety Services Association

Hereby recognizes that

Mary Hayden
has attended
Florida Advanced Training
Training Course

11/27/2013
Date
Kissimmee, FL
Location

Training & Products Dept. Director

President, CEO

GBCI

GREEN BUILDING CERTIFICATION INSTITUTE

HEREBY CERTIFIES THAT

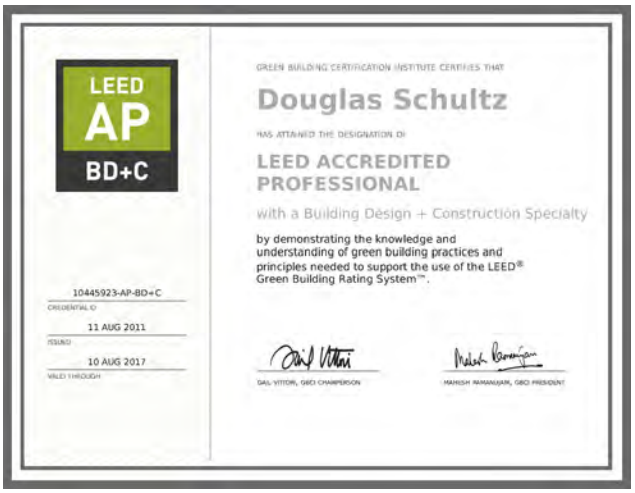
Adolfo Gonzalez

HAS ACHIEVED THE DESIGNATION OF

LEED® ACCREDITED PROFESSIONAL

BY DEMONSTRATING THE KNOWLEDGE OF GREEN BUILDING PRACTICE REQUIRED FOR SUCCESSFUL IMPLEMENTATION OF THE LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN (LEED®) GREEN BUILDING RATING SYSTEM™.

June 29, 2009



LEED AP BD+C

GREEN BUILDING CERTIFICATION INSTITUTE CERTIFIES THAT

Douglas Schultz

HAS ATTAINED THE DESIGNATION OF

LEED ACCREDITED PROFESSIONAL

with a Building Design + Construction Specialty

by demonstrating the knowledge and understanding of green building practices and principles needed to support the use of the LEED® Green Building Rating System™.

10445923-AP-BD+C
CREDENTIAL ID

11 AUG 2011
ISSUED

10 AUG 2017
VALID THROUGH

DAIL VITORI, GBCI CHAIRPERSON

MAHESH RAMANUJAM, GBCI PRESIDENT

GBCI

GREEN BUILDING CERTIFICATION INSTITUTE

HEREBY CERTIFIES THAT

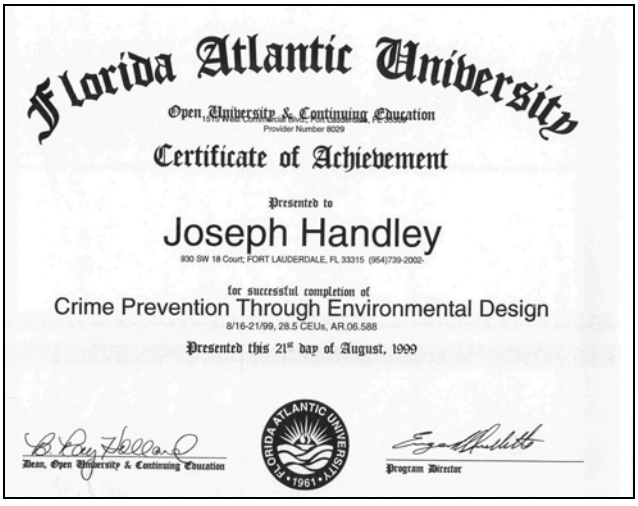
Caleb Rothenberger

HAS ACHIEVED THE DESIGNATION OF

LEED® ACCREDITED PROFESSIONAL

BY DEMONSTRATING THE KNOWLEDGE OF GREEN BUILDING PRACTICE REQUIRED FOR SUCCESSFUL IMPLEMENTATION OF THE LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN (LEED®) GREEN BUILDING RATING SYSTEM™.

June 14, 2009



Florida Atlantic University

Open University & Continuing Education

Provider Number 8029

Certificate of Achievement

Presented to

Joseph Handley

930 SW 18 Court; FORT LAUDERDALE, FL 33315 (954)739-2002

for successful completion of

Crime Prevention Through Environmental Design

8/16-21/99, 28.5 CEUs, AR.06.588

Presented this 21st day of August, 1999

Dean, Open University & Continuing Education

Program Director

FDOT

Florida Department of Transportation

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

RACHEL D. CONE
INTERIM SECRETARY

March 9, 2017

Thomas McDonald, President
CRAVEN, THOMPSON & ASSOCIATES, INC.
3563 NW 53rd Street
Fort Lauderdale, Florida 33309

Dear Mr. McDonald:

The Florida Department of Transportation has reviewed your application for qualification package and determined that the data submitted is adequate to technically qualify your firm for the following types of work:

Group 3 - Highway Design - Roadway

3.1 - Minor Highway Design
3.2 - Major Highway Design

Group 8 - Survey and Mapping

8.1 - Control Surveying
8.2 - Design, Right of Way & Construction Surveying

Group 10 - Construction Engineering Inspection

10.1 - Roadway Construction Engineering Inspection

Group 15 - Landscape Architect

Your overhead audit has been accepted, enabling your firm to compete for Professional Services projects advertised at the unlimited level, with estimated fees of any dollar amount. This status shall be valid until June 30, 2017 for contracting purposes.

	Home/Branch Office	Facilities Capital Cost of Money	Overtime Premium	Direct Expense
Overhead Rate	161.83%	0.055%	Reimbursed	0.70% (Home)

Should you have any questions, please feel free to contact me by email at carliayn.kell@dot.state.fl.us or by phone at 850-414-4597.

Sincerely,

Carliayn Kell

Carliayn Kell
Professional Services
Qualification Administrator

www.fdot.gov

iii. Five Client References per Category

CATEGORY 1 - ENGINEERING

Reference No. 1

Organization Name: City of Oakland Park
Contact Name: Mr. Harris Hamid, P.E., **Former** Director of Engineering & Community Development **(Now with Seminole Tribe)**
Contact Email Address: Harrishamid@semtribe.com
Address: 5399 N. Dixie Highway, Suite 3, Oakland Park, Florida 33334
Telephone: (305) 586-3739 / **Fax:** Unknown
Dates of Service (start/end): 2003 - 2017
Scope of Work: ***Continuing Services Contract*** - Surveying, engineering design, landscape architecture, streetscape design, traffic calming, sanitary sewer design and modeling, stormwater design and modeling, watermain design and modeling for streets, utilities, stormwater projects (Capital Improvement Projects).

Reference No. 2

Organization Name: City of Miami Gardens
Contact Name: Mr. O. Tom Ruiz, Public Works Director
Contact Email Address: truiz@miamigardens-fl.gov
Address: 1050 NW 163rd Drive, Miami Gardens, Florida 33169
Telephone: (786) 279-1260 / **Fax:** (305) 622-8032
Dates of Service (start/end): 2007 - Present
Scope of Work: ***Continuing Services Contract*** - Surveying, engineering and construction services for drainage, and roadway improvements.

Reference No. 3

Organization Name: City of Aventura
Contact Name: Mr. Tony Tomei, Capital Projects Manager
Contact Email Address: tomeit@cityofaventura.com
Address: 19200 W. Country Club Drive, Aventura, Florida 33180
Telephone: (305) 466-8923/ **Fax:** (305) 466-8939
Dates of Service (start/end): 2001 - Present
Scope of Work: ***Continuing Services Contract and Various other Projects*** – Surveying, engineering, landscape architecture, project management, city engineer, plans review, roadways, drainage, stormwater modeling, NPDES, etc.

Reference No. 4

Organization Name: City of Greenacres
Contact Name: Mr. Carlos I. Cedeño, Public Works Director
Contact Email Address: ccedeno@greenacresfl.gov
Address: 5750 Melaleuca Lane, Greenacres, Florida 33463
Telephone: (561) 642-2074/ **Fax:** (561) 642-2094
Dates of Service (start/end): 2007 - Present
Scope of Work: ***Continuing Services Contract and Various other Projects*** – Surveying, engineering, construction management, project management, plans review, roadways, drainage, stormwater modeling, sanitary sewer, etc.

Reference No. 5

Organization Name: Town of Davie
Contact Name: Mr. Giovanni Moss, Community Development Director
Contact Email Address: gmoss@davie-fl.gov
Address: 4700 Davie Road, Suite D, Davie, Florida 33314
Telephone: (954) 797-1173 / **Fax:** (954) 797-1200
Dates of Service (start/end): 2002 - Present
Scope of Work: ***Continuing Services Contract and Various other Projects*** – Surveying, engineering, landscape architecture, construction management, project management, plans review, roadways, drainage, stormwater modeling, sanitary sewer, watermain, pavement marking & signage.

CATEGORY 2 - SURVEYING AND MAPPING

Reference No. 1

Organization Name: City of Lake Worth
Contact Name: Mr. Felipe Lofaso, Assistant Director of Public Services
Contact Email Address: flofaso@lakeworth.org
Address: 1749 3rd Avenue South, Lake Worth, Florida 33460
Telephone: (561) 586-1720 / **Fax:** Unknown
Dates of Service (start/end): 2013 - Present
Scope of Work: ***Lake Worth Continuing Services*** – Surveying , mobile LiDAR, civil engineering, permitting and construction services for street, sidewalk, traffic calming, pavement marking & signage, drainage design, water and sanitary sewer design.

Reference No. 2

Organization Name: City of North Miami Beach
Contact Name: Mr. Karim L. Rossy, Utilities Engineering Manager
Contact Email Address: karim.rossy@citynmb.com
Address: 17050 NE 19th Avenue, North Miami Beach, Florida 33162
Telephone: (305) 948-2980, ext. 7962/ **Fax:** (305) 957-3501
Dates of Service (start/end): 2013 - Present
Scope of Work: ***Continuing Services Contract and GIS*** – Surveying, and GIS for entire water and sewer service area. Separate watermain design includes civil engineering.

Reference No. 3

Organization Name: Central Broward Water Control District
Contact Name: Mr. Michael Crowley, District Manager
Contact Email Address: districtmanager@centralbrowardwcd.org
Address: 8020 Stirling Road, Hollywood, Florida 33024
Telephone: (954) 432-5110/ **Fax:** (954) 432-8603
Dates of Service (start/end): 2007 - Present
Scope of Work: ***Continuing Services Contract, Surveying, Stormwater and Plan Review Services*** - Established a GPS geodetic Control Network for horizontal and vertical positioning for the entire west basin, location and cross-section all 37 canals (500 cross-sections), located and verified all sizes and material of 400 Culverts, provided over 6,000 elevations, entered all survey data into Autodesk Storm & Sanitary Analysis Project, exported into EPA PC SWMM software for modeling.

Reference No. 4

Organization Name: City of Aventura
Contact Name: Mr. Tony Tomei, Capital Projects Manager
Contact Email Address: tomeit@cityofaventura.com
Address: 19200 W. Country Club Drive, Aventura, Florida 33180
Telephone: (305) 466-8923/ **Fax:** (305) 466-8939
Dates of Service (start/end): 2001 - Present
Scope of Work: ***Continuing Services Contract and Various other Projects*** – Surveying, engineering, landscape architecture, project management, city engineer, plans review, roadways, drainage, stormwater modeling, NPDES, etc.

Reference No. 5

Organization Name: Broward County Water and Wastewater Services, Water & Wastewater Engineering Division
Contact Name: Mr. Patrick MacGregor, Expansion Project Administrator
Contact Email Address: pamacgregor@broward.org
Address: 2555 West Copans Road, Pompano Beach, Florida 33069
Telephone: (954) 831-0904 / **Fax:** (954) 831-0798
Dates of Service (start/end): 1993 - Present
Scope of Work: ***Neighborhood Improvements, Utility Analysis Zones, and Continuing Services Contract*** – Surveying, civil engineering, landscape architecture, stormwater modeling, water and sewer design and modeling, reuse waterline design, roadways, right-of-way restoration design, and pavement marking and signage for over 6,000 acres of redevelopment.

CATEGORY 3 - LANDSCAPE ARCHITECTURAL DESIGN

Reference No. 1

Organization Name: City of Sunrise, Utilities Department
Contact Name: Mr. David Abderhalden, Capital Projects Coordinator
Contact Email Address: dabderhalden@sunrise.gov
Address: 777 Sawgrass Corporate Parkway, Sunrise, Florida 33325
Telephone: (954) 572-2264/ **Fax:** (954) 746-3287
Dates of Service (start/end): 2008 - Present
Scope of Work: ***Continuing Services Contract*** - Landscape architecture, master park design, park design, landscaping, hardscape, surveying, and civil engineering.

Reference No. 2

Organization Name: City of Coconut Creek
Contact Name: Ms. Sheila Rose, Director of Sustainable Development
Contact Email Address: srose@coconutcreek.net
Address: 4800 West Copans Road, Coconut Creek, Florida 33063
Telephone: (954) 973-6730 / **Fax:** (954) 956-1424

Dates of Service (start/end): 2012 - Present
Scope of Work: ***Continuing Services Contract and Plan Review Services*** – Landscape architecture, landscape architectural DRC review, landscaping, and hardscape.

Reference No. 3

Organization Name: City of Oakland Park
Contact Name: Mr. Harris Hamid, P.E., **Former** Director of Engineering & Community Development **(Now with Seminole Tribe)**
Contact Email Address: Harrishamid@semtribe.com
Address: 5399 N. Dixie Highway, Suite 3, Oakland Park, Florida 33334
Telephone: (305) 586-3739 / **Fax:** Unknown
Dates of Service (start/end): 2003 - 2017
Scope of Work: ***Continuing Services Contract*** - Surveying, engineering design, landscape architecture, parks planning & design, streetscape design, traffic calming, sanitary sewer design and modeling, stormwater design and modeling, watermain design and modeling for streets, utilities, stormwater projects (Capital Improvement Projects).

Reference No. 4

Organization Name: City of Hallandale Beach
Contact Name: Ms. Marianna Pitiritiu, P.E., PMP, City Engineer/ Assistant Director of Public Works
Contact Email Address: mpitiriciu@hallandalebeachfl.gov
Address: 630 NW 2nd Street, Hallandale Beach, Florida 33009
Telephone: (954) 457-3042 / **Fax:** (954) 457-1624
Dates of Service (start/end): 2013 - Present
Scope of Work: ***Continuing Services Contract and Basis of Design Review*** – Surveying, civil engineering, park designs, landscape architecture for roadways, water, sewer, drainage, stormwater modeling, hardscape, streetscape, and general landscape design.

Reference No. 5

Organization Name: Broward County Water and Wastewater Services, Water & Wastewater Engineering Division
Contact Name: Mr. Patrick MacGregor, Expansion Project Administrator
Contact Email Address: pamacgregor@broward.org
Address: 2555 West Copans Road, Pompano Beach, Florida 33069
Telephone: (954) 831-0904 / **Fax:** (954) 831-0798
Dates of Service (start/end): 1993 - Present
Scope of Work: ***Neighborhood Improvements, Utility Analysis Zones, and Continuing Services Contract*** – Surveying, civil engineering, landscape architecture, stormwater modeling, water and sewer design and modeling, reuse waterline design, roadways, right-of-way restoration design, and pavement marking and signage for over 6,000 acres of redevelopment.

CATEGORY 4 - CIVIL

Reference No. 1

Organization Name: City of Hallandale Beach
Contact Name: Ms. Marianna Pitiritiu, P.E., PMP, City Engineer/ Assistant Director of Public Works
Contact Email Address: mpitiriciu@hallandalebeachfl.gov
Address: 630 NW 2nd Street, Hallandale Beach, Florida 33009
Telephone: (954) 457-3042 / **Fax:** (954) 457-1624
Dates of Service (start/end): 2013 - Present
Scope of Work: ***Continuing Services Contract and Basis of Design Review*** – Surveying, civil engineering, park designs, landscape architecture, streetscape, roadways, water, sewer, drainage, stormwater modeling, and hardscape.

Reference No. 2

Organization Name: City of Greenacres
Contact Name: Mr. Carlos I. Cedeño, Public Works Director
Contact Email Address: ccedeno@greenacresfl.gov
Address: 5750 Melaleuca Lane, Greenacres, Florida 33463
Telephone: (561) 642-2074/ **Fax:** (561) 642-2094
Dates of Service (start/end): 2007 - Present
Scope of Work: ***Continuing Services Contract and Various other Projects*** – Surveying, civil engineering, construction management, project management, plans review, roadways, drainage, stormwater modeling, sanitary sewer, etc.

Reference No. 3

Organization Name: City of Hollywood
Contact Name: Mr. Clece Aurelus, P.E., Project Manager
Contact Email Address: caurelus@hollywoodfl.org
Address: 1621 N. 14th Avenue, Hollywood, Florida 33019
Telephone: (954) 921-3930 | **Fax:** (954) 921-3258
Dates of Service (start/end): 2013 - Present
Scope of Work: ***Continuing Services Contract and Various other Projects*** – Surveying, civil engineering, construction management, project management, lift stations, watermain, sanitary sewer, etc.

Reference No. 4

Organization Name: Broward County Water and Wastewater Services, Water & Wastewater Engineering Division
Contact Name: Mr. Patrick MacGregor, Expansion Project Administrator
Contact Email Address: pamacgregor@broward.org
Address: 2555 West Copans Road, Pompano Beach, Florida 33069
Telephone: (954) 831-0904 / **Fax:** (954) 831-0798

Dates of Service (start/end): 1993 - Present
Scope of Work: ***Neighborhood Improvements, Utility Analysis Zones, and Continuing Services Contract*** – Surveying, civil engineering, landscape architecture, stormwater modeling, water and sewer design and modeling, reuse waterline design, roadways, right-of-way restoration design, and pavement marking and signage for over 6,000 acres of redevelopment.

Reference No. 5

Organization Name: City of Lake Worth
Contact Name: Mr. Felipe Lofaso, Assistant Public Services Director
Contact Email Address: flofaso@lakeworth.org
Address: 1749 3rd Avenue South, Lake Worth, Florida 33460
Telephone: (561) 586-1720 / **Fax:** Unknown
Dates of Service (start/end): 2013 - Present
Scope of Work: ***Lake Worth Continuing Services*** – Surveying , civil engineering, permitting and construction services for roadway, sidewalk, traffic calming, pavement marking & signage, drainage design, water and sanitary sewer design.

CATEGORY 7 - TRANSPORTATION

Reference No. 1

Organization Name: City of Oakland Park
Contact Name: Mr. Harris Hamid, P.E., **Former** Director of Engineering & Community Development **(Now with Seminole Tribe)**
Contact Email Address: Harrishamid@semtribe.com
Address: 5399 N. Dixie Highway, Suite 3, Oakland Park, Florida 33334
Telephone: (305) 586-3739 / **Fax:** Unknown
Dates of Service (start/end): 2003 - 2017
Scope of Work: ***Continuing Services Contract*** - Surveying, civil engineering design, park design, complete streets, landscape architecture, streetscape design, traffic calming, sanitary sewer design and modeling, stormwater, ADA, and sidewalk.

Reference No. 2

Organization Name: City of Aventura
Contact Name: Mr. Tony Tomei, Capital Projects Manager
Contact Email Address: tomeit@cityofaventura.com
Address: 19200 W. Country Club Drive, Aventura, Florida 33180
Telephone: (305) 466-8923/ **Fax:** (305) 466-8939
Dates of Service (start/end): 2001 - Present
Scope of Work: ***Continuing Services Contract and Various other Projects*** – Surveying, civil engineering, milling and resurfacing, roadway construction, landscape architecture, project management, city engineer, plans review, roadways, drainage, stormwater modeling, NPDES, etc.

Reference No. 3

Organization Name: City of Miami Gardens
Contact Name: Mr. O. Tom Ruiz, Public Works Director
Contact Email Address: truiz@miamigardens-fl.gov
Address: 1050 NW 163rd Drive, Miami Gardens, Florida 33169
Telephone: (786) 279-1260 / **Fax:** (305) 622-8032
Dates of Service (start/end): 2007 - Present
Scope of Work: ***Continuing Services Contract*** - Surveying, engineering and construction services for drainage, and roadway improvements.

Reference No. 4

Organization Name: City of Lake Worth
Contact Name: Mr. Felipe Lofaso, Assistant Public Services Director
Contact Email Address: flofaso@lakeworth.org
Address: 1749 3rd Avenue South, Lake Worth, Florida 33460
Telephone: (561) 586-1720 / **Fax:** Unknown
Dates of Service (start/end): 2013 - Present
Scope of Work: ***Lake Worth Continuing Services*** – Surveying, civil engineering, permitting and construction services for roadway, sidewalk, traffic calming, pavement marking & signage, drainage design, water and sanitary sewer design.

SUB-CONSULTANT – MCMAHON & ASSOCIATES

Reference No. 5

Organization Name: City of West Palm Beach
Contact Name: Mr. Brian A. Collins, P.E., City Traffic Engineer / Engineering Director
Contact Email Address: jbcollins@wpb.org
Address: 3301 College Avenue, Davie, Florida
Telephone: (561)494-1076/ **Fax:** (561) Unknown
Dates of Service (start/end): December 2006 to Present (Two Consecutive Contracts)
Scope of Work: ***Continuing Services Contract*** – Tasks have ranged from approximately $1,350 for data collection at Electronics Way to $62,234.38 for the Parker Avenue design plans. A total of 33 Work Authorizations have been issued over a 10-year performance period. Each of the tasks were competed on schedule and within the original budget except for Work Authorization 12 issued in 2009, which required two supplemental agreements approved for revisions requested by the City, totaling approximately $4,500.

CATEGORY 9 - WATER RESOURCES/STORMWATER

Reference No. 1

Organization Name: Central Broward Water Control District
Contact Name: Mr. Michael Crowley, District Manager
Contact Email Address: districtmanager@centralbrowardwcd.org
Address: 8020 Stirling Road, Hollywood, Florida 33024
Telephone: (954) 432-5110/ **Fax:** (954) 432-8603
Dates of Service (start/end): 2007 - Present
Scope of Work: ***Continuing Services Contract, Surveying, Stormwater and Plan Review Services***
Stormwater Master Plan for West Basin and East basin totaling approximately 25,000 acres using PCSWMM. CTA then developed capital improvements from the model. Also, the projects included surveying and GIS.

Reference No. 2

Organization Name: City of Aventura
Contact Name: Mr. Tony Tomei, Capital Projects Manager
Contact Email Address: tomeit@cityofaventura.com
Address: 19200 W. Country Club Drive, Aventura, Florida 33180
Telephone: (305) 466-8923/ **Fax:** (305) 466-8939
Dates of Service (start/end): 2001 - Present
Scope of Work: ***Continuing Services Contract and Various other Projects*** – Surveying, civil engineering, Comprehensive Stormwater Master Plan for City, including sustainability, NPDES, and NPDES Operations and Maintenance manual, an ICPR stormwater model and the development of a stormwater capital improvement plan.

Reference No. 3

Organization Name: Nova Southeastern University
Contact Name: Ms. Jessica Brumley, Vice President, Facilities Management
Contact Email Address: jw1263@nova.edu
Address: 3301 College Avenue, Davie, Florida
Telephone: (954)262-8835/ **Fax:** (954) 262-3900
Dates of Service (start/end): 2013 - Present
Scope of Work: ***Continuing Services Contract*** –Survey, civil engineering design, stormwater modeling using ICPR for 73.5 acres divided into 10 sub-basins.

Reference No. 4

Organization Name: Broward County Water and Wastewater Services, Water & Wastewater Engineering Division
Contact Name: Mr. Patrick MacGregor, Expansion Project Administrator
Contact Email Address: pamacgregor@broward.org
Address: 2555 West Copans Road, Pompano Beach, Florida 33069
Telephone: (954) 831-0904 / **Fax:** (954) 831-0798
Dates of Service (start/end): 1993 - Present
Scope of Work: ***Neighborhood Improvements, Utility Analysis Zones, and Continuing Services Contract*** – Surveying, civil engineering, landscape architecture, stormwater modeling using ICPR, water and sewer design and modeling, reuse waterline design, roadways, right-of-way restoration design, and pavement marking and signage for over 6,000 acres of redevelopment.

SUB-CONSULTANT - HAZEN AND SAWYER

Reference No. 5

Organization Name: Broward County
Contact Name: Mr. Alan Garcia, Director Water & Wastewater Services
Contact Email Address: agarcia@broward.org
Address: 2555 West Copans Road, Pompano Beach, Florida 33069
Telephone: (954) 831-0704 / **Fax:** (954) 831-0903
Dates of Service (start/end): 2008 – 2012 (design through construction)
Scope of Work: Hazen provided design, permitting, bidding, and construction oversight of the ***Broward County Water Treatment Plant 3C Water Tank and Pump Station project***, which included a 1.5-million-gallon prestressed concrete ground storage tank and three horizontal split case pumps with a capacity of 1,100 gpm and variable frequency drives. The facility was designed to be constructed in phases to maintain service and allow the existing facilities to remain in operation while the new facilities were constructed on a small, crowded site. The project was awarded Consultant of the Year in 2011 by the American Public Works Association.

iv. Key Personnel

CATEGORY 1 - ENGINEERING

TIM J. HALL, P.E.

Project Role: Project Manager: Category 1 - Engineering

Education: Bachelor of Science - Civil Engineering, University of Maryland (Structural Emphasis) |1987

Licenses / Certifications: Professional Civil Engineer - Florida No. 50588 | 1996

Years of Experience: 10 years with CTA, 30 Years Total

Resume / Bio: With over 30 years of experience, 23 years within South Florida, Mr. Hall has an extensive and diverse project history. His experience includes modeling, master planning, preparation of construction documents, permitting, and construction administration for numerous water distribution, sewer collection, storm water management, and land development projects. Having participated in the design and implementation of everything from small in-fill development to large neighborhood improvements. He has been exposed to a wide range of private land development and public infrastructure projects. Mr. Hall's experience providing construction management for a Builder/Developer, permit review and program management for a large municipality, and Design/Consulting services for both Private and Public sector clients, provides broad insight into the variety of issues related to project development. He has served as Client Manager for several general services contracts with multiple municipalities throughout South Florida and knows what's required for a successful outcome. Projects include modeling and design of water, wastewater, and storm water collection systems at both a master planning and project specific level. Mr. Hall has a firm grasp of State and Jurisdictional requirements and methodology/means for compliance. His past civic experience and role as client manager for several general services contracts, provides insight to working with Municipal Staff.

Experience:

City of Sunny Isles Beach, Utility Undergrounding, Sunny Isles, Florida
Project Lead for the City of Sunny Isles Beach undergrounding efforts. Project includes undergrounding of overhead electrical, telephone, and cable within 2.1 miles along Collins Avenue (A1A). Significant coordination required between FP&L, low voltage utilities and FDOT requirements. Understanding of technical requirements and restrictions of both FDOT and utilities required to deal with the physical limitations of constructing within the right-of-way.

Edgewood Drainage Analysis, Fort Lauderdale, Florida
Project Lead on drainage analysis of existing 600-acre neighborhood with the purpose of quantify and identifying cause for frequent and substantial flooding. Orchestrated project modeling, proposed alternatives, and provided cost estimates with defined level of service.

Acme Basin B – Section 24, Wellington, Florida

Project Lead on development of 360-acre storm water attenuation basin with 4.5 miles of related canal improvements and two 200 cfs pump stations. Project included working from an ACOE Project Implementation Report as a consultant to SFWMD, providing construction documents for a water quality and flood attenuation project.

City of Fort Lauderdale – WW2011 Program, Fort Lauderdale, Florida

Project Lead for design services related to City's Capital Improvements Program which included approximately $636 million in utilities infrastructure repair, replacement, and upgrades. The program included analysis, modeling and design for improvements to water and wastewater facilities in meeting a comprehensive plan in response to expanded demand and service areas.

City of Marathon – F.K.A.A. Sewer Study, Marathon, Florida

F.K.A.A. solicited bids for a design-build-operate solution to City's issues of sanitary sewer compliance. City requested analysis of bids and input on the proposed combination of conventional and vacuum sewer systems with recommendations.

Septic Area 18, Fort Lauderdale, Florida

Analyzed capacity and impacts to existing infrastructure and lift stations resulting from full build-out of a 130-acre partially developed parcel. Services included modeling, analysis, and recommendations for proposed improvements. Using atlas and as-built information, developed a baseline model reflecting existing conditions. Once calibrating, the model was modified to reflect expanded service areas. Upon evaluation, a complete report of findings was prepared outlining design criteria, assumptions, baseline data, exhibits, and calculations with recommended alternatives.

Port Everglades Utilities Analysis, Broward County, Florida

Collected data and created model for use in analyzing network of public lift-stations and force mains. Model utilized for analysis of existing capacities as well as adaptability of individual lift stations and force mains for future expansion. Compiled list of alternatives for remediation of inadequate service levels and proposed recommendations for short term and long-term solutions based upon performance, cost, and construct-ability.

Broward County Neighborhood Improvement Projects, Broward County, Florida

Four individual neighborhood improvement projects ranging from 900 to 1600 acres each. Prepared models to identify areas of inadequate fire protection, sewer collection, and drainage. Utilized models to design upgrades to water, force main, lift stations, and drainage. Improvements included re-grading of roadways and landscaping.

GARY TENN, P.E.

Project Role: Engineer: Category 1 - Engineering

Education: Bachelor of Applied Science - Civil Engineering, University of Windsor, Ontario, Canada | 1979

Licenses / Certifications: Professional Civil Engineer - Florida No. 42099 | 1989

Years of Experience: 3 years with CTA, 36 Years Total

Resume / Bio: Mr. Tenn has been responsible for civil engineering design and project management of numerous public sector development projects throughout South Florida. His engineering experience and oversight of public sector project involved various disciplines including roadway, drainage and water & sewer aspects of the projects. Mr. Tenn has thirty-six years of experience in civil engineering and is a registered Professional Engineer in Florida. This experience includes 36 years of project management, design and permitting for projects.

Experience:

Water Main Replacement Program (from Taft Street to Charleston & North 66th Avenue to North 72nd Avenue, Hollywood, Florida. Project Manager - Managed the mobile LiDAR surveying, design, permitting, bidding and limited construction observation to replace approximately **91,950 linear feet** of existing water main distribution and services located in the rear yards and within the road Rights-of-Way.

NE 34th Court Streetscape & Roadway Rehabilitation, Oakland Park, Florida
Civil Project Manager - The streetscape and engineering services included full roadway reconstruction design, storm water management ICPR modeling and design, utility coordination and relocation, landscape and streetscape enhancement, and all associated jurisdictional permitting. This project required permit approvals from Broward County Environmental Protection Department (EPD), Broward County Health Department, and the City of Oakland Park Public Works and Engineering and Community Development Departments. **This project utilizes FDOT LAP funding for construction.**

Sunset Strip Improvements, Sunrise, Florida
Project Manager - Project management services for the Capital improvement Section of the City of Sunrise included the engineering design and the development of construction documents for Sunset Strip Beautification Project from University Drive east to NW 64th Avenue. The project involved reconstruction of the swales, drainage improvements, landscape enhancement, traffic calming, irrigation modifications, and sidewalk improvements. The work included coordinating survey, drainage design and permitting, coordinating electrical design for street lighting, overseeing streetscape and irrigation installation and utility adjustments, providing cost estimates and construction administration.

Eastside Drainage and Water Main Improvements, Davie, Florida
Project Manager - Phase 1 involved the installation of drainage infrastructure within SW 41st Place, SW 61st Avenue and SW 41st Street to a point of connection into an existing lake. These improvements were designed along with sewer and roadway improvements for SW 41st Place. This Phase allows for the redevelopment of SW 41st Place and also provides drainage for parcels

along Davie Road as well as an outfall for SW 41st Street: Phases 2 & 3 are currently under design. Phase 2 involves the installation of drainage infrastructure within SW 38th Court and SW 60th Terrace to a point of connection with Lake 3. Also required would be the interconnection between Lake 3 and Lake 2 in SW 58th Terrace and the connection from Lake 3 to Central Broward Water Control District Canal N-5 via SW 39th Court to SW 56th Avenue to SW 39th Street and SW 55th Avenue to the outfall. These connections would be required in order to allow the bleed down of the lake system after a storm event. The installation of this infrastructure would provide the drainage backbone for a large portion of future redevelopment. Phase 3 involves the installation of drainage infrastructure within SW 63rd Avenue, SW 42nd Street, SW 41st Court and SW 61st Avenue to a point of connection with the drainage infrastructure installed in Phase I.

South Florida Water Management District (SFWMD) Miscellaneous Engineering Services

Project Manager - Provided the leadership for the engineering team that was awarded a three-year general engineering service contract. Throughout the contract, provided project management and engineering consulting support services to SFWMD. Managed the sub-consultants and in-house team and provided services which included: project management, civil engineering, coordinating structural engineering, water resources engineering, and environmental engineering. Other services included coordination of land surveying, GIS services, landscape architecture, master drainage studies, and economic studies.

PETER AQUART, P.E.

Project Role: Engineer: Category 1 - Engineering

Education: Bachelor of Applied Science - Civil Engineering,
University of Windsor, Ontario, Canada | 1979
Masters in Business Administration, University of South Florida, Tampa, FL | 1987

Licenses / Certifications: Professional Civil Engineer - Florida No. 34176 |1984

Years of Experience: 7 years with CTA, 38 Years Total

Resume / Bio: Mr. Aquart has thirty-eight years of experience in planning, organizing, directing and executing the planning, design, permitting and construction observation of public and private sector civil engineering infrastructure projects.

Experience:

City of Aventura General Services Consultant Project Manager, Aventura, Florida
Civil Engineer Project Manager / Engineer of Record. In this role he has managed numerous capital improvement projects including: storm water engineering studies and reports; municipal facilities drainage, surveying, contract management; roadway and drainage improvements; infrastructure improvements; park projects; street resurfacing; traffic improvement projects; roadway lighting; bulkhead studies; plan reviews; permitting; bidding assistance; and construction administration services.

Orange Boulevard Drainage Study, Palm Beach County, Florida - Prepared assessment of drainage conditions and provided recommendations for improvements for a one-mile portion of Orange Boulevard in Unincorporated Palm Beach County, Florida.

Lake Worth Lagoon Pollutant Reduction Study, Palm Beach County, Florida - Preparation of calculations and report to quantify the reduction in pollutant loading to the Lake Worth Lagoon resulting from the construction of six projects utilizing various BMP's.

Palm Beach County Biotechnology Research Park at Mecca Farms, Palm Beach County, Florida
Design, permitting and preparation of construction plans for paving, grading and drainage for Phase 1 collector road system.

S5A Boat Ramp Replacement, Palm Beach County, Florida - Prepared paving, grading and drainage plans for 0.75-mile access road, and 23-space parking lot for boat ramp facility off 20 Mile Bend Boat Ramp Road within the Loxahatchee National Wildlife Refuge.

Courtyards at Delray, Delray Beach, Florida - Prepared construction plans and permit applications for paving, grading, drainage, water and sewer improvements for a 32 unit townhome redevelopment project in Delray Beach, Florida. Provided construction phase services.

Atlantic Grove, Delray Beach, Florida - Prepared construction plans and permit applications for paving, grading, drainage, water and sewer improvements for a mixed-use redevelopment project on Atlantic Avenue in Delray Beach, Florida. Provided construction phase services.

Old Palm Cove, Delray Beach, Florida - Prepared construction plans and permit applications for paving, grading, drainage, water and sewer improvements for a residential project on U.S. 1 in Delray Beach, Florida. He provided construction phase services.

MATTHEW NOVACK, E.I.

Project Role: Engineer: Category 1 - Engineering

Education: Bachelor of Science in Mechanical Engineering
Florida Atlantic University | Boca Raton, Florida | 1991 - 1993
University of South Florida | Tampa, Florida | 1988 - 1990

Years of Experience: 14 years with CTA, 26 Years Total

Resume / Bio: Mr. Novack has over twenty-six years of engineering experience. His experience includes the design of storm water, water distribution, and wastewater collection systems; roadway design, as well as cost estimating, permitting and construction observation.

Experience:

Shenandoah Fire Station, Town of Davie
Project Engineer - Cost $2,900,000.00. Civil Engineers for a new permanent Fire Station constructed on S.W. 14th Street just west of S.W. 186th Avenue within the Shenandoah subdivision. The station will provide improved response times to the western portion of the Town.

Fire Administration and Public Works, Town of Davie, Florida
Project Engineer - Cost $2,900,000.00. This project included the demolition of older office buildings, the construction of a new office complex together with new and improved parking and drainage facilities. Craven Thompson & Associates, Inc. were the Civil Engineers for all the site improvements for this project.

Oakes Road Fire Station, Town of Davie, Florida
Project Engineer - Cost $2,300,000.00. Civil engineer for a new fire station on Oakes Road at State Road 7. The station provided improved response time to the eastern portion of the Town.

State Road 84 Access Road, Town of Davie, Florida
Project Engineer - Cost $185,000.00. Paving, drainage, pavement marking and signage design emergency vehicle access roadway connecting the Davie Police- EMS complex to State Road 84.

SW 41st Place, Eastside Infrastructure Improvements, Phase I, Town of Davie, Florida
Project Engineer - Cost $975,000.00. Preparation, permitting and bidding of Phase I of Eastside Master Drainage Study, including storm drainage, roadway, water and sanitary sewer improvements.

Hiatus Road at SW 26th Street Traffic Roundabout, Town of Davie, Florida
Project Engineer - Paving, drainage, pavement marking and signage design for roundabout traffic calming project. Project provides improved traffic flow and safety over the previous traditional "stop" condition.

Hiatus Road at Orange Drive Intersection Improvements, Town of Davie, Florida
Project Engineer - . Intersection expansion including turn lane improvements, filling in of a portion of a canal and replacing it with a concrete box culvert.

CATEGORY 2 - SURVEYING AND MAPPING

RICHARD D. PRYCE, P.S.M.

Project Role: Project Manager: Category 2 - Surveying and Mapping

Education: Associate of Science - Criminal Justice, Broward Community College | 1978

Licenses / Certifications: Professional Surveyor and Mapper - Florida No. 4038 | 1983

Years of Experience: 11 years with CTA, 45 Years Total

Resume / Bio: Mr. Pryce has over forty-five years of experience surveying in South Florida. He has specialized in all aspects of the land surveying & mapping profession and has also specialized in developing GIS/Survey applications using ESRI ArcGIS software since 1990. Mr. Pryce has specialized training in BLM PLSS retracement surveys, legal research and resolving boundary disputes. Mr. Pryce has been fully trained on Leica 3D Laser Scanners and 3D Modeling for use in High Density Surveying of Commercial, Historical and Utility Sites. He has also been developing ways to analyze Lidar data for City-wide Storm water and Drainage studies.

Experience:

Town of Davie - GIS Conversion and Website - GIS Coordinator & Project Manager, Conversion of Town's CAD and hardcopy maps to ESRI GIS format and create Town's GIS website and hosted it for 2 years.

Broward County Property Appraisers Office GIS - Parcel Mapping (70,000 acres - 5 Cities) – (1996 – 2003) the Project Manager & GIS Coordinator for the parcel mapping for Davie, Sunrise, Pembroke Pines, Cooper City, and parts of Hollywood and Unincorporated Broward County under contract to the Property Appraisers Office.

3D Laser Scanning portion of Interstate 95 Topographic Design Project - Project Manager and Technical Director of 3D Laser Scan Survey of a portion of Interstate 95 for Broward County Engineering to get topographic elevations across 6 lanes of highway to centerline median wall for design of temporary roadway for construction traffic to offload storm drainage pipes.

North County Neighborhood Improvements Project, Northeast Quadrant, Broward County –
Mr. Pryce managed the surveying services necessary for over 70,000 linear feet of roadway, over 160,000 linear feet of swale reconstruction 80,000 linear feet of sidewalk and a water distribution and sanitary sewer systems for this large rehabilitation project. The project included a sanitary sewer collection system consisting of 69,550 linear feet - 8" gravity main, 807 linear feet - 10" gravity main, 129 linear feet - 12" gravity main, and 144 linear feet - 16" gravity main. The sanitary force main system consisted of 540 linear feet - 8" main, and 1,540 linear feet of 12" main. The water distribution system additions included 35,626 linear feet - 6" main, 10,161 linear feet - 8" main, 841 linear feet - 12" main, 1,306 linear feet - 20" main, and 1,023 linear feet - 24" main, for a total of 9.27 miles of watermain.

North M Street & North K Street (2nd Avenue N to 6th Avenue N), Lake Worth - Both streets have poor PCI numbers and require roadway reconstruction, curb & gutter, sidewalk, drainage, watermain & ADA ramps. CTA provided survey, engineering, and permitting. Established right-of-way and performed topographic survey.

Oakland Park Storm Water Management GIS Project - Project Manager and GIS Coordinator, Storm Water Management Analysis & Fee Program, conversion and analysis of existing database system into an integrated GIS ESRI Format tied into the Property Appraiser Parcel database with calculations of Pervious & Impervious areas for fee assessment.

3D Laser Scanning Roadway Topographic Design Project - Project Manager and Technical Director of 3D Leica Scan Station Survey for Chen & Associates of (1-1/2 miles of State Road 7 from Peters Road to NW 5th Street for Design & Topographic Survey for 20" Water Main), scan full right-of-way 24 merged scan positions 66 million x-y-z points with 0.03' accuracy.

Oakland Park – NE 38th Street Project - Project Survey Manager, Right-of-way surveys covering from Dixie Hwy. west to NW 10th Ave, then North to Prospect Road (2.5 miles) Boundary and topographic elevations for the existing right-of-way for reconstruction design.

Sunrise NW 44th Street, Oakland Park Boulevard, and Nob Hill Road Passive Parks, Sunrise, Florida - Project Manager. Boundary and topographic surveys of the three (3) Passive Park Projects for design purposes, including an extensive tree survey and the review of title documents and encumbrances.

Oakland Park – Harlem McBride Project - Project Survey Manager, Right-of-way surveys covering NE 5th Ave from Oakland Park Blvd to NE 38 St, and NE 34 St from NE 5th Avenue to Dixie Highway (1.5 miles) Boundary and topographic elevations for the existing right-of-way for street scape designs and 3D laser scanning of roadways to acquire detailed elevation data for drainage.

NICHOLAS MESSINA, JR., P.S.M.

Project Role: Surveyor/GIS: Category 2 - Surveying & Mapping

Education: Associate of Science - Surveying and Mapping, University of Alaska, Anchorage | 1999

Licenses / Certifications: Professional Surveyor and Mapper - Florida No. 6559 (2006)
Trained NGS OPUS Projects Manager, Trimble Business Center

Years of Experience: 18 years with CTA, 27 Years Total

Resume / Bio: Mr. Messina is an experienced surveyor with over twenty-seven years surveying, including 15 years of public sector experience surveying in South Florida. He has been the Project Surveyor/Manager for variety of surveys such as ALTA/ACSM Land Title, As-Built, Boundary and Topographic, Control and Quantity Surveys. He has 10 years of public sector experience in civil service with 6 years working in remote Alaskan communities as an Engineering / Surveying Technician working both in the field and office preparing a variety of survey projects and drawings.

Experience:

Port Everglades Crane Expansion for Beth's 30-33 – Calculated and evaluated proposed crane height per Federal Aviation Administration (FAA) standards and prepared Surveyor's Affidavit.

City of Greenacres – Responsible for establishing the GPS Horizontal and Vertical Control Network on photo-identifiable points for airborne LIDAR scanning of the project. The Control Network was established from GPS fast-static sessions and post processed using Trimble Business Center.

Hollywood Watermain Replacement - Responsible for establishing the GPS Horizontal Control Network and Digital Level Vertical control network for mobile LIDAR scanning of the project.

Plantation Gardens - Responsible for establishing the GPS Horizontal Control Network and Digital Level Vertical control network for mobile LIDAR scanning of the project.

Lake Worth 2020 Master Plan - Responsible for establishing the GPS Horizontal Control Network and Digital Level Vertical control network for mobile LIDAR scanning of the project.

Central Broward Water Control District C-11 Basin – Created a specialized Data Dictionary Files (DDF) to acquire field GIS Data collection to automate office data entry into PCSWWM software required for drainage calculation. Provided technical support and training for field engineer to collect the data using Trimble Geo 7X GIS data collector. Developed office procedures required to automate the import of canal cross sections & engineering data into PCSWMM.

Port Everglades Utility GIS - GPS utility locations and as-built surveys for the entire jurisdictional area of Port Everglades, including water, sewer, storm sewer, electric, telecommunications and fuel lines.

State Road A1A - Port St. Lucie and Delray Beach - Responsible for training the field crew in Florida Department of Transportation (FDOT) field procedures and FDOT Electronic Field Book (EFB) data collection software.

County Neighborhood Improvement Project (NIP) - Project Manager responsible preparing the Topographic Survey of the existing conditions survey for engineering design purposes.

RAY YOUNG, P.S.M.

Project Role: Surveyor: Category 2 - Surveying & Mapping

Education: Broward Community College

Licenses / Certifications: Professional Surveyor and Mapper – Florida No. 5799 (1998)

Years of Experience: 23 years with CTA, 35 Years Total

Resume / Bio: Mr. Young has thirty-five years of experience surveying in South Florida. He has performed both field and office work on a variety of projects both large and small. He is experienced in all aspects of surveying including boundary, topographic, construction layout, ALTA mortgage, as-built, control and location surveys. He has prepared numerous plats and has been involved in the recordation of these plats.

Experience:

Springtree Wastewater Treatment Plant, Sunrise - Project Manager. Prepare Boundary and Topographic survey of various portions of the site with attention to pipe and structure details.

Sawgrass Wastewater Treatment Plant, Sunrise - Project Manager. Prepare Boundary and Topographic survey of various portions of the site with attention to pipe and structure details.

Flamingo Key Sewer Expansion, Sunrise, Florida

Project Manager. Preparation of 0.75 mile Boundary and Topographic survey for new sewer line expansion route along Flamingo Road, N.W. 8th Street and N.W. 126th Avenue.

Ravenswood Transit Facility, Dania Beach - Project Surveyor. Prepare boundary and topographic survey and preparation of plat for recordation.

Biscayne Boulevard Decorative Street Light Improvements, Aventura - Project Manager. Preparation of topographic survey for several portions of Biscayne Boulevard. Preparation of calculations and setting of baseline for construction layout, including the location of improvements for engineering design.

NE 191 Street/NE 188 Street/NE 185 Street Milling and Re-surfacing Project, Aventura
Project Manager. Preparation of topographic survey for full right of way of streets listed. Preparation of calculations and right of way location for engineering design.

Williams Island Boulevard Milling and Re-surfacing Project, Aventura, Florida
Project Manager. Preparation of topographic survey for full right of way of Williams Island Boulevard east of Biscayne Boulevard. Preparation of calculations and right of way location for engineering design.

Margate Raw Water Line, Margate, Florida - Project Manager. Preparation of a 1.5 mile Boundary and Topographic survey for new raw water line route along Rock Island Road, from N.W. 9 Court north to N.W. 30 Street. Preparation of a Boundary and Topographic survey for the wastewater treatment plant on N.W. 61 Avenue for tie in of raw water line.

Shirley Small Community Park, Fort Lauderdale, Florida - Preparation of Boundary Survey consistent with City of Fort Lauderdale standards, including determination of boundary location from field control and setting of boundary monuments, location of existing improvements within 10' of the boundary lines including the seawalls along the Intracoastal waterway.

DOUGLAS M. DAVIE, P.S.M.

Project Role: Surveyor: Category 2 - Surveying & Mapping

Licenses / Certifications: Professional Surveyor and Mapper - Florida No. 4343 (1987)

Years of Experience: 24 years with CTA, 43 Years Total

Resume / Bio: Mr. Davie has over forty-three years of experience surveying in South Florida. He has been the Project Manager in numerous large-scale projects such as right of way surveys, preparation of City and County maps and large scale developments. Mr. Davie has performed both field and office work of all types of surveys; expert witness, boundary, topographic, design, route surveys, Mean High Water, as-built, control, hydrographic and location surveys.

Experience:

Oakland Park Boulevard Passive Park, Sunrise - Survey Project Manager. Topographic survey of sites for design of future parks for recreation and natural preserves. Project size is 7.925 acres.

Oak Hammock Passive Park, Sunrise - Survey Project Manager. Topographic survey of sites for design of future parks for recreation and natural preserves. Project size is 13.31+/- acres.

Nob Hill Road Passive Park, Sunrise Survey Project Manager. Topographic survey of sites for design of future parks for recreation and natural preserves. Project size is 4.69+/- acres.

Chapel Trail Park, Pembroke Pines, Florida – Surveying for Infrastructure design for a 12 acre park including ballfields and racquetball courts.

Broadview Park, Broward County, Florida - Project Manager - Design and as-built surveys.

North County Neighborhood Improvement Project, Broward County
Project Manager - Design and As-built Surveys.

City Fort Lauderdale – Downtown Development Authority (DDA) – Streetscape Projects - Project Manager - Oversaw all aspects of preparation of topographic and right of way surveys for over four miles of urban roadways for the purposes of drainage, landscaping and beautification. These surveys included the establishment of rights of way, location of all existing improvements and depiction of elevations for design purposes. Additionally, Mr. Davie reviewed the legal description of the DDA boundary, edited the legal description and prepared a map depicting the boundaries.

Town of Davie - Westside Town Hall Drainage Study - Project Surveyor - Prepare drainage route design survey. Prepare 5 Acre survey for retention area.

Town of Davie - Oakes Fire Station - Project Surveyor - Prepare various sketch and legal descriptions for creation and vacation of easements.

Broward County Courthouse, Fort Lauderdale, Florida - Surveying Project Manager currently performing surveying services for the construction of the new courthouse and parking garage including layout, as-builts and monitoring services of the

City of Sunrise Water and Wastewater Treatment Plants
Supervise construction stakeout, as-builts and topographic surveys of Sawgrass Wastewater, Sawgrass Water, Springtree Water, Park City Water, Southwest Water and Southwest Wastewater plants.

SUB-CONSULTANT – AERIAL CARTOGRAPHICS OF AMERICA, INC.

MATTHEW LALUZERNE, P.S.M.

Project Role: Aerial Photogrammetry/LiDAR: Category 2 - Surveying and Mapping

Education: University of Florida, Geomatics (2005)
Rollins College, MBA (2011)

Licenses / Certifications: Professional Surveyor & Mapper - Florida No. LS6766 (2009)
Years of Experience: 12 years

Resume / Bio: Mr. LaLuzerne oversees the day-to-day operations of surveying and mapping for all DOT projects throughout Central Florida. He has an extensive background with a variety of survey services and a complete understanding of how to identify and pull from multiple resources (both in-house and subconsultants) to maximize field and office productivity while reducing overall project schedule time. Mr. LaLuzerne is experienced with MicroStation, GEOPAK, AutoCAD, with a full understanding to FDOT design survey criteria and procedures.

Experience:

Lake Worth 2020 Master Plan – Year 1 Infrastructure Improvements, Lake Worth, Florida
ACA provided Mobile LiDAR data collection of approximately 3.3 miles of roadway for Year 1's 2020 Master Plan Contract with the City. The projects include the rehabilitation of roadway infrastructure including roads, alleys, curb, sidewalk hardscape, drainage, and potable water. The areas scanned include the following: 15th Ave N: From Railroad to N J St.; 14th Ave N; From US 1 to N J St.; N J St: From 13th Ave North to 16th Ave North.; 11th Ave N: N H St. to N M St.; N K St.: 2nd Ave North to 9th Ave North; and N M St.; 2nd Ave North to 19th Ave North. Deliverables included calibrated LiDAR point cloud tiled in LAS format, DTM and planimetric topographic survey files in Civil 3D format, digital geo-referenced color imagery and field survey /trajectory accuracy report in accordance with the latest FDOT Terrestrial Mobile LiDAR Guidelines.

Plantation Gardens Historical Area Watermain, Plantation, Florida
ACA provided Mobile LiDAR data collection of approximately 9.8 miles of roadway located in the City of Plantation, Florida. The areas scanned included 5.9 centerlines for the Historic Area from Holly Lane to Palm Tree Road and 3.9 centerline miles of Area B from Rose Terrace to Pine Terrace. Deliverables included calibrated LiDAR point cloud tiled in LAS format, DTM and planimetric topographic survey files in Civil 3D format, digital geo-referenced color imagery and field survey /trajectory accuracy report in accordance with the latest FDOT Terrestrial Mobile LiDAR Guidelines.

City of Hollywood Waterline Replacement Program Mobile LiDAR Collection, Hollywood, Florida
ACA and CTA teamed together to provide Mobile LiDAR surveying design, permitting, bidding and limited construction observation services for this 17 miles of roadway from Taft Street to Charleston and N. 66th Avenue to North 72nd Avenue in Hollywood, Florida. A survey control baseline was established throughout the project limits containing survey control points with both horizontal and vertical coordinate information in the form of x-y-z values, in State Plan, Florida East Zone, NAD83(90), US Survey in Feet format. Deliverables included calibrated LiDAR point cloud tiled in LAS format, DTM and planimetric topographic survey files in Civil 3D format, digital geo-referenced color imagery and field survey /trajectory accuracy report in accordance with the latest FDOT Terrestrial Mobile LiDAR Guidelines.

CATEGORY 3 - LANDSCAPE ARCHITECTURAL DESIGN

DOUGLAS SCHULTZ, R.L.A., LEED AP

Project Role: Project Manager: Category 3 - Landscape Architectural Design

Education: Bachelors of Landscape Architecture, University of Kentucky | 2002

Licenses / Certifications: Professional Registered Landscape Architect - Florida No. 6666937 | 2006

LEED Accredited Professional, United States Greenbuild Council, 2009

Years of Experience: 6 years with CTA, 15 Years Total

Resume / Bio: Mr. Schultz has been actively involved in the planning and design for a variety of projects ranging from large scale community planning to detailed resort design. He is LEED Accredited and is a licensed Landscape Architect in the State of Florida. He is responsible for seeing projects from concept to detailed design and through construction. Mr. Schultz has acted as the primary project manager on several public and private sector construction projects. He is very knowledgeable in the design process and has an extensive construction background understanding.

Experience:

Bluesten Park, Hallandale Beach, Florida
Project Manager - Mr. Schultz is the project manager and landscape architect for the park project. The Park will include a 42,000 sf Recreation Center with / Pool and Splash Play Area, Soccer/Multi-Use Field, three (3) baseball Fields, three (3) basketball courts, two (2) tennis courts, two (2) racquetball courts, boundless ADA inclusive playground, walking trails and pavilions; and full promenade streetscape design for surrounding streets for pedestrian friendly corridors and parallel parking.

All Aboard Florida Inline Train Stations, Fort Lauderdale and West Palm, Florida
Landscape Architect - All Aboard Florida is introducing a high-speed rail train to Florida which will provide access from Miami to Orlando with stops in Fort Lauderdale and West Palm. Craven Thompson and Associates is the landscape architect for the inline stations for Fort Lauderdale and West Palm which includes site, amenity and landscape design for the plazas, parking and site circulation. Mr. Schultz is the project manager for the design of this project.

Sunrise Bicycle/Pedestrian, Greenways and Trails Master Plan, Sunrise, Florida
Project Manager - Craven Thompson & Associates, Inc. along with Alta Planning + Design was hired by the City of Sunrise to prepare a Bicycle / Pedestrian Greenways & Trails Master Plan. The Plan defines a system of sidewalks, bike lanes, paths, greenways and trails within the City of Sunrise that provides integrated and continuous corridors for non-motorized transportation and recreation throughout the city in a manner that is sensitive to the needs of various user groups, the natural and built environment, the management and maintenance, and potential funding capabilities of local government.

Sunrise Passive Parks, Sunrise, Florida
Landscape Architect - The City of Sunrise acquired three tracts of land that they have decided to make into community parks. Each park will have their own specific amenity that will make it unique, but the hardscape components such as paving, lighting, benches, walking surfaces,

fences and restroom facilities have the same character which will relate the three parks together. Oak Hammock Park has a splash pad water feature for kids while the Cypress Preserve Park has a disc golf course. The Nob Hill Road Park will have a labyrinth and amphitheater. Mr. Schultz is project manager for the construction administration of the three parks and recently completed the design of the Nob Hill Road Park.

Oscar Wind Park, Flamingo Park, and Welleby Park, Sunrise, Florida

Landscape Architect – As part of their Capital Improvements Program, The City of Sunrise designated three community parks from their Leisure Services Long Range Vision Plan for redesign and renovation. The updates and expansions are part of the Geo Bond improvements program. CTA was asked to provide schematic master planning and renderings for Oscar Wind Park, Flamingo Park, and Welleby Park. The design elements that were incorporated into the parks include: redesign of parking and arrival, covered play yards and sports courts, dog parks, jogging paths, exercise stations, wetland parks, and new event and multi-purpose facilities. Mr. Schultz is project manager for the construction administration of the three parks.

Art Park, Oakland Park, Florida

Landscape Architect - The City of Oakland Park asked CTA to do a plaza design for a small parcel on Dixie Highway. Mr. Schultz was the project manager responsible for the design of the site and convinced the city to install an art/sculpture display park. The initial design had recycled cargo containers to serve as art gallery/pavilion spaces as well as concrete podiums for sculpture display. The park was completed in 2014.

Dania Beach Municipal Marina, Dania Beach

Landscape Architect - The existing Dania Beach Marina has been redesigned to include a new marina, dockmaster building, public promenade along the seawall and an open air pavilion with grill and fish cleaning stations. The marina will have a new configuration to maximize space and revenue. The new public promenade will provide the general public access to the water's edge and will provide a connection from the marina to the new dockmaster building and open air pavilion. Mr. Schultz is the project manager responsible for the design of the site layout, public promenade and associated landscape enhancements.

Downtown Fort Lauderdale Prototype Streetscapes, Fort Lauderdale, Florida

Landscape Architect - The Fort Lauderdale Downtown Development Authority envisioned a demonstration project that would establish a design vocabulary for the redevelopment of streetscapes for downtown Fort Lauderdale. These design criteria were applied and resulted in a restoration project that spans 4000 feet and 8 city blocks, addressing walking surfaces, interfaces with operating buildings, limited Right of Way space, future utilities, street tree planting, street lighting and furnishings.

Neighborhood Improvement Project, Bid Pack 11, Deerfield Beach, Florida

Landscape Architect - Provided landscape design for the streets improvements north of Sample and west of Federal Highway. The project consists of improving the streetscape by providing additional street trees, shrub beds along new sidewalks, and parallel parking. Landscape Architectural services will include construction observation once the project goes under construction.

JOSEPH D. HANDLEY, R.L.A.

Project Role: Landscape Architect: Category 3 - Landscape Architectural Design

Education: B.S. in Ornamental Horticulture, Clemson University (1980)
Attended Masters in Landscape Architecture Program, University of Georgia and Louisiana State University (1981 - 1984)

Licenses / Certifications: Professional Landscape Architect – Florida No. 1368

Years of Experience: 28 years with CTA, 33 Years Total

Resume / Bio: Mr. Handley has been involved in a broad range of land planning projects in South Florida for the past thirty-three years. Having worked in both the public and private sectors, Mr. Handley is widely familiar with client needs and project requirements and processes. He is responsible for overseeing the preparation and processing of plats, site, landscape, hardscape, streetscape and irrigation plans; utilizing his knowledge of local, state and federal regulations.

Experience:

NE 38th Street Complete Streets Project (Andrews Avenue to NE 11th Avenue), Oakland Park
Principal Landscape Architect - Landscape, streetscape and irrigation design for the roadway reconstruction design of approximately 0.90 miles of roadway improvements including neighborhood traffic calming.

Sense of Place Signage, Oakland Park
Principal Landscape Architect - Redesign of the entry features for the Royal Palm Isles and South Royal Palm Acres.

NE 34th Court Complete Streets Project (NE 2nd Avenue to Dixie Highway), Oakland Park
Principal Landscape Architect - Landscape, streetscape and irrigation design for the roadway reconstruction design of approximately 0.60 miles.

Miramar Regional Park, Phase 1 thru III, Miramar, Florida
Principal Landscape Architect - Construction Cost: $24 Million. This 200-acre park includes a 35-acre wetland conservation area, 28-acre lake system with beach & boat rental facilities; picnic areas & shelters, softball fields, soccer/cricket fields, tennis & basketball courts.

Sawgrass Sanctuary Park, Sunrise, Florida
Project Manager and Principal Landscape Architect - CTA was the prime consultant for the design and construction of this 21-acre environmental interpretive passive park located at the Southwest corner of I-75 and State Road 84 within the City of Sunrise. This exciting park includes a number of innovative and educational experiences designed towards the adjacent elementary school students as well as the creation of an enormous wetland, picnic pavilions, interpretive stations, animal footprint teaching pads, boardwalk with porthole viewing terminals, observation platform, fishing pier, canoe trails and even a concert platform. Craven Thompson and Associates and its sub-consultant, Jeff Falkanger and Associates were responsible for the survey, design and permitting of all aspects of construction of this unique park for the City.

Sabal Pines Park, Coconut Creek, Florida
Project Manager and Principal Landscape Architect - CTA was prime consultant for the full range of landscape architectural/engineering services required for this $5.5 million, 53-acre sports

facility for the City of Coconut Creek. This unique facility provides a wide variety of active and passive recreation opportunities for the residents. The amenities include two soccer fields, four baseball/softball fields, two tennis courts, two in-line hockey rinks, two unique tot lots, a nature trail through a preserved conservation area, a jogging path, a recreated wetland, a lakefront boardwalk, a group picnic shelter, two family picnic shelters, a restroom/picnic shelter, a concession/restroom/ administration building, a maintenance building with compound and numerous parking areas.

Sunrise Bicycle/Pedestrian, Greenways and Trails Master Plan, Sunrise
Principal Landscape Architect - Craven Thompson & Associates, Inc. along with Alta Planning + Design was hired by the City of Sunrise to prepare a Bicycle / Pedestrian Greenways & Trails Master Plan. The Plan defines a system of sidewalks, bike lanes, paths, greenways and trails within the City of Sunrise that provides integrated and continuous corridors for non-motorized transportation and recreation throughout the city in a manner that is sensitive to the needs of various user groups, the natural and built environment, the management and maintenance, and potential funding capabilities of local government.

Oak Hammock Park and Cypress Preserve Park, Sunrise
Principal Landscape Architect - These 2 passive parks developed under the Broward County Parks Bond Program include upland and wetland restoration, a splash pad, a nature-themed playground, restroom and storage buildings, jogging paths, picnic shelters and canal boardwalk.

Pine Island Road (Commercial Boulevard to Oakland Park Boulevard), Sunrise and Tamarac
Principal Landscape Architect - Landscape, streetscape and irrigation design for the roadway reconstruction design of approximately 1 mile.

North Central County Neighborhood Improvements Project, Broward County
Principal Landscape Architect - Preparation of Basis of Design Report, Contract Documents, Permitting and Construction Management for 980-acre retrofit infrastructure and landscape improvements within unincorporated Broward County.

Central County Neighborhood Improvements Project, Broward County
Principal Landscape Architect - Preparation of Basis of Design Report, Construction Documents, Permitting and Construction Management for 1,800 acre retrofit infrastructure and landscape improvements within unincorporated Broward County.

South County Neighborhood Improvements Project, Broward County
Principal Landscape Architect - Preparation of Basis of Design Report, Construction Documents, Permitting and Construction Management for 1,400 acre retrofit infrastructure and landscape improvements within unincorporated Broward County.

SCOTT PEAVLER, R.L.A.

Project Role: Landscape Architect: Category 3 - Landscape Architectural Design

Education: Bachelors of Landscape Architecture, Kansas State University | 2005

Licenses / Certifications: Professional Registered Landscape Architect - Florida No. 6666976 (2008)

Years of Experience: 8 years with CTA, 12 Years Total

Resume / Bio: Mr. Peavler's responsibilities include site planning, landscape and hardscape design, tree removal and relocation plans in AutoCAD and presentation graphics, utilizing knowledge of local and state regulations involved in land development on a range of projects. Coordinating with Clients, City officials, and other consultants to obtain project input and approvals are among his duties. He has direct client contact. Mr. Peavler is also responsible for the preparation of color renderings of landscape plans for presentation.

Experience:

Sunrise Passive Parks, Sunrise, Florida
Landscape Architect - The two parks were designed using amenities such as a Disc Golf Course, Splash Pad, Playground, and other passive activities to fall within the Broward County Land Preservation Program. To help soften costs the design participated in the US Communities grants to reduce the prices of site furnishings and equipment. The design also incorporated environmental principles to be able to acquire the Broward County Land Preservation Grant and other resources for funding.

NE 5th Avenue Street Improvements, Oakland Park, Florida
Landscape Architect - Provided landscape design and construction observations for the streets improvements along NE 5th Avenue between Oakland Park Boulevard and NE 38th Street. The project consisted of improving the streetscape by providing additional street trees, shrub beds along new sidewalks, and parallel parking.

North County Neighborhood Improvement Projects, Bid Packs 9, 10, & 11, Broward County
Landscape Architect - Preparation of Construction Documents, Permitting and Construction Management for retrofit infrastructure and landscape improvements within unincorporated Broward County.

NE 34th Court Street Improvements, Oakland Park, Florida
Landscape Architect - A continuation of the street improvements on NE 5th Avenue that intersect 34th Court. Provide landscape designs for streets improvements along NE 34th Court between NE 2nd Avenue and Dixie Highway. The project consists of improving the streetscape by implementing additional street trees, shrub beds along new sidewalks, and parallel parking.

Ravenswood Bus Maintenance Facility, Dania Beach, Florida
Landscape Architect - Provided landscape services for the 8.94 Acre site which included a parking garage for employees, bus wash, administration buildings, and bus maintenance facilities. The goal for the facility is to provide a functional space by expanding and improving the existing space for the County. In addition to improving the facility, the design team developed the site to minimize the visual impact to the surrounding properties as well as pursue LEED accreditation.

Nano Filtration Water Treatment Plant, Dania Beach, Florida

Landscape Architect - Provided a landscape design for the 2.8 acre site. The limits of the site kept the landscaping to the perimeter of the site, which helped screen the site from the surrounding residential areas. Existing trees were preserved on site and relocated if needed. 100% native plants were used on the site to reduce the use of irrigation on the site, allowing for LEED credits.

Pump Station 310, Broward County, Florida

Landscape Architect - Provided site plans and landscape plans for pump station. Landscaping was laid out to provide screening for the pump station, as well as meet county codes. All existing trees were preserved, and relocated if required.

North Perry Airport Beautification - Entrance and Buffer, Pembroke Pines

Landscape Architect - With limited funds available, the Broward County Aviation Department was desirous in beautifying the roadways within the North Perry Airport. Through the prime consultant, EAC, CTA developed conceptual sketches and cost estimates of possible entrance features and landscape design. The design that was chosen was to repeat the “swoosh” that appears within the Broward County logo as a ground-level focal point made of blue recycled glass. Complete construction documents including landscaping, layout, and grading plans for the airport entrance features were provided as well as construction observation through the construction process.

CALEB ROTHENBERGER, R.L.A., LEED AP

Project Role: Landscape Architect: Category 3 - Landscape Architectural Design

Education: Bachelors of Landscape Architecture, Ball State University, College of Architecture and Planning, Muncie, Indiana | 2007, Minor in Digital Publishing and Graphic Design

Licenses / Certifications: Professional Registered Landscape Architect
Florida No. LA6667250 | 2016
LEED Accredited Professional, United States Greenbuild Council, 2009

Years of Experience: 3 years with CTA, 9 Years Total

Resume / Bio: Mr. Rothenberger's experience includes managing multiple projects from conceptual through detailed design and final construction. He has worked as part of a team in the concept and design development stages and acted as project manager through approvals and construction phases. He is responsible for day-to-day client contact, attending team meetings, and coordinating team work efforts. His knowledge in overall master planning and coordination of the approval process in addition to his expertise in understanding and working with regulatory requirements enables him to provide innovative and workable design solutions that are recognized by developers, builders and sub-consultants.

Experience

Sunrise Bicycle/Pedestrian, Greenways and Trails Master Plan, Sunrise, Florida
Landscape Designer - Craven Thompson & Associates, Inc. along with Alta Planning + Design was hired by the City of Sunrise to prepare a Bicycle / Pedestrian Greenways & Trails Master Plan. The Plan defines a system of sidewalks, bike lanes, paths, greenways and trails within the City of Sunrise that provides integrated and continuous corridors for non-motorized transportation and recreation throughout the city in a manner that is sensitive to the needs of various user groups, the natural and built environment, the management and maintenance, and potential funding capabilities of local government.

Sunrise Passive Parks, Sunrise, Florida
Landscape Designer - The City of Sunrise acquired three tracts of land that they have decided to make into community parks. Each park will have their own specific amenity that will make it unique, but the hardscape components such as paving, lighting, benches, walking surfaces, fences and restroom facilities will all have the same character which will relate the three parks together. The 44th Street Park will have a splash pad water feature for kids while the Oakland Park Boulevard will have a disc golf course and Nob Hill Road Park will have a labyrinth and amphitheater. Mr. Rothenberger has assisted with illustrative renderings and design of the three parks.

Oscar Wind Park, Flamingo Park, and Welleby Park, Sunrise, Florida
Landscape Designer - As part of their Capital Improvements Program, The City of Sunrise designated three community parks from their Leisure Services Long Range Vision Plan for redesign and renovation. The updates and expansions are part of the Geo Bond improvements program. CTA was asked to provide schematic master planning and renderings for Oscar Wind Park, Flamingo Park, and Welleby Park. The design elements that were incorporated into the

parks include: redesign of parking and arrival, covered play yards and sports courts, dog parks, jogging paths, exercise stations, wetland parks, and new event and multi-purpose facilities. Mr. Rothenberger provided design and illustrative renderings for the three parks.

Artesia, Sunrise, Florida

Landscape Architect - This 101-acre residential community includes over 1,200 units, a 6.5-acre central lake, and a large amenity area featuring two pools, tennis courts, and a clubhouse. Mr. Rothenberger participated in the planning, detailed design, and construction administration/observation of this new community during his time at EDSA.

Seminole Coconut Creek Casino, Coconut Creek, Florida

Landscape Architect - EDSA participated in the master planned expansion of the Seminole Casino in line with the PMUDD for the City of Coconut Creek. Part of EDSA's focus was towards environmental art and LEED certification, exploring imaginative means to demonstrate management of water, power, and landscape elements within a powerful visual framework appropriate to a gaming environment. These ideals were implemented in the recent casino expansion and transportation structure. Mr. Rothenberger participated in the planning, detailed design, construction documentation, and construction administration/observation for this project during his time at EDSA.

Miami Beachwalk, Miami Beach, Florida

Landscape Architect - The beachwalk provides a social gathering experience offering amazing views along the Atlantic Ocean and of the numerous new and historical hotels that line the walk. Mr. Rothenberger's involvement has included the redesign of the existing raised beachwalk behind the W Hotel and the Eden Roc Hotel to produce an at grade pathway experience that meanders along the dune and local hotels. Mr. Rothenberger assisted in the detailed documentation, planting design and construction administration.

CATEGORY 4 - CIVIL

MATTHEW CIGALE, P.E.

Project Role: Project Manager: Category 4 - Civil

Education: Bachelor of Science in Civil Engineering, Clarkson University, Potsdam, New York (1996)

Licenses / Certifications: Professional Engineer – Florida No. 74584

Years of Experience: 16 years with CTA, 18 Years Total

Resume / Bio: Mr. Cigale's extensive knowledge includes roadway design, water distribution system design, wastewater collection & transmission system design, stormwater management design, planning and calculations, project management, cost estimation, construction permitting, and construction management.

Experience:

Sleepy River Water Main Improvements, City of Oakland Park
Project Engineer – He was responsible for preparation of Contract Documents, Permitting and Construction Management for 14-acre residential water distribution system improvement retrofit within the City of Oakland Park. Services included: roadway design; water distribution system design; permitting; bidding assistance and construction administration.

Spangler Boulevard, Port Everglades
Project Engineer - Mr. Cigale assisted with design, permitting, and bidding on the Spangler Boulevard project. This project involves reconstructing the existing 4-lane divided urban collector into two 2-lane roadways with a security barrier between the parallel pairs to provide a secured roadway inside the Port Everglades operational areas and an unsecured roadway for access to the Greater Fort Lauderdale - Broward County Convention Center.

Garden Acres, City of Oakland Park
Project Engineer – Mr. Cigale was responsible for preparation of Contract Documents, Permitting and Construction Management for 25-acre residential infrastructure improvement(s) retrofit within the City of Oakland Park. Services include: roadway design; storm water design; water distribution system design; wastewater collection & transmission systems design; permitting; bidding assistance and construction administration.

North Central County Neighborhood Improvements Project, Broward County
Project Engineer - Responsible for preparation of Basis of Design Report, Contract Documents, Permitting and Construction Management for 980-acre infrastructure improvements retrofit within unincorporated Broward County. Services include: roadway design; storm water design; water distribution system design; wastewater collection & transmission systems design; permitting; bidding assistance and construction administration.

North County Neighborhood Improvements Project, NE Quadrant, Broward County
Project Engineer - Assisted in design of sanitary sewer collection system consisting of 69,550 linear feet - 8" gravity main, 807 linear feet - 10" gravity main, 129 linear feet - 12" gravity main, and 144 linear feet - 16" gravity main. The sanitary force main system consisted of 540 linear feet - 8" main, and 1,540 linear feet - 12" main. The water distribution system additions included

35,626 linear feet - 6" main, 10,161 linear feet - 8" main, 841 linear feet - 12" main, 1,306 linear feet - 20" main, and 1,023 linear feet - 24" main.

District 3A Wastewater system Modeling and Force Main Improvements, Broward County
Project Engineer - BCWWS is upgrading and relocating the wastewater Master Pump Station 310 serving Fort Lauderdale/Hollywood International Airport to accommodate the increased sanitary flows from the airport expansion and redevelopment of the area. CTA modeled the entire District 3A wastewater system involving 38 lift stations and associated force main network and is currently designing approximately 7,000 sf. of 16-inch force main along Ravenswood Road.

Coconut Creek Community Center, City of Coconut Creek, Florida
Project Engineer – The project consisted of an 8.2 acre community center. Master plan included sports courts, amphitheater, play areas, boardwalks & jogging paths. Site is extensively landscaped with buffer planting & berming on all sides. Design includes 2 interpretive areas with butterfly gardens. This state-of-Community Center facility replaces an outgrown and outdated facility on the same site.

Plantation Gardens Phase II and Historical Area Water Main, City of Plantation
Project Manager - This project included the demolition of existing utilities, installation of water main and roadway/right-of-way restoration. Craven Thompson & Associates, Inc. provided design, permitting as well as Resident Project Representative services for 46,270 linear feet of water main, the installation of 78 new fire hydrants, and the installation of 442 new water services.

Lake Worth - LW 2020 Master Plan Improvements, Lake Worth Florida
Project Engineer - Craven Thompson and Associates, Inc. was contracted with the City of Lake Worth to design, permit and provide construction services for Projects 1, 3, 5, 6 & 8 of Year 1 of the Lake Worth 2020 Master Plan. The projects include the rehabilitation of right-of-way infrastructure including roads, alleys, curb, sidewalk, hardscape, drainage, and potable water. CTA is providing surveying and civil engineering services for the project. The projects are located immediately east of the Lake Worth CRA area.

LUIS PIMENTEL, E.I.

Project Role: Project Engineer: Category 4 - Civil

Education: Bachelor of Science - Civil Engineering, Florida International University | 2008

Licenses / Certifications: Engineering Intern, State of Florida No. 1100012922

Years of Experience: 3 years with CTA, 11 Years Total

Resume / Bio: Mr. Pimentel is a Civil Engineer with over eleven years of experience in the Municipal Engineering field. Mr. Pimentel has worked under the direction of several Professional Engineers on projects ranging from roadway improvements, to city wide infrastructure improvement projects. He has experience with permitting agencies such as Miami Dade County Water and Sewer Department, Broward County Health Department, and Broward County Environmental Protection and Growth Management Department. He is very proficient in the latest versions of MS Office and AutoCAD Civil 3D.

Experience:

Bonaventure Drainage District Pump Station, Weston, Florida
Project Engineer - Assisted in the design of two storm water pump stations in the City of Weston. Duties consisted of plans preparation and coordination of the different disciplines of the project which included civil, landscape, electrical and architectural aspects. Assisted the lead designer with the site grading and pump selection using pump manufacturer software.

Dania Beach Water Main Replacement, Dania Beach, Florida
Project Engineer - Assisted in the design and permitting of approximately 2,500 linear feet of water main. Responsibilities include preparation of plans and engineer's estimate of cost. Design tasks involved preparation of construction plans using the most current county and state standards. Design also included examination and modification of the existing fire protection system in order to provide sufficient coverage for all homes along the area of proposed improvements. Permitting activities included submissions to the Broward County Health Department.

Basin 5 Phase I Drainage Improvements, Dania Beach, Florida
Project Engineer - Assisted with the plan preparation and permitting of a storm water pump station within the city of Dania Beach Florida. The project scope included the replacement of an existing 14,000 GPM axial flow pump and force main replacement/rehabilitation. Assisted in storm structure sizing, pump selection, plans preparation and generated an engineer's estimate of probable cost. Prepared and submitted permit packages to South Florida Water Management District and Broward County Environmental Protection and Growth Management Department.

Surfside Drainage Improvements, Town of Surfside, Florida
Project Engineer - Assisted with the plan preparation and permitting of a storm water retention and conveyance system within the Town of Surfside, Florida. The project consisted of approximately 4,000 linear feet of storm water pipes and structures. Assisted in storm structure sizing, and prepared an engineer's estimate of cost. Analyzed and prepared grading plans to correct the roadway slope issues present throughout the Town. Prepared and submitted a permit package to The Department of Environmental Resources Management.

Surfside Water Main Improvements, Town of Surfside, Florida

Project Engineer - Assisted in the design and permitting of approximately 25,600 linear feet of water main. Responsibilities included preparation of plans and engineer's estimate of cost. Design tasks involved preparation of construction plans implementing County and State standards. Design also included examination and modification of the existing fire protection system in order to provide sufficient coverage for all homes within the area of the proposed improvements. Permitting activities included submissions to the Miami Dade Water & Sewer Department, Miami Dade County Health Department, Miami Dade County Fire Department, and the Miami-Dade County's Department of Environmental Resources Management.

Surfside Sewer Lining, Town of Surfside, Florida

Project Engineer - Assisted with the plan preparation and permitting of a sanitary sewer rehabilitation project within the Town of Surfside. Design task included review of existing sewer main video tapes and itemizing mains to be completely replaced, spot repaired & lined, or lined. Also verified the condition of the existing sewer manholes and determined whether the structures were to be completely rehabilitated or cleaned. Town's sewer collection system consists of 158 manholes and approximately 9 miles of vitrified clay sewer mains of various sizes.

College Avenue Roadway Improvements, Town of Davie, Florida

Project Engineer - Assisted with the plan preparation and permitting of a roadway widening and reconstruction project within the Town of Davie. Design tasks included review of existing roadway topography, creation of typical cross sections, and plans preparation which included drainage improvement plans and pavement marking and signage plans. Reviewed the proposed design using the program Autoturn and verified turning radii at turnouts and intersections. Prepared and submitted permit packages to South Florida Water Management District for drainage improvements, and Broward County Highway Construction & Engineering for roadway design approval.

KEVIN MENTING, E.I.

Project Role: Project Engineer: Category 4 - Civil

Education: Bachelor of Science in Civil Engineering, Florida Atlantic University, Boca Raton, Florida | 2015

Years of Experience: 2 years with CTA

Resume / Bio: Mr. Menting has an in depth knowledge of civil engineering principles including water, sanitary, drainage and roadway design. He has also permitted through various agencies in both Palm Beach and Broward Counties. Mr. Menting is also adept at AutoCAD 3D

Experience:

Lake Worth 2" Watermain Replacement Phase 2, City of Lake Worth
Project Engineer - The City sought and secured aan FDEP Drinking Water State Revolving Fund loan for the project. Craven Thompson was retained by the City to provide survey, design, permitting, DWSRF loan assistance and construction services for Phases 2 – 6 of the project. Phase 2 consists of: 11,859 linear feet of 4" diameter main, 4,902 linear feet of 6" diameter main, 509 water services, 16 fire hydrants, 78 gate valves, and the restoration of the right-of-way including 27,235 square yards of roadway and curb & gutter and sidewalk.

Lake Worth Sanitary Sewer Replacement from 5th Ave South to 6th Ave South in Alley (Between 5th Street and 6th Street), City of Lake Worth
Project Engineer - This project replaces the unreinforced concrete sewer line in the alley between E and F Street from 5th to 6th Avenue South (450 linear feet). The line is in such critical condition that it must be replaced with an open trench, since it cannot withstand the preliminary jetting necessary to rehabilitate it by cured in place liner. This project replaces the existing concrete line with approximately 300 linear feet of SDR 26 8 inch gravity sewer. The 2 inch galvanized steel water main in the same alley is replaced as a part of this project with a 4 inch PVC pipe. A Health Department permit is necessary to construct the improvements.

Lake Worth New Sanitary Sewer Gravity Installation and Watermain Replacement from 11th Ave South to 12th Ave South in Alley (Between South B Street and South C Street), City of Lake Worth
Project Engineer - This project consists of the construction of a new gravity sewer collector main to serve a block of properties within the city limits that are currently using septic systems. This includes the installation of a 420 linear feet SDR 26 sewer main, one terminal manhole, twelve PVC service lines with cleanouts, removal of existing 2" water main and replacement with new 4" water main, and re-connection of existing water services to new 4" water main. The work is mainly located in the unpaved alley between the properties with a small portion of work within the 12th Avenue South right of way in order to connect the new 4" water main to an existing 12" water main. The alley is re-graded and sodded as a part of the project.

CATEGORY 9 - TRANSPORTATION

PATRICK J. GIBNEY, P.E.

Project Role: Project Manager: 9 - Transportation

Education: Bachelor of Science - Civil Engineering, Rutgers, The State University (1987)

Licenses / Certifications: Professional Engineer - Florida No. 49428

Years of Experience: 23 years with CTA, 29 Years Total

Resume / Bio: Mr. Gibney has over twenty-nine years of experience providing project management, design and construction management services for public and private civil engineering projects. These services includes Master Planning Improvements for over 6,000 acres of existing neighborhoods in Broward County, Roadway design, and storm water management systems, preparation of contract documents and specifications and construction inspections.

Experience:

Pine Island Road Broward County Right of Way, Sunrise, Florida
This 2.0 mile roadway project consisted of widening the existing roadway from four (4) lanes to six (6) lanes with associated turn lane improvements and intersection expansions. The Project consisted of complete new drainage system, roadway reconstruction, overbuild and mill and resurface, 3,700 linear feet of 30" water main, lighting, signalization, curb and gutter, landscaping and irrigation. Patrick served as the Project Manager overseeing several sub-consultants and in-house inspectors that provided the daily inspections of all disciplines associated with this Project. Project began in December of 2008 and was substantially completed in the April of 2012.

NW 21st Avenue, Broward County Right of Way, Fort Lauderdale, Florida
This 1.2 mile roadway project consisted of widening the existing three (3) lane roadway (north-south and bi-directional turn lane) to a five (5) lane roadway (2 north-south travel lanes and a bi-directional turn lane). The Project included a 72" Diameter regional storm drain system that will provide flood protection to approximately 500 acres of existing developments. The 72" storm drain was jacked under the CSX Railroad Tracks and a new outfall was constructed in the C-13 Canal. The work included approximately 5,000 linear feet of watermain and forcemain installation, curb and gutter, landscaping and irrigation, lighting and signalization. Patrick served as the Project Manager for the Project responsible for the inspections of multiple disciplines provided by sub-consultants and in-house inspectors. The Project began in 2008 and was completed in December 2011.

NE 5th Avenue Roadway Rehabilitation, Right of Way, Oakland Park, Florida
This 0.6 miles roadway project consisted of reconstruction of a two (2) lane roadway, paver intersection and crosswalks, addition of parallel parking stalls, 3,000 linear feet of watermain replacement, 2,500 linear feet of storm drain installation, sidewalks, landscaping and irrigation, lighting and franchise utility service placement underground. Patrick was the Project Manager responsible for design, permitting and construction services of the roadway, sidewalks, drainage and water systems, as well as coordinating the electrical inspections of a sub-consultant.

State Road 7 FDOT Right of Way - Wellington, Florida

This 4.76 mile roadway project consisted of the widening of an existing six (6) lane divided roadway facility to an eight (8) lane divided roadway facility. The widening was primarily constructed to the outside of the existing roadway, addition of sidewalk, reconfiguration of the drainage system that was originally designed to accommodate the six (6) lane configuration. Work also included bridge widening for right turn lanes on State Road 7 at Southern Boulevard and Lake Worth Road. The Project began in July 2003 and ended in June 2006. Patrick was responsible for the final certifications to FDOT, Palm Beach County, Lake Worth Drainage District and South Florida Water Management District. He was involved in the project from June 2005 until its completion in June 2006 and was responsible for final close-out of the Project.

NE 34th Court Complete Streets Project, Oakland Park, Florida

The streetscape and engineering services included full roadway reconstruction design, stormwater management ICPR modeling and design, utility coordination and relocation, landscape and streetscape enhancement, and all associated jurisdictional permitting. This project required permit approvals from Broward County Environmental Protection Department (EPD), Broward County Health Department, and the City of Oakland Park Public Works and Engineering and Community Development Departments. **This project utilized FDOT LAP funding for construction.** Craven Thompson assisted the City of Oakland Park with the funding procurement.

NE 38th Street Complete Streets Project, Oakland Park, Florida

The consulting services included landscape and streetscape enhancement, a complete storm sewer system, a roundabout to replace an existing traffic signal, traffic calming devices, utility coordination and relocation, and full roadway reconstruction. The main Project objective was to discourage truck traffic and redirect cut-through traffic from NE 38th Street to alternate routes between Andrews Avenue and NE 11th Avenue. This project required permit approvals from Broward County Environmental Protection Department (EPD), and the City of Oakland Park Public Works and Engineering and Community Development Departments. **This project utilized FDOT LAP funding for construction**.

SW 41st Place Roadway & Infrastructure Improvements, Davie, Florida

Project Manager for a project that included the demolition of existing utilities, installation of large diameter storm drain, watermain, sanitary sewer and roadway/sidewalk as part of Phase I of the Eastside Master Drainage Study and Eastside water and sanitary sewer improvements. Craven Thompson provided Design and Permitting, as well as Resident Project Representative services including shop drawing review, meeting coordination, field observation, review and coordination of pay requests, change orders and Requests for Information. Services also included Project close-out, Substantial and Final Completion, review of Record Drawings and Certification of Permits to applicable agencies.

Utility Analysis Zone Improvement Program (UAZ) 124, Broward County, Florida

Project Manager – He was responsible for the civil engineering design and permitting of the UAZ 124 project located between Florida Turnpike, State Road 7, Commercial Boulevard and NW 39th Street. The infrastructure improvements to the existing neighborhood included new water, sanitary sewer systems for 825 residences. This area is primarily residential, built in the 1950's and early 1960's. Mr. Gibney assisted in modeling, design, permitting for the construction of the

water distribution system additions included 27,210 linear feet - 6" main, 6,040 linear feet - 8" main and 5,380 linear feet - 10" main for a total of 38,630 linear feet of watermain. The project also included the abandonment in-place and grouting of 33,000 linear feet of existing watermain, and 825 water services.

Utility Analysis Zone Improvement Program (UAZ) 308, Broward County, Florida
Mr. Gibney was responsible for the management of the civil engineering design and permitting of a sanitary sewer collection system consisting of 19,253 linear feet - 8" gravity main. The sanitary forcemain consisted of 1,215 linear feet - 6" main. The water distribution system included 18,281 linear feet - 6" main, and 575 linear feet - 8" main.

Utility Analysis Zone Improvement Program (UAZ) 310, Broward County, Florida
Project Manager - responsible for managing the civil engineering design and permitting of the construction of a water distribution system consisting of 2,120 linear feet - 6" main, 38,502 linear feet - 8" main and 6,895 linear feet - 12" D.I.P. main. The construction also included sixty three (63) new fire hydrants.

North Central County Neighborhood Improvements Project, Broward County, Florida
Civil Engineer - Managed the design and permitting of the stormwater treatment facilities, storm sewer systems, the water distribution systems, the sanitary sewer systems and the roadway modifications for the entire 980 acres. Mr. Gibney was responsible for the preparation of Basis of Design Report, Contract Documents, Permitting and Construction Management for 980-acre retrofit infrastructure improvements within unincorporated Broward County. This consisted of approximately 21 miles of roadway, 28,359 linear feet of sanitary lines, 21,308 linear feet of watermain, and 17.5 miles of sidewalk.

DOUGLAS R. TAYLOR, P.E.

Project Role: Transportation Engineer: Category 9 - Transportation

Education: Bachelor of Science - Civil Engineering, University of Illinois | 1984

Licenses / Certifications: Professional Civil Engineer - Florida No. 50569 (1996)
FEMA ICS-100 Certification, FEMA ICS-200 Certification
TS EM5 Intermediate ICS (G300) Certification, FEMA G400 Intermediate, FEMA ICS-700 Certification, FEMA ICS-800 Certification

Years of Experience: 6 years with CTA, 33 Years Total

Resume / Bio: Mr. Taylor has been responsible for a multitude of municipal engineering and development projects throughout Florida. This includes project management, master design responsibility and oversight for a variety of projects. Mr. Taylor has 33 years of experience in civil engineering.

Experience:

LW 2020 Year 1 Mater Plan, City of Lake Worth, Florida

Project Assistance for:

- **Project 1 - N K Street and N M Street from 2nd Avenue N to 9th Avenue N.** An 8-inch diameter watermain constructed on each street connecting to the existing 12-inch diameter PVC main running east-west along 2nd Avenue N, and to the 8-inch diameter main running east-west along 9th Avenue N. The existing north-south watermains were 2, 4, and 6-inch diameter cast iron and 2-inch diameter galvanized steel lines in the alleys between the streets. Along with the installation of the mains, the water meters at the property lines were relocated to the streets as opposed to the alleys. Hydrants were added in the vicinity of 8th Avenue N, 4th Avenue N, and 3rd Avenue N. Existing hydrants between the streets that were in poor condition were replaced. N K Street from 2nd Avenue N to 7th Avenue N was in poor condition and required roadway and sidewalk reconstruction. A small segment at the southern end of each road fell within Problem Area 8 of the City's *"Stormwater Master Plan",* and therefore the storm sewer was upgraded.
- **Project 3 - N F Street from 5th Avenue N to 10th Avenue N** involved the construction of both storm sewer and watermain. Flood staging did not meet the minimum City criteria for the 5 year, 24 hour event. Therefore, reconstruction of the storm sewer was required and water quantity attenuation with exfiltration trench was implemented. To the north we connected a 12-inch diameter main to the existing 12-inch diameter stub extending south from 10th Avenue N within the road right-of-way and to the south tie into the 8-inch diameter main running east-west along 5th Avenue N. The only existing north-south watermains were 6-inch diameter cast iron mains located in both alleyways immediately east and west of N F Street. The meters were relocated within the road right-of-way and two new fire hydrants were constructed with this project. No pavement was identified with a PCI at or below 55 and therefore road reconstruction was necessary; however, utility trenching necessitated pavement replacement in trench areas and asphalt overlay.
- **Project 5 - N M Street from 9th Avenue N to 18th Avenue N** involved the reconstruction of roadway. The existing section of road was identified as in a failed condition with a PCI less than or equal to 55. The entire road and base was reconstructed. The majority of the

sidewalk also required reconstruction. The existing storm sewer pipe and structures from 16th Avenue N to 18th Avenue N was evaluated as to the condition of the materials. From 9th Avenue N to 16th Avenue N storm sewer was added.

- **Project 6 - on 11th Avenue N from Dixie Highway to N M Street** involved the reconstruction of roadway and storm sewer. Between N M Street and N L Street the existing road was rated as being in a failed or poor condition with a PCI of less than or equal to 55. In these areas the entire road and base was reconstructed. The structural condition of the existing storm sewer pipe and structures along the roadway were evaluated. Piping and/or structures identified as in poor structural condition were replaced.
- **Project 8 - N J Street from 13th Avenue N to 16th Avenue N, and 15th Avenue N from N J Street to the railroad tracks, and 14th Avenue N from N J Street to Dixie Highway** was identified as a part of Problem Area 3 in the *"Stormwater Master Plan"*. This project included the installation of 700 linear feet of 24-inch diameter exfiltration trench with a nutrient separating baffle box at the end of the trench, the replacement of 950 linear feet of existing 18 and 24-inch diameter storm sewer with 30-inch diameter RCP storm sewer, and the replacement of 70 linear feet of existing 12-inch diameter storm sewer with 24-inch diameter RCP storm sewer.

Griffin Road Expansion, Broward County, Florida

Project Manager, Engineer of Record - As growth in this area progressed, the need for additional lanes on this collector road became necessary. Improvements included milling and resurfacing of two miles of highway and the addition of two lanes of new roadway to create a four lane section. Additional drainage was added along with providing additional water quality and water quantity storage. He designed pavement marking and signage plans for the new roadway section. This involved planning, design, permitting, and construction related services.

College Avenue Improvements Phase I, Davie, Florida

Project Manager, Engineer of Record - Design and permitting of .60 miles of improvements for the Town of Davie including taking a two lane rural section with poor drainage to a four lane urban section with bike lanes, curbing, median, sidewalk, a new drainage system, lighting, landscaping, and irrigation. Mr. Taylor permitted the project through Central Broward Water Control District (CBWCD), South Florida Water Management District (SFWMD), and Broward County Highway Construction and Engineering Division. He developed pavement marking and signage plans for the project.

Manatee Isles Drive Roadway Project, Weston, Florida

Project Manager - Designed, permitted and oversaw construction of this project for the City of Weston. Re-designed rural section roadway to widen lanes and provided drainage improvements on Manatee Isles Drive between SW 196th Avenue and South Post Road. The project also included milling and resurfacing, median work, installation of curb and gutter, signing and marking upgrades, and a Maintenance of Traffic plan, in addition to proposed electrical, landscape and irrigation work.

NW 38th Street, Oakland Park, Florida

Project Manager - Design and permitting for the complete reconstruction of a quarter mile of existing heavily traveled two lane road with failing asphalt and base and poor drainage. The project was permitted through Broward County and the South Florida Water Management District.

MARY COOK, P.E.

Project Role: Transportation Engineer: Category 9: Transportation

Education: Bachelor of Science – Civil Engineering, Florida Atlantic University | 2011

Licenses / Certifications: Professional Civil Engineer - Florida No. 79745 | 2015
FDOT Advanced Maintenance of Traffic Certification

Years of Experience: 1 year with CTA, 10 Years Total

Resume / Bio: Ms. Cook has ten years of experience in roadway design. She has been involved in multiple aspects of roadway engineering such as Final Design, Resurfacing, Restoration, and Rehabilitation Projects, and Project Development and Environment (PD&E) Studies. Ms. Cook also has experience in complete roadway plans production and report documents.

Experience:

NW 21st Street Water and Sewer Improvements – Phases I & II – City of Lauderhill, Broward County
The purpose of Phase I of this project is to replace a 12" ACP water main, 12" ACP force main and 8" VCP gravity sewer main along NW 21st Street from NW 49th Avenue to NW 47th Avenue. Other improvements include gravity sewer lining along NW 48th Terrace/NW 20th Court, replacement of a 24" CMP storm sewer across NW 47th Terrace, and roadway reconstruction. The purpose of Phase II is to replace a 12" ACP water main along NW 21st Street from NW 47th Avenue to NW 41st Avenue, milling and resurfacing, and storm sewer replacement at various locations. An exfiltration trench will be added at the southeast corner of NW 44th Avenue. Responsibilities include plans production.

SR 808 (Glades Road) PD&E Study – FDOT District Four, Palm Beach County, Florida
The purpose of this project is to address roadway capacity improvements (including the provision of special use lanes), multimodal and premium transit alternatives, and bicycle and pedestrian accommodations along SR 808 from SR 7/US 441 to SR 5/US 1/Federal Highway. The project length is 7.6 miles. Responsibilities include assisting with public involvement activities.

SR 7 Corridor Extension PD&E Study – FDOT District Four, Palm Beach County, Florida
This project involves 8.5 miles of new alignment through sensitive environmental areas to extend SR 7 (four lane divided facility) from Okeechobee Boulevard to Northlake Boulevard. An Environmental Assessment (EA/FONSI) was completed and conceptual engineering plans were developed for a four lane divided segment which includes several intersections and roundabout options. Major environmental/wetland impacts are anticipated. This study involved significant traffic modeling effort for traffic projections along this corridor using Palm Beach County MPO 2035 Long Range Transportation Plan (LRTP). Several CSS and traffic calming recommendations were considered. Responsibilities included assisting with public involvement activities, engineering analysis, development of roadway concept plans, typical sections and report preparation.

SR 842 (Broward Boulevard) from SW 18th Avenue to US 1 – FDOT District Four, Broward County
This project involves replacing the east and westbound bridges over the North Fork of the New River and resurfacing and widening SR 842 from SW 18th Avenue to US 1. A temporary diversion

bridge will be constructed adjacent to the existing bridge for traffic control to avoid lane closures. A MiCE Study is also being conducted as part of this project due to temporary Section 4(f) impacts caused by the diversion bridge. Responsibilities include developing the RRR Report, signing and pavement marking plans, traffic control plans, lighting plans, and public involvement.

SR 817 (University Drive) at Nova Drive Safety Improvements – FDOT District Four, Broward County

This project involved adding an auxiliary lane to northbound SR 817 from Nova Drive to the I-595 westbound ramp. It also included intersection safety improvements at SR 817 and Nova Drive by adding additional left and right turn lanes on Nova Drive. Signalization tasks included improvements to the existing signal at SR 817/Nova Drive and SR 817/SW 23rd Street. The project also included upgrading roadway features, pedestrian access, and drainage systems and involved utility coordination and relocates, as well as significant public involvement and agency coordination. Responsibilities included complete plans production, coordination with different disciplines within the project and utility coordination.

SR A1A (E. Blue Heron Blvd. and N. Ocean Dr.) Post Design Services – FDOT District Four, Palm Beach County, Florida

This project involves milling and resurfacing, widening, constructing curb and gutter, upgrading drainage and sidewalks, and adding turn lanes and street/pedestrian lighting. Responsibilities included signing and pavement marking plans and plan revisions.

Sistrunk Boulevard Roadway Improvements – FDOT District Four, Broward County, Florida

This project involved replacing all strain poles with mast arms. Responsibilities included assisting with the preparation of signalization plans from NW 22nd Avenue to US 1.

SUB-CONSULTANT – McMAHON & ASSOCIATES

R. TRENT EBERSOLE, P.E.

Project Role: Engineer: Category 9: Transportation (Traffic Studies & Signal Design)

Education: Master of Science in Environmental Engineering, George Washington University (1995)

Bachelor of Science in Civil Engineering, Virginia Polytechnic Institute and State University (1989)

Licenses / Certifications: Professional Engineer - Florida No. 64318 (1994)

Years of Experience: 10 years with McMahon, 26 Years Total

Resume / Bio:

Trent Ebersole, P.E., Vice President & General Manager – Florida, has experience in transportation plan since 1989. He has provided comprehensive transportation consulting services for private sector clients in support of local and state land development processes. Public sector clients include local jurisdictions, Metropolitan Planning Organizations, Planning District Commissions, the Florida Department of Transportation (FDOT), the Virginia Department of Transportation (VDOT), the Washington Metropolitan Area Transit Authority (WMATA), the Federal Highway Administration (FHWA), and the Army Corps of Engineers (ACOE). The diversity in clientele is complimented with diversity in project type.

Experience:

Traffic Signal Design Annual Services, County of Palm Beach, Palm Beach County, FL - Project Manager: He was selected by Palm Beach County to provide county-wide traffic signal engineering services. Services include installation design, modification design, signal related intersection spot improvements and signal analysis.

SR-808/Glades Road 3R Milling & Resurfacing from State Road 7 to Lyons Road, FDOT District Four, Palm Beach County, FL - Engineer of Record: Responsibilities included pavement rehabilitation (milling and resurfacing), as well as numerous safety upgrades from east of SR-7/US-441 (MP 0.00) to east of Lyons Road (MP 1.18). The project included upgrades to the signalized intersections via installation of proposed mast arm assemblies, ADA improvements, coordination with Palm Tran on bus stop concerns and signing and marking upgrades. In addition, due to Departmental safety and operational recommendations, the project will propose widening of the facility to accept dual left-turn lanes at the signalized intersection of 95th Avenue South, along Glades Road.

NW 79th Street/NW 33rd Avenue Traffic Signal De-sign, Walmart, Miami-Dade County, FL
Project Manager/Engineer of Record: Prepared traffic signal installation plans required as a development condition of approval for a proposed Walmart. He obtained access management variance from FOOT District 6 for the minimum signal spacing criteria by demonstrating safety and traffic operations enhancement. Mr. Ebersole designed traffic signal to FOOT and Miami-Dade County standards.

NW 32nd Street/7600 Block Traffic Signal Design, Walmart, Miami-Dade County, FL - Project Manager/Engineer of Record: Prepared traffic signal installation plans at a proposed Walmart drive-way. Signal design parameters included consideration limited right-of-way. He designed traffic signal to Miami-Dade County Standards.

SR-706 RRR, FDOT District Four, Palm Beach County, FL - Engineer of Record: Responsible for design plan sets that included pavement refurbishing, traffic signal up-grades, drainage issues and utility coordination for the 1.3-mile roadway segment. He was responsible for traffic signal modification design for this state highway RRR project. The modification was a conversion from a span wire to mast arm structures. Significant utility and rail-way coordination was required, including railroad pre-emption and ITS connections. Mr. Ebersole coordinated with Palm Beach County for design preferences and underground equipment locations.

Hallandale Beach Boulevard/Three Islands Boulevard Traffic Signal Modification, PNC Bank, Hallandale Beach, FL - Engineer of Record: Prepared traffic signal modification plans necessary to accommodate a proposed PNC Bank driveway as the fourth leg to an existing signalized intersection. Approval was obtained from the signal maintaining agency, Broward County, and drive-way permitting agency, FOOT District 4. The modifications included changing the heads on an existing mast arm to accommodate a new through movement from an existing approach, which required structural analysis to ensure the existing mast arm could accommodate the new equipment. The design also included the installation of a new mast arm with equipment to control the proposed approach.

NATALIA T. LERCARI, P.E., LEED

Project Role: Engineer: Category 9: Transportation (Traffic Studies & Signal Design)

Education: Bachelor of Science in Civil and Environmental Engineering, Florida International University (2001)

Licenses / Certifications: Professional Engineer - Florida No. 68205 (2008)
LEED Green Associate (2013)

Years of Experience: 12 years with McMahon, 16 Years Total

Resume / Bio: Natalia T. Lercari, P.E., Project Manager, has significant transportation engineering experience for both public and private sector clients, since 2001. Her transportation planning experience includes Transportation Element updates for several cities, travel demand forecasting for FDOT, and traffic impact studies/DRI studies, as well as interchange justification reports for various developer clients. She has conducted a wide range of traffic operational studies such as intersection interchange and corridor improvement studies; traffic signal warrant studies; signal retiming projects; safety studies and queuing analysis. In addition, she has design experience including several traffic signal designs to FDOT standards. Her current project management duties focus on municipal continuing service contracts. In this role, she manages the day-to-day activities, and individual task order assignments.

Experience:

Key Corridors Evaluation, City of Bonita Springs, Bonita Springs, FL - Project Engineer:
She managed the study that included evaluation of implementing Complete Streets on each of the City's key roadways. The study also evaluated the addition of roadway linkage that would enhance the City's transportation network. One of the study goals was the relief of congestion at the intersection of two important corridors through the provision alternative facilities. The study outcome included identification and prioritization of improvement projects.

Districtwide Traffic Operations & Safety Contract, FDOT District 6, Miami, FL Project Manager:
Responsible for directing the staff, and managing sub consultant teams, on this task order based contract in the preparation and submittal of various types of traffic studies and assessments, including: safety studies; qualitative assessments; signal warrant analyses; intersection analyses; arterial analyses; left-turn phase warrant analyses; supplemental tasks; and fatal crash reviews. Other responsibilities included preparing and overseeing the work associated with the arterial safety review involved plotting data, performing specific analyses utilizing specific software, including modeling traffic demand, and developing several alternatives to solve each problem. In addition, task orders also required the assessment of operational characteristics of intersections and/or segments of arterials, conducting field reviews, collecting data, observations of the operation, assembling crash data, performing engineering analysis and associated benefit/cost analyses of various alternatives.

Travel Demand Forecast, FOOT District Four, Fort Lauderdale, FL Project Engineer:
As an in-house consultant/engineer, Ms. Lercari was responsible for developing determinations for assignments of future travel demand within the five (5) county area of responsibility of the Florida Department of Transportation, for: Broward, Palm Beach, Mar-tin, St. Lucie and Indian River Counties, and incorporating the use of the Florida Standard Urban Transportation Model

Structure (FSUTMS), as well as trend analyses and historical traffic data. Information from the FSUTMS models included future traffic projections, zonal data (ZData) from study area Traffic Analysis Zones (TAZ's) and other relevant information. Other responsibilities of demand forecasting considered various state projects, including Project Development and Environmental (PD&E) studies and interchange justification of modification analysis. In addition, was also responsible for preparing 18-KIP ESAL reports, for pavement design used by other consultants designing plans within the District, and for forecasting future traffic conditions.

Downtown Traffic Control Survey, City of Fort Myers, Fort Myers, FL Project Manager: Investigated safety concerns between pedestrians and motorists circulating within the down-town area of Fort Myers. The study limits were bounded by Edward Drive to the north, SR-82/Martin Luther King Boulevard to the south, Heitman Street to the west and Fowler Street to the east. Tasks included a speed study along several downtown roadways and the need for all-way stop traffic control devices at key intersections within the downtown area, based on pedestrian volumes, sight distance evaluations, and other characteristics listed in MUTCD. She recommended implementation of all-way stop control at several intersections, and speed limits of 25 miles per hour to be adopted for all streets in the down-town area, which would be implemented through City code.

CATEGORY 11 - WATER RESOURCES / STORMWATER

PATRICK J. GIBNEY, P.E.

Project Role: Project Manager: Category 11 - Water Resources/Stormwater

Education: Bachelor of Science - Civil Engineering, Rutgers, The State University (1987)

Licenses / Certifications: Professional Engineer - Florida No. 49428

Years of Experience: 23 years with CTA, 29 Years Total

Resume / Bio: Mr. Gibney has over twenty-nine years of experience providing project management, design and construction management services for public and private civil engineering projects. These services includes Master Planning Improvements for over 6,000 acres of existing neighborhoods in Broward County, Roadway design, and storm water management systems, preparation of contract documents and specifications and construction inspections.

Experience:

South County Neighborhood Improvements Project, Broward County
Mr. Gibney was responsible for the preparation of Basis of Design Report, Construction Documents, assisted with design, permitting and construction management for 1,400 acre retrofit infrastructure improvements within unincorporated Broward County. Design and permitting included the following improvements: roadway design, **storm water modeling with ICPR**, **storm water quality treatment, storm water attenuation**, water distribution, sanitary sewer, storm sewer, landscaping, signage, and sidewalks.

North Central County Neighborhood Improvements Project, Broward County
He managed the design, permitting, and construction of the infrastructure rehabilitation for this neighborhood. This included roadway modifications, sidewalk, swales, **storm water modeling with ICPR, of the storm water treatment facilities, storm sewer systems,** the water distribution systems, and the sanitary sewer system for the entire 945 acres. Mr. Gibney prepared the Basis of Design Report (BODR), Contract Documents, Permitting and Construction Management for 980-acre retrofit infrastructure improvements.

Eastside Drainage Infrastructure Improvements, Phases I thru III
He was the Project Manager for 340 Acres within the CRA. The Master Study using ICPR software, provided the basis for infrastructure improvements within the CRA Eastside. Phase 1 involved the rehabilitation of the roadway, sidewalks, swales, and the installation of drainage infrastructure within SW 41st Place, SW 61st Avenue and SW 41st Street to a point of connection into an existing lake. These improvements were designed along with sewer and roadway improvements for SW 41st Place. This Phase allows for the redevelopment of SW 41st Place and also provides drainage for parcels along Davie Road as well as an outfall for SW 41st Street.

City of Miami Gardens Livable Neighborhoods Improvements Project
Project Manager responsible for the preparation of a Basis of Design Report for four (4) communities that included streetscape, storm water modeling with ICPR, new storm sewer system and storm water quality treatment, street lighting and landscaping improvements to

select roadway corridors along with comprehensive storm water management systems for each neighborhood.

Tindall Hammock Irrigation and Soil Conservation District – District Engineer, Davie, Florida
Mr. Gibney has served as the District Engineer for the Tindall Hammock Irrigation & Soil Conservation District since 2004. In this capacity, he reviews and recommends approval of all drainage projects within the District; reviews variance requests; reviews of Plats, attends Board meetings; and prepares construction plans for capital improvement projects. Services to the District includes plan review; engineering studies and reports; surveying; design & permitting for capital improvement projects; construction services; inspection services; and meeting attendance.

Original Section Drainage, Greenacres, Florida
Project Manager for Original Section, a 137 acre existing multi-use neighborhood initially developed in the early 1900's located in the City of Greenacres. Due to its early development, many modern criteria were not implemented as part of its original design many years ago. Some of the building floor elevations in this area are very low and close to the road elevation. Mr. Gibney analyzed the drainage within this area to determine potential improvements and restoration required within the ditches, the pipe connections to the LWDD canals, and the roadway drainage systems, that might improve flood stages.

Storm water Management System Design Development Report, City of Sebastian
Conceptual Stormwater Analysis of the entire City Basin, Design Development of Stormwater Park for Stormwater Quantity and Quality, Modeling of Existing and Proposed Ditch Conveyance System including Elkcam Dam and Collier Dam and Design Development of Best Management Practices for Stormwater Quality.

ADOLFO GONZALEZ, P.E., LEED AP

Project Role: Engineer: Category 11 - Water Resources / Stormwater

Education: Bachelor of Science - Civil Engineering, Georgia Institute of Technology | 1985

Licenses / Certifications: Professional Civil Engineer - Florida No. 42577 | 1990
LEED Accredited Professional, United States Greenbuild Council|2009

Years of Experience: 9 years with CTA, 32 Years Total

Resume / Bio: Mr. González has over thirty-two years of experience in civil engineering, master planning, project feasibility studies, surface water management, water resources engineering, utilities engineering, transportation engineering, plans production, specifications preparation, environmental permitting, bidding, contract administration, inspections, project management, oral and written proposal presentations, and client service management. His experience includes: establishing a public infrastructure business unit for WilsonMiller, an ENR Top 500 firm; and working with the Collier County Office of Capital Projects Management as the Capital Projects Director, where he directed a multi-year, $300,000,000+ infrastructure improvement program.

Experience:

Central Broward Water Control District – District Engineer, Broward County, Florida
Mr. Gonzalez has served as the District Engineer for the Central Broward Water Control District (CBWCD) since 2011. In this capacity, he reviews and recommends approval of all drainage projects within the District; reviews variance requests; serves on the Development Review Committee; attends Board meetings; and prepares construction plans for capital improvement projects. Services to the District include plan and constructability review; engineering studies and reports; plan review, surveying; design & permitting for capital improvement projects; construction services; inspection services; and meeting attendance.

City of Aventura General Services Consultant Project Manager, Aventura, Florida
Mr. Gonzalez was the Civil Engineer Project Manager / Engineer of Record. In this role he has managed numerous capital improvement projects including: storm water engineering studies and reports; municipal facilities drainage, surveying, contract management; roadway and drainage improvements; infrastructure improvements; park projects; street resurfacing; traffic improvement projects; roadway lighting; bulkhead studies; plan reviews; permitting; bidding assistance; and construction administration services.

Eastern C-11 Facilities Report Update and Basin Study-CBWCD, Davie, Cooper City, Southwest Ranches, Florida. He was the Project Manager/Client Manager for this project. In this role he is managing the East Basin Facilities Plan update for the District. This includes secondary canal and culvert surveys, analyzing existing and future land use changes, developing a new hydrology and hydraulics model, and the development of an updated capital improvement plan for the basin.

Gordon River Extension Basin Study, Phase IV, Collier County, Florida
Mr. Gonzalez was the project manager responsible for developing an existing conditions hydraulic and hydrologic model for an 8.5 square mile urban watershed and developing alternative water quantity and quality solutions.

Gordon River Extension Basin Study, Phase III, Collier County, Florida
He was the project manager responsible for compiling surveying, engineering, environmental, and real property information to create a GIS database and build a floodplain and water quality model for an urban watershed.

National Pollutant Discharge Elimination System MS4 Permit - Aventura, Florida
Mr. Gonzalez was the Project Manager/ Client Manager responsible for collecting, documenting, and preparing annual reports. Also, included coordinating and providing advice related to a new interlocal agreement between the City and Miami-Dade County regarding data collection and monitoring tasks.

Western C-11 Facilities Report Update and Basin Study – CBWCD - Davie, Cooper City, Southwest Ranches, Florida, Civil Engineer Project Manager / Engineer of Record. Performed a hydrologic and hydraulic analysis of CBWCD canals within the Western C-11 Basin; developed a model utilizing PCSWMM stormwater modeling software. The modeling is based on a new GIS geodatabase for the District. An updated capital improvement plan is under development for the basin.

LEONARD "ZACH" GAMBLE, P.E.

Project Role: Engineer: Category 11 - Water Resources / Stormwater

Education: Bachelor of Science in Mechanical Engineering, North Carolina State University | 2002

Licenses / Certifications: Professional Engineer - Florida No. 65921 - 2007

Years of Experience: 10 years with CTA, 14 Years Total

Resume / Bio: Mr. Gamble has fourteen years of experience in Civil Engineering design and permitting in South Florida. The areas of practice in which Mr. Gamble has municipal engineering experience includes: stormwater studies, computer modeling, drainage design & permitting, and roadway design. The range of his experience includes drainage design and analysis, design of water distribution systems, design of sewer collection systems, CADD drafting, cost estimates, ICPR, and construction observation.

Experience:

Pompano Place/Andrews Avenue Stormwater Basin Study, City of Pompano Beach, Florida
Project Manager - Using PCSWMM storm water modeling software (the commercial version of US EPA SWMM5). Mr. Gamble is reviewing Master Plan assumptions and input data, refining design parameters and developing additional alternatives to lower flood elevations during the 5 year 24 hour, 10 year 4 hour, and 100 year 72 hour storm events.

Original Section Drainage, Greenacres, Florida
Project Engineer for Original Section, a 137 acre existing multi-use neighborhood initially developed in the early 1900's located in the City of Greenacres. Due to its early development, many modern criteria were not implemented as part of its original design many years ago. Some of the building floor elevations in this area are very low and close to the road elevation. Mr. Gamble analyzed the drainage within this area to determine potential improvements and restoration required within the ditches, the pipe connections to the LWDD canals, and the roadway drainage systems, that might improve flood stages.

LW 2020 Master Plan Year 1 Improvements – Roadway, Drainage & Water, Lake Worth, Florida
As a Project Engineer he assisted with the civil design & permitting of roadway reconstruction (5 separate segments), roadway drainage and water distribution lines. This also included sidewalk with ADA ramps and ADA analysis for existing sidewalks.

Bowman Street Drainage, Greenacres, Florida
Project Manager - Mr. Gamble Researched, designed and permitted options to relieve street flooding on Bowman Street in the City of Greenacres. The option that was selected was the installation of 667 feet of 4'x4' and 8'x4' exfiltration trench, and upsizing and existing 18" and 24" RCP outfall with 19"x30" and 24"x38" HERCP. Included roadway rehabilitation and right-of-way surface improvements.

Ramblewood Drainage Improvements, Greenacres, Florida
Project Manager – The project was designed and constructed with the goal of improving the drainage system function and interconnecting missing sidewalks in an existing residential neighborhood. The project required 615 linear feet of drainage piping, 351 linear feet of

exfiltration trench, 1,000 linear feet of sidewalk, and numerous driveway restorations within the neighborhood road rights of ways.

Western C-11 Facilities Report Update & Basin Study–CBWCD, Davie, Cooper City, Southwest Ranches - Project Civil Engineer. Assisted in performing a hydrologic and hydraulic analysis of CBWCD canals within the Western C-11 Basin; developed a model utilizing PCSWMM stormwater modeling software. The modeling is based on a new GIS geodatabase for the District. An updated capital improvement plan is under development for the basin.

North Central County Neighborhood Improvement Project - Bid Package 9 & 10, Pompano Beach Project Engineer - Multiple Broward County Neighborhood Improvement Project Bid Packs. Project scope consisted of design of a major stormwater study, renovations and upgrades to existing community water, sewer, and roadway facilities and utilities for large residential/commercial communities.

ROBERT M. CONNORS, P.E.

Project Role: Engineer: Category 11 - Water Resources / Stormwater (Water & Sewer)

Education: Bachelor of Science in Civil Engineering,
University of Florida | Gainesville, Florida |1984

Licenses / Certifications: Professional Engineer | Florida No. 41863 | 1989

Years of Experience: 26 years with CTA, 32 Years Total

Resume / Bio: Mr. Connors is a native South Floridian with thirty-two years of engineering experience in Broward County. During this time he has participated in the engineering design and construction of various private and public sector land development projects. Responsibilities include design and preparation of construction plans, permit coordination and approval with governmental agencies. Responsible for project management and design of land development and public sector projects, including water, sewer, roads, drainage, cost estimates, specifications and construction administration, inspection and certifications.

Experience:

South County Neighborhood Improvement Project, Broward County
Civil Engineer - Assisted with design, permitting and construction management for 1,400 acre retrofit infrastructure improvements within unincorporated Broward County. The design and permitting included the following improvements: water distribution, new sanitary sewer, roadway design, storm water quality treatment, storm water attenuation, new storm sewer, landscaping, signage, and sidewalk systems. The project included the design, permitting, bidding and construction consisting of 53 miles of roadway, 181,000 linear feet of storm sewer (including exfiltration trench), 140,618 linear feet of water main, 236,226 linear feet of gravity sanitary sewer, and 80 miles of sidewalk.

Central County Neighborhood Improvements Project, Broward County
Civil Engineer - Assisted in the preparation of Basis of Design Report (BODR) and water and sewer modeling for 1,800 acre retrofit infrastructure improvements within unincorporated Broward County. Mr. Connors developed the study of the water distribution system, and sanitary sewer system, within the project area. The BODR identified major deficiencies and provided recommendations for improvements. Additional recommendations included construction of improvements to the water distribution system, intended to provide adequate service for firefighting capabilities, improvement of the sanitary sewer system intended to eliminate infiltration of groundwater into the system and thereby reduces system operating costs, and the installation of a sanitary sewer system in the existing un-sewered areas of the neighborhoods

North County Neighborhood Improvements Project, NE Quadrant, Broward County
Civil Engineer - Assisted in design and permitting of water distribution and sanitary sewer for rehabilitation project. This included a sanitary sewer collection system consisting of 69,550 linear feet - 8" gravity main, 807 linear feet - 10" gravity main, 129 linear feet - 12" gravity main, and 144 linear feet - 16" gravity main. The sanitary force main system consisted of 540 linear feet - 8" main, and 1,540 linear feet 12" main. The water distribution system additions included 35,626 linear feet - 6" main, 10,161 linear feet - 8" main, 841 linear feet - 12" main, 1,306 linear feet - 20" main, and 1,023 linear feet - 24" main, for a total of 9.27 miles of water main.

North County Neighborhood Improvement Project, NW Quadrant, Broward County
Civil Engineer - The North County Neighborhood Improvement Project, NW includes approximately 650 acres of land between Dixie Hwy. and I-95, North of Sample Rd., in the City of Deerfield Beach. Mr. Connors assisted in preparing the design and permitting for the water distribution, sanitary sewer collection systems, storm sewer systems, and roadway improvements for the entire 650 acres. The sanitary sewer collection system consisted of 22,047 linear feet - 8" gravity main, and 34 linear feet - 10" gravity main. The sanitary force main system consisted of 295 linear feet - 8" main, 2,235 linear feet - 10" main, 3,790 linear feet 12" main, 4,300 linear feet - 16" main, and 4,205 linear feet - 20" main. There were 93 new sanitary manholes added to the area. The water distribution system additions included 5,760 linear feet - 16"water main, 7,156 linear feet - 12" water main, 1,256 linear feet - 10" water main, 12,779 linear feet - 8" water main and 44,217 linear feet - 6" water main.

North Central County Neighborhood Improvements Project, Broward County
Civil Engineer – Assisted in modeling, design and permitting of water distribution system; wastewater collection & transmission system; roadway; storm water; permitting; bidding assistance and construction administration. This consisted of approximately 21 miles of roadway, 28,359 linear feet of sanitary lines, 21,308 linear feet of water main, and 17.5 miles of sidewalk.

Utility Analysis Zone Improvement Program (UAZ) 124, Broward County
Civil Engineer - Responsible for the design and permitting of a sanitary sewer collection system consisting of 25,446 linear feet - 8" gravity main, 302 linear feet - 10" gravity main, 2,003 linear feet - 12" gravity main, and 46 linear feet - 16" gravity main. The sanitary force main system consisted of 2,350 linear feet - 8" main, and 3,790 linear feet 12" main. Mr. Connors assisted in the modeling, design, permitting for the construction of the water distribution system additions including 27,210 linear feet - 6" water main, 6,040 linear feet - 8" water main and 5,380 linear feet - 10" water main for a total of 38,630 linear feet of water main. The project also included the abandonment in-place and grouting of 33,000 linear feet of existing water main, and the replacement of 825 water services.

Utility Analysis Zone Improvement Program (UAZ) 308, Broward County
Civil Engineer – Mr. Connors assisted in the design and permitting of a sanitary sewer collection system consisting of 19,253 linear feet - 8" gravity main. The sanitary force main system consisted of 1,215 linear feet - 6" main. The water distribution system additions included 18,281 linear feet - 6" main, and 575 linear feet - 8" main.

Utility Analysis Zone Improvement Program (UAZ) 310, Broward County
Civil Engineer – He assisted in the design and permitting of the construction of a water distribution system consisting of 2,120 linear feet - 6" main, 38,502 linear feet - 8" main and 6,895 linear feet - 12" D.I.P. main. The construction also included sixty three (63) new fire hydrants.

SUB-CONSULTANT – HAZEN AND SAWYER, P.C.

JENNIFER MCMAHON, P.E.

Project Role: Engineer: Category 11 - Water Resources / Stormwater (WTP)

Education: MS - Environmental Engineering, Georgia Institute of Technology (1997)
Bachelor of Science, Civil Engineering, Georgia Institute of Technology (1995)

Licenses / Certifications: Professional Engineer - Florida No. 56800
Years of Experience: 12 years with Hazen, 19 Years Total

Resume / Bio: Jennifer McMahon, PE, has extensive experience in the water and wastewater industry including project management; and civil, mechanical, and process design of potable water treatment and distribution systems and wastewater treatment and collection systems. Her experience includes serving as project manager on a variety of public works projects and programs. Ms. McMahon is skilled in detailed design, construction management, and project management, and provides quality control reviews for numerous design projects. She also has a proven history of delivering projects on budget and on schedule, as demonstrated on numerous projects for multiple clients.

Experience:

Nanofiltration Plant, Town of Jupiter, FL - Ms. McMahon served as Mechanical and Process Design Engineer for the 14.5-mgd nanofiltration Water Treatment Plant at the Town of Jupiter. Project responsibilities included development of detailed design drawings, development of technical specifications, and multi-disciplinary design coordination. Project included detailed design and selection of membrane feed pumps, seal water pumps, filter feed pumps, filter backwash pumps, and finished water transfer pumps.

Wastewater Master Plan, City of Hallandale Beach, FL - Ms. McMahon serves as the Project Manager for the Wastewater Master Plan for the City of Hallandale Beach. This project addresses the numerous applications for major developments to be located within the existing wastewater service area. The overall goal of this project is to develop a wastewater master plan that will define both short- and long-range planning goals that consider both capacity needs and renewal and replacement requirements.

Dixie Wellfield Raw Water Main, Fort Lauderdale, FL - Ms. McMahon served as Project Manager and Lead Design Engineer of a 30-inch diameter raw water main from the Dixie wellfield to the Peele-Dixie Water Treatment Plant. This multi-jurisdictional project includes installation of pipeline within the City of Plantation and a congested corridor of SR 7 (DOT jurisdiction).**Updates to Water and Wastewater Models, City of Hallandale Beach, FL** - Ms. McMahon served as Project Manager for the 2014 Water and Wastewater Model Updates for the City of Hallandale Beach. This project updated and calibrated the existing water and wastewater hydraulic models with current consumption and future water demands and wastewater forecasts. The updated models were used to develop potential improvements to correct present and future system deficiencies.

Development Review Committee Water and Sewer Reviews, City of Hallandale Beach, FL - Ms. McMahon served as Project Manager for a number of major development impact studies on the water and sewer system within the City of Hallandale Beach.

Master Pump Station 440 Modifications, Broward County, FL - Ms. McMahon served as Project Manager and Lead Design Engineer for the upgrade of MPS 440 in-line booster wastewater pumping station. Upgrades included replacement of three primary pumps (250 HP each), emergency generator, seal water system, and other miscellaneous improvements. In addition, a jockey pump (60 HP) was added to accommodate low flow conditions. Bypass pumping was also included as part of this project. Project responsibilities included management, preparation of updated basis of design report, preparation of detailed design documents, multidisciplinary design coordination, permitting, bid services, and construction administration.

RAS Pump Station No. 2 Replacement, City of Hollywood, FL - Ms. McMahon served as Lead Design Engineer for the RAS Pump Station No. 2 Replacement at the Southern Regional Wastewater Treatment Plant. RAS Pump Station No. 2 has a firm capacity of 19.2 mgd. The pump station was designed to be replaced in a phased approach to limit station down time.

Chlorination and High Service Pumping Modifications, Broward County, FL - Ms. McMahon served as Lead Design Engineer for the design of sodium hypochlorite disinfection systems and high service pumping modifications at three municipal finished water pumping stations in Broward County. Project responsibilities included preparation of detailed design drawings and technical specifications, preparation of permit submittals, multidisciplinary design coordination, limited construction management services, and budget and schedule tracking.

District 2A Water Treatment Plant Hypochlorite System, Broward County, FL - Ms. McMahon served as Project Manager, Lead Design Engineer, and Construction Administrator for the replacement of an existing gas chlorine disinfection system with a bulk purchased sodium hypochlorite system sized for the 40-mgd WTP. In addition, the project included a liquid carbon dioxide chemical feed system for pH control.

Dixie Wellfield Raw Water Main, Fort Lauderdale, FL - Ms. McMahon served as Project Manager and Lead Design Engineer of a 30-inch diameter raw water main from the Dixie wellfield to the Peele-Dixie Water Treatment Plant. This multi-jurisdictional project includes installation of pipeline within the City of Plantation and a congested corridor of SR 7 (FDOT jurisdiction).

McKinley Street Interceptor, City of Hollywood, FL - Ms. McMahon served as Project Engineer for

City of Sunrise Springtree WTP Electronic Operations and Maintenance Manual, Sunrise, FL - Ms. McMahon served as Project Engineer for the Springtree WTP Electronic Operations and Maintenance Manual. This manual is available for use by operations staff in an interactive web page format. Project responsibilities included the preparation of a complete operations and maintenance program for the raw water and ASR well systems and the ground storage tank and high service pumping systems.

JANEEN WIETGREFE, P.E.

Project Role: Engineer: Category 11 - Water Resources / Stormwater (WTP)

Education: BSCE, University of Massachusetts, Massachusetts, Dartmouth (1980)

Licenses / Certifications: Professional Engineer - Florida No. 57632

Years of Experience: 35 years with Hazen, 37 Years Total

Resume / Bio: For the last eight years, Ms. Wietgrefe has served as Project Manager for Hazen's continuing professional services agreement with the City of Hallandale Beach. She provides multiple engineers to the City to assist with operational assistance at the membrane plant, water and wastewater modeling updates, construction management assistance, preliminary design of high-service pump facilities and transfer pump facilities, and planning assistance. Services provided under this contract also include planning for future water infrastructure and City-wide sanitary and water improvements, permitting assistance, and budgeting assistance. Ms. Wietgrefe has also served as Lead Process Mechanical Design Engineer and/or Project Manager on water and wastewater construction throughout South Florida. She is experienced with facilitating technical reviews of projects with significant stakeholder involvement, including blue ribbon panels, peer review workshops and technical review meetings with multiple stakeholders, all for the intent of ensuring quality projects.

Experience:

Membrane Softening Plant, City of Hallandale Beach, FL - Ms. Wietgrefe served as Project Manager for the City of Hallandale Beach Membrane Softening Plant, a 6-mgd expandable membrane facility. She provided process mechanical support throughout the design, construction, and startup phases. Ms. Wietgrefe also provided construction management/office services for this facility.

City of Hallandale Beach Water and Wastewater Model Updates, FL - Ms. Wietgrefe served as QC Reviewer for the Water and Wastewater Model Updates project, which resulted in a master plan for the City to utilize for the phasing of construction projects throughout the distribution system and the water treatment plant. As a direct result of this modeling project, the City has completed projects in the order of maximum impact to the City's infrastructure.

Pre-Design Phase of the Nanofiltration Facility, Town of Jupiter, FL - Ms. Wietgrefe served as Project Manager and Process Mechanical Engineer for the pre-design phase of the Town of Jupiter's 14.5-mgd nanofiltration facility. The scope of this project included pretreatment, membrane treatment, degasification, odor control, transfer pumping, and chemical systems.

Peele-Dixie Membrane Plant, Fort Lauderdale, FL - Ms. Wietgrefe served as Project Manager and Process Mechanical Engineer for the Peele-Dixie Membrane Plant. Design and construction oversight services included a 12-mgd membrane softening facility, two 4-million gallon storage tanks, related chemical storage and feed facilities, air strippers/clearwell, concentrate booster, and high-service transfer pump stations. Ms. Wietgrefe also provided startup and completion activities for this facility.

Membrane Softening Facility Expansion, City of Plantation, FL - Ms. Wietgrefe served as Project Manager for the expansion of the City of Plantation's existing 6-mgd membrane softening facility to 12 mgd. This project included the addition of three 2-mgd hybrid membrane arrays, a third membrane booster pump, and the addition of a permeated flushing system within the existing membrane building. Additionally, a 12-mgd firm capacity transfer pump station and 18 mgd firm capacity high-service pump station were also constructed under this project.

General Consulting Services, Broward County, FL - Ms. Wietgrefe served as Project Manager and/or Director for over 50 projects completed under the 2002 and 2006 General Consulting Services for Water and Wastewater Services (WWS) Agreements for Broward County WWS. The projects include design through construction administration services for multiple water and wastewater plant facilities, including NRWWTP Headworks, Screens, and Force Main Redirects; Generator 4, Digester 3 Improvements; SCADA Improvements and Chlorination projects and various rehab projects at the WTPs and pump stations. Ms. Wietgrefe is presently overseeing the final year of construction of four of these contracts. The general consulting contracts also included raw water modelling and permitting, basis of design report preparation, studies, and preparation of annual reports and bond reports for WWS.

Conceptual Evaluation of Reverse Osmosis, Cities of Hialeah and Hallandale Beach, FL - Ms. Wietgrefe served as Project Manager and Process Mechanical Engineer for the conceptual evaluation of reverse osmosis addition for the Cities of Hialeah and Hallandale Beach. These evaluations included sizing reverse osmosis equipment and preparing a conceptual layout and cost estimate for the implementation of reverse osmosis. Ms. Wietgrefe prepared a summary report for both cities, describing the Floridian Aquifer wellfield development requirements, membrane treatment facilities, and storage and pumping facilities.

Central Boulevard High Service Pump Station, Jupiter, FL - Ms. Wietgrefe served as Process Mechanical Engineer. Services included design and bidding assistance for the addition with two canned vertical turbine high service pumps, an emergency generator building, an electrical room with switchgear and variable speed drives and electrical supply to an existing stormwater pump station. The new portion of the pump station was designed to interconnect with the City's existing high service pumping facilities. The design included provisions for two future vertical turbine pumps. Cost: $1.24 million

SUB-CONSULTANT – TIERRA SOUTH FLORIDA, INC.

RAJ KRISHNASAMY, P.E.

Project Role: Engineer – Geotechnical and Testing Services

Education: MS in Geotechnical Engineering, University of Memphis 1995
BS in Civil Engineering, Christian Brothers University 1987
Diploma/1984/Electronic Engineering, Malaysian Air Force Institute

Licenses / Certifications: Professional Engineer - Florida No. 53567 (1994)
Certified OSHA Supervisor
Certified Environmental Consultant

Years of Experience: 30 years

Resume / Bio: Mr. Raj Krishnasamy, P.E., President and Principal Engineer of Tierra South Florida, Inc. (TSF), is a Florida State registered Geotechnical Engineer with over 30 years of experience (including 15 years with TSF). Mr. Krishnasamy oversees the geotechnical engineering, construction materials testing, and inspection services operations. His experience consists of successfully completing over 3,000 public and private projects, highlighted by 100+ roadway projects in Palm Beach County and design-build projects totaling over $2 billion in construction costs. He serves as Project Manager for continuing contracts with over 20 Florida public agencies. He has a history of repeatedly retaining those contracts through successful, cost-effective and prompt execution of each task order. Mr. Krishnasamy's daily involvement with the in-house and field operations of the construction and geotechnical services departments provides him the "hands-on" experience and knowledge of current construction codes and construction practices throughout the State of Florida. Mr. Krishnasamy and his highly experienced team focus on providing the client with a consistently accurate, cost-effective quality product that is delivered on time and within budget.

Experience:

NE 2nd Avenue between NW 8th Street and NE 13th Street, Delray Beach, Florida
Tierra South Florida (TSF), Inc. performed a pavement evaluation for NE 2nd Avenue between NW 8th Street and NE 13th Street in the city of Delray Beach. The project involved a subsurface exploration for pavement roadway improvements on approximately 1,500 feet from NW 8th Street to NW 13th Street. TSF provided a report containing the data collected during our initial site reconnaissance, pavement information from the asphalt cores and recommendation regarding future reconstruction at the referenced roadway.

Mast Arms at Linton Boulevard and South Federal Highway, Delray Beach, Florida
TSF provided geotechnical engineering services for the mast arm installation project at the intersection of Linton Boulevard and South Federal Highway in Palm Beach County, Florida. The study was performed to obtain information on the existing subsurface conditions to assist in the design and preparation of construction plans for the proposed improvements. Field work included Standard Penetration Test (SPT) borings and exfiltration tests. Provided recommendations regarding foundation design and drilled shaft construction.

Mast Arms at West Atlantic Avenue and Sims Road, Delray Beach, Florida
TSF provided geotechnical engineering services for the intersection improvement project and the proposed signalization structures at the intersection of West Atlantic Avenue and Sims Road, Delray Beach. The study was performed to obtain information on the existing subsurface conditions at the proposed project site to assist in the design and preparation of construction plans for the proposed improvements. Field work included Standard Penetration Test (SPT) borings. TSF provided recommendations regarding foundation design and drilled shaft construction.

West Atlantic Avenue and Florida's Turnpike Intersection Improvements, Delray Bach, Florida
TSF performed a geotechnical engineering study for the roadway improvement project which included the replacement of the mast arm signalization structures at the NE and NW corners of Turnpike NB on-ramp and Atlantic Avenue, bridge widening on the north side of an existing bridge, and a right-turn lane addition on the westbound of Atlantic Ave. Provided geotechnical recommendations regarding soil suitability, permanent cut/fill slopes, excavations, soil parameters for mast arm foundation design, drilled shaft construction, bridge foundation design, concrete pile installation, and test pile program. Performed axial pile capacity analysis using FB-DEEP and provided soil parameters to be utilized by the design team for FB-MultiPier (lateral stability) analysis and for back wall design calculations at end bents.

SFWMD Stilling Well Platforms and Control Buildings - S-40 and S-41, Delray Beach, Florida
TSF performed a geotechnical exploration for the proposed Stilling Well Platforms and Control Buildings at SFWMD Control Structures S-40 and S-41 in Delray Beach and Boynton Beach, Florida. The proposed construction includes a new Control Building and two Stilling Well Platforms (one on upstream and one on downstream) at each Control Structure location. The purpose of the study was to explore the subsurface conditions at the Control Structure sites to enable an evaluation of acceptable foundation systems for the proposed construction. Field work included Standard Penetration Test (SPT) borings. He provided geotechnical recommendations for foundation design, general site development, and comments regarding factors that may impact construction and performance of the proposed construction.

Palm Beach County WUD SROC Storage Pavilions, Delray Beach, Florida
Mr. Krishnasamy was the Principal in Charge for the geotechnical engineering, construction materials testing and resident inspection services for the PBC Water Utilities Dept. Southern Region Operations Center (SROC) Storage Pavilions located at 13026 Jog Road in Delray Beach, Florida. The construction includes two (2) pre-engineered buildings, and masonry containment structure with 8' high walls. The pavilion structure has a footprint area of approx. 13,000 square feet, each. Mr. Krishnasamy provided geotechnical recommendations for foundation design, general site development and comments regarding factors that may impact construction and performance of the proposed construction. TSF provided construction materials testing and resident inspection services during construction. Minor site improvements were also included.

FRANCOIS THOMAS, P.E.

Project Role: Engineer – Geotechnical and Testing Services

Education: MS in Geotechnical Engineering, University of Alabama 1993
BS in Civil Engineering, University of Alabama 1991

Licenses / Certifications: Professional Engineer - Florida No. 56381
Special Inspector 7021399
Certified Masonry Inspector
Certified Troxler Operator
Radiation Safety Officer

Years of Experience: 24 years

Resume / Bio: Mr. Thomas is a Florida-Registered Professional Engineer and Special Inspector with more than 24 years of experience in geotechnical engineering, construction materials testing, and inspection services. He serves as Principal Engineer, supervising the laboratory services, construction materials testing and inspections. He has extensive experience in deep and shallow foundation systems, soil stabilization methods, grouting, and pavement sections evaluation. He has been involved in construction monitoring and supervision for private and government facilities, including construction/foundation installation for port, airport, commercial, municipal, healthcare, retail and school facilities. He has monitored the construction of numerous civil and structural designs involving earthwork, concrete, masonry and asphalt operations. Having completed quality control testing for numerous projects for FDOT, Mr. Thomas is extensively familiar with the FDOT's processes and procedures.

Experience:

Mast Arms at West Atlantic Avenue and Sims Road, Delray Beach, Florida
Mr. Thomas was the Principal Engineer for the geotechnical engineering study for the intersection improvement project and the proposed signalization structures at the intersection of West Atlantic Avenue and Sims Road, Delray Beach. The study was performed to obtain information on the existing subsurface conditions at the proposed project site to assist in the design and preparation of construction plans for the proposed improvements. Field work included Standard Penetration Test (SPT) borings. Provided recommendations regarding foundation design and drilled shaft construction.

NE 2nd Avenue between NW 8th Street and NE 13th Street, Delray Beach, Florida
He performed a pavement evaluation for NE 2nd Avenue between NW 8th Street and NE 13th Street in the city of Delray Beach. The project involved a subsurface exploration for pavement roadway improvements on approximately 1,500 feet from NW 8th Street to NW 13th Street. TSF provided a report containing the data collected during our initial site reconnaissance, pavement information from the asphalt cores and recommendation regarding future reconstruction at the referenced roadway.

Palm Beach County WUD SROC Storage Pavilions, Delray Beach, Florida
Mr. Thomas was the Principal Engineer/Special Inspector for the geotechnical engineering, construction materials testing and resident inspection services for the PBC Water Utilities Dept.

Southern Region Operations Center (SROC) Storage Pavilions located at 13026 Jog Road in Delray Beach, Florida. The construction includes two (2) pre-engineered buildings, and masonry containment structure with 8' high walls. The pavilion structure has a footprint area of approx. 13,000 square feet, each. Mr. Thomas provided geotechnical recommendations for foundation design, general site development and comments regarding factors that may impact construction and performance of the proposed construction. TSF provided construction materials testing and resident inspection services during construction. Minor site improvements were also included. Mr. Thomas provided report review, engineering support, and final compliance letters to building authorities.

Federal Highway Beautification, Delray Beach, Florida

Mr. Thomas provided Verification Testing support services during construction.

Force Main along Military Trail, Delray Beach, Florida

Mr. Thomas was the engineer for the geotechnical engineering study for the new force main along Military Trail in Delray Beach, Florida. He provided geotechnical recommendations regarding subsurface/groundwater conditions, excavations, dewatering, trench backfill, and other construction considerations.

PBSO W. Atlantic Substation, Delray Beach, Florida

TSF provided Construction Material Testing services for the renovations to the existing PBSO facility located at 7777 W. Atlantic Blvd., in Delray Beach, Florida. Sampling and Laboratory Testing included Modified Proctor, on foundation, and slab soils; and compressive strength concrete cylinders. Field work included In-Place-Density testing on foundation soils and slab; slump and temperature testing on concrete; Mold compressive strength test cylinders and welding inspections on a new metal structure.

B. Approach to Project Management

i. Narrative of Proposed Approach and Methodology for Engaging City Representatives

Many of the **Craven Thompson & Associates, Inc. (CTA)** staff that will be handling the construction related services have been providing these services worry-free in South Florida for the past fifty-five (55) years on infrastructure projects. The overall Project Manager/Client Contact for this contract and Civil Engineering Project Manager will be Patrick J. Gibney, P.E.; the Surveying and Mapping Project Manager will be Richard D. Pryce, P.S.M.; and the Landscape Architectural Project Manager will be Douglas Schultz, R.L.A., LEED AP.

CTA provides a long and tested resume of implementing civil engineering projects from planning to final certification. CTA is unmatched for the most experienced managers, design and permitting staff, and construction administrative/management staff.

The CTA project manager will be in regular contact with the City Representative. This will occur mainly through face to face meetings. In between this time we will also be in contact through phone and email. We will respond to the City's calls or emails within four hours of receiving them at the latest and sooner if possible. We will be available for emergency (non-scheduled) meetings within very short notice.

Any perceived changes to the budget or schedule will be discussed with the City Representative prior to making changes, if any are made at all. Comments from agencies having jurisdiction will be forwarded to the City prior to being addressed by CTA. In addition, CTA will provide the City the work product for review at the 30%, 60%, 90%, and 100% complete level, or whenever requested by the City.

ii. Describe Proposer's Approach to the Design of Projects

- CATEGORY (1) ENGINEERING;
- CATEGORY (4) CIVIL;
- CATEGORY (7) TRANSPORTATION; AND
- CATEGORY (9) WATER RESOURCES/STORMWATER (Construction Projects including Stormwater/Drainage and WTP Only)*

  *Note: Water Resources/Stormwater for Stormwater Studies separate Approach later in this Section.

Craven Thompson's Approach to completing a construction related Engineering, Civil Engineering (including water and sewer) Transportation (roadway) and Stormwater /Drainage project includes:

We have developed a consistent and proven approach to undertaking the design, permitting, and construction of civil engineering capital improvement projects. Our approach helps to keep our client informed, maintain schedule, and to keep the project within budget. The following is a step-by-step approach to a general project for the City of Delray Beach.

PRELIMINARY PHASE

Initial Stages

Upon being awarded the project by the City of Delray Beach, the CTA Client Contact, Patrick Gibney, P.E., along with the assigned CTA Team Project Manager will meet with City staff to determine specific requirements of the project, define the project budget, and will then prepare an understanding of project scope, and a preliminary project timeline. The specific discipline project managers include: Patrick Gibney, P.E. for Transportation and Water Resources/Stormwater; Richard Pryce, P.S.M. for Surveying and Mapping; Douglas Schultz, R.L.A., LEED AP for Landscape Architectural Design; Matthew Cigale, P.E. for Civil; and Timothy Hall, P.E. for Engineering. For Traffic Studies and Signal Design, McMahon & Associates will work under Mr. Gibney, and for WTP improvements, Hazen and Sawyer will also work under Mr. Gibney.

The understanding of project scope and preliminary project timeline will be provided to the City for review and approval prior to the CTA internal project "Kick-off Meeting". This "Kick-off Meeting" will occur after the initial project award meeting between Delray Beach Staff and the CTA Client Contact and the CTA Team Project Manager.

At the CTA internal "Kick-off Meeting", the team will be introduced to the scope, the budget and the timeline. The Team Project Manager will define the various elements of the projects and describe the quality control/quality assurance requirements at this meeting. The CTA Team Project Manager will periodically review the progress of the project to assure meeting the project timeline and budget as initially approved by the City. The Team Project Manager will then update Delray Beach City Staff of the project progress.

Information Gathering and Review

The CTA Team will gather as much available information that can be obtained through due diligence. This will include as-builts, atlases, GIS, studies, and past survey information. We will search for existing studies, reports, technical information, and design documents for the existing water mains, sanitary sewers, lift stations, drainage, gas, telephone and electric. Also, we will seek public and private utility atlases and as-builts for infrastructure within the specific project limits.

The CTA Team will review existing topographic survey (LiDAR) from the Florida Department of Emergency Management (FDEM) website, and plat, Right-of-Way, and property information from the County Appraiser's website.

We will review the City of Delray Beach minimum specifications, standard details, and project management procedures; agency permitting requirements, determine regulatory agencies having jurisdiction, and their submittal requirements. We will also gather any other available geotechnical and environmental data within the project limits.

During this phase, the CTA Team will perform a preliminary site walkthrough of the project area.

Surveying

CTA will prepare a topographic design survey of the designated project area. We will perform the survey using either low level or mobile LiDAR, or laser scanner and traditional surveying

methods. The scanner collects millions of data points and allows us to more accurately define the existing aboveground improvements in and adjacent to the right-of-way. Using conventional means, we can set horizontal and vertical control, as well as collect invert information for sanitary and storm structures. Integrating this information with collected as-built information, a base map will be produced depicting all available aboveground and below ground information. This base map's accuracy is vital in assuring the proposed design has accounted for existing conditions.

This survey will consist of a base map of the rights-of-way, a survey control baseline and survey control points, with both horizontal and vertical coordinate information, in the form of x-y-z coordinates, in State Plane, Florida East Zone, NAD83(90), US Survey Feet format. CTA will then use the survey control to create a topographic design survey of the full project areas, extending ten (10) feet beyond the existing rights-of-way where accessible. Locations will include all aboveground and visible improvements, including pavement, swales, signs, street lights, sidewalks, driveways, utility features and trees, three (3) inches in diameter and above, measured at four (4) feet aboveground level. All sanitary and storm sewer structures will include rims, inverts and pipe sizes and directions.

Minimum Technical Requirements for the surveying will be per the Florida Board of Professional Surveyors and Mappers in Chapter 61G17-6 of the Florida Administrative Code, pursuant to Section 472.027 Florida Statutes. This data will also serve as an electronic base map of the Rights-of-Way and adjacent lots within the project areas.

Conceptual Documents (30% Complete Documents)

During the conceptual phase, we will begin to develop design alternatives. Based on meetings and discussions with City of Delray Beach staff, we will choose the best design alternative. Using the collected information, survey and the research, we will develop base maps, and then create a schematic plan for the improvements. At this stage, we will update the schedule and also provide a 30% design complete cost estimate for the projects. CTA will utilize **Tierra South Florida, Inc. (TSF)** to test the soils for permeability, perform pavement cores, and provide soil borings for the Project.

Subsequently, CTA will meet with Delray Beach staff to discuss and refine the design concept. The schematic plan will then be further developed into a 30% complete conceptual engineering

document.

Schedules, cost estimates, permit requirements and schematic plans will be included in the 30% Conceptual Document Phase of the project. This phase is important to assure that the final design has proper direction as agreed upon in meetings with the City of Delray Beach and permitting agencies. By having a clear and concise vision of the final construction documents, the design can be expedited to completion.

Meetings

Regular project meetings will be held with Delray Beach staff for all phases of the project. CTA will facilitate these projects and attendees present at the meetings will be dependent on the phase of the project and the issues to be addressed. These meetings will be focused on adherence to the project timeline, quality control, budget, and also on the resolution of any outstanding issues.

FINAL DESIGN SERVICES

60%, 90%, and 100% Design

The final design phase of the project consists of 60%, 90%, & 100% complete final design plans, specifications, computer and cost estimate. With all comments from the City incorporated into the plans for the 30% design, CTA will further develop the project to the 60% complete design document stage. CTA and our sub-consultants will process the plans, model, cost estimate and calculations through an internal review process as well as through Delray Beach review. The typical internal reviews take place at 60%, 90%, and 100% complete documents.

As with the conceptual plan stage, the 60% complete design development documents will be provided to Delray Beach staff for review and comment. These documents consist of plans, specifications, utility model, calculations and a 60% complete cost estimate. We will perform multiple project walkthroughs with staff for the project areas during this phase to ensure that all concerns are addressed.

During this phase sub-surface utility locates will be performed at key locations identified as the design progresses. This may be in areas of potential utility conflicts, and/or areas were critical sub-surface information is unavailable.

Subsequent to meeting with Delray Beach and obtaining their comments and recommendations on the 60% complete final documents, CTA will update the plans and specifications to prepare for permit submittal.

Our Team will hold a community workshop (if necessary) once we have submitted permit applications, and reviewed and modified the construction documents. Since these are major capital improvements, residents will be closely monitoring the cost and progress of the implementation. Therefore, we must deliver a straight forward and factual representation that can be appreciated by a non-technical audience.

Upon receiving Delray Beach and community stakeholder comments, we will integrate the changes into the 90% complete documents. An identical process to the one described for 60% complete documents will be implemented for the 90% complete phase.

PERMITTING PHASE

Permitting and Bidding Services

CTA will prepare the design permit applications and supporting documentation at the 90% construction document stage to obtain the construction permits for the projects. During this period, the CTA Team will prepare and submit responses to "Requests for Additional Information" (RAI) relative to the permitting packages submitted. Any comments or additional requirements will be discussed with the City and if deemed acceptable incorporated into the design prior to preparing the 100% design documents.

CTA will expedite the permits through the various agencies in order to remain on schedule and will review the comments from the agencies to determine the implications on the budget and timing of the project. Should there be negative impacts, we will aggressively pursue the mitigation of these impacts.

In addition, CTA will review the project from a "constructability" of design perspective to meet the City of Delray Beach's goals and objectives and to maintain a firm grasp on the costs associated with the project. The "constructability" of a design is an important facet to consider during each phase of a design's development. However, when a preliminary design is nearing substantial completion (90% plans), it undergoes an in-house constructability review by our construction services personnel. This review specifically targets construction related issues, and is intended to minimize potential problems in the field during construction. Important issues such as conflicts with existing utilities often occur on projects involving infrastructure improvements in older existing neighborhoods.

During our various internal review processes, we will also value engineer the project. Value engineering is not simply cutting the cost or scope of a project to reduce budget, it is a creative, organized effort, which analyses the requirements of a project for the purpose of achieving the essential functions at the lowest total costs (capital, staffing, energy, maintenance) over the life of the project.

Our staff of experts has extensive experience providing constructability, bid-ability, and value engineering services to our current and past public clients. By providing these services, we have saved cities and counties many thousands of dollars and months of schedule time. Our experts are as experienced in the design, permitting and construction as they are at the management.

With the results of the constructability review, value engineering, the permits obtained and all comments addressed, we will then proceed to complete preparation of the 100% contract documents, technical specifications, quantities and bidding documents for the solicitation of competitive bids for the construction of the project.

Bidding

CTA will pull all necessary bid documents together, in conjunction with Purchasing Department, to provide to City of Delray Beach for bidding purposes. CTA and our sub-consultants will assist by attending the pre-bid meeting and responding to questions and requests from the prospective bidders during the bidding phase. Once bids have been received, the CTA project manager will tabulate the bids and review for completeness and responsiveness. CTA has an extensive library of recent pricing on similar type projects within South Florida to use for comparison in the evaluation process. In addition, we are very familiar with the contractors that bid on projects of this nature and their capabilities and past performance. On behalf of the City of Delray Beach, we will perform extensive background checks into each bidder to determine their responsiveness. In addition, we will check contractor references and prepare a recommendation letter to the City of Delray Beach of the lowest responsive qualified bidder.

CONSTRUCTION MANAGEMENT AND RELATED SERVICES PHASE

Many of the CTA staff that will be handling the construction related services have been providing these services worry-free for the past twenty-four years on redevelopment projects. Our Construction Manager, Don Shaver, has been providing Construction Services for over thirty years. CTA provides a long and tested resume of implementing these projects from planning to final certification.

Construction Administration/Management

Once the City of Delray Beach has issued a Notice-to-Proceed to the contractor, the CTA Project Manager will facilitate a preconstruction meeting, which will include the City, agencies, contractors, and all utilities to identify responsibilities, procedures and processes to be used during construction. The construction schedule will be addressed at this meeting.

During the construction process, CTA will work with the City of Delray Beach and the contractor with the goal to complete the project on time and under budget.

During the first week of construction, the Project Manager/Construction Manager will be on-site interacting monitoring the construction. The CTA Project Manager will keep in close contact with the City staff and provide regular updates on the progress and issues related to the project.

In order to keep the City of Delray Beach fully informed, CTA will generate weekly project status reports. We will communicate directives and clarifications on the project, as necessary. The Construction Manager will play a critical role during the construction process by reviewing the contractor's work and identifying issues when they are discovered. Bi-weekly site meetings will be scheduled and facilitated by the Construction Manager in order to review the project schedule and to maintain organization and communication.

In addition, we will review payment requests and quantities for payment; prepare an itemized unit quantities and unit cost spreadsheet to verify conformance with the contract; review and approve shop drawings; prepare certified recommendations for payment, resolve field issues, review contractor requests for additional information (RAIs); setup and attend construction progress meetings; review Maintenance of Traffic (MOT) plans; review and monitor Storm Water Pollution Prevention Plans (SWPPP), coordinate field and office as-built data; monitor testing; act as Miramar's agent during the construction process; attend pre-final inspection and prepare a punch-list. During construction, the construction manager will meet with the City of Delray Beach staff to monitor schedules and budget and assist in the administration of the contract. The construction manager will maintain copies of the daily reports, the contractor's progress reports, change order requests, and updated construction schedules. We will maintain a project file throughout the duration of the project, which will be provided to the City staff upon completion of the project.

Construction Inspection

CTA will perform the following services for the City of Delray Beach during the inspection phase of the contract: provide periodic field inspections for the construction of improvements; witness and schedule construction testing; prepare inspection and testing reports; prepare daily inspection reports; coordinate as-built data collection with the Contractor; and coordinate weekly as-built plan updates.

Final Certification

CTA will perform the following services for the City of Delray Beach during the final certification phase of the contract:

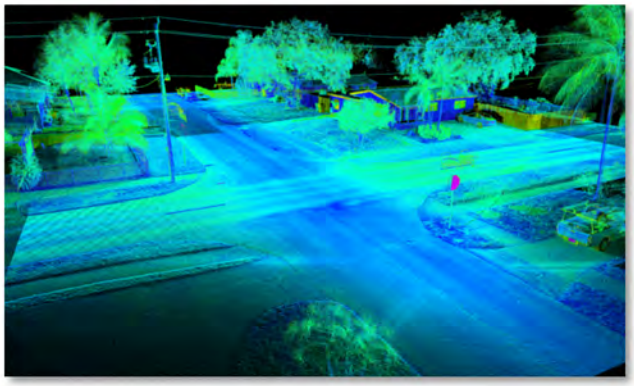
- Attend final inspection of the project with applicable Governmental Agency Representatives, Contractor, and the City of Delray Beach;
- Prepare engineering certification letters, as required;
- Prepare project completion certification forms, and submit all other necessary documents to the governmental authorities to accept the project;
- Sign & seal final record drawings and prepare submittal package to the City for final approval.

CATEGORY 2 - SURVEYING AND MAPPING

Craven Thompson's Approach to Completing a Surveying and Mapping Project

CTA offers the following approach for City of Delray Beach survey tasks, all survey projects will go through The City's process which will include the following:

- Perform preliminary research of subject properties to determine exact limits, available survey data on and near the site, and assign a project manager best suited for the type of survey requested.
- Dependent on the complexity of the Statement of Work and if required, we will meet with City staff either in person, by phone, or through e-mail to discuss details of the Work Order, Project Schedule, City's cost limitations and deliverables.



- The project manager will then visit the site to review existing field conditions and note any issues that may arise as to access, safety, available horizontal and vertical control on or near the site, obstructions and unique conditions that will affect the cost and schedule in completion of the requested task.
- We will then prepare and submit a proposal that includes a detailed level of effort, project and staffing schedules, firm fixed price based on proposed labor effort applying the pre-determined rate schedule, project completion date and deliverables.
- If applicable, innovative and alternative survey methods will be proposed to give the City options as to possible reduction of the project schedule and costs. Some of these methods would include GPS (Global Positioning System) Fast Static Control Survey and data collection, 3D fixed base Laser Scanning, Mobile LiDAR Scanning, Aerial Photogrammetry, and Aerial LiDAR Scanning.
- Once the City has reviewed our proposal, we fine tune the labor effort, cost and schedule; and submit a revised proposal for approval and Work Order Authorization.

All survey projects will adhere to the following Methodology:

- Work will begin immediately after receipt of the Work Order Authorization. The project manager will compile any additional survey data required to perform office calculations and materials for the use of field and office staff to perform the tasks as outlined in the Work Order. A meeting will then be held with staff to review the project's details, objectives and schedule.
- During the field data collection and office preparation of the survey, daily evaluations of the collected information will be reviewed to assure accuracy and conformance to the scope. As a part of this process, the project will be analyzed and tracked to assure the ability to conform to the project scope, cost and schedule.

- Upon completion of the project survey, an independent project manager employed by our firm will perform a Quality Assurance and Quality Control review of the final product vs. the City's Detailed Statement of Work, the proposed scope of services, Florida State Statute Chapter 472 - Land Surveying and Mapping, Florida Standards of Practice for Land Surveying under Florida Administrative Code Chapter 5J-17 and any applicable City Codes.
- All during the survey process, the project manager will maintain close communications with survey staff and sub-consultants, managing the project in order to immediately solve any issues that may arise as to schedule, costs, and deliverables.
- This will assure that the project manager can communicate regularly and accurately with City Project Managers the status of the project at any given time and guarantee quality products delivered on time as required by the Work Order.
- The final steps will be to deliver the project survey to the City in the required format(s) for review. If there are any comments during the review by the City, CTA will address those issues immediately and resubmit.

SPECIFIC SURVEY PROJECT APPROACHES:

Survey Projects involving Field Crews and Sub-Consultants:

All of the surveys involving field crews and sub-consultants will follow the above procedures. The types of survey and survey tasks will include:

- *Topographic Survey, Record As-Built Survey, Specific Purpose Survey:*

  We pride ourselves being on the cutting edge of technology when deciding on which data collection method(s) to use when addressing the needs of our clients as to level of accuracy, cost and timeframe when proposing and executing a project. For these types of surveys, we use conventional data collection methods for smaller projects to be cost effective. For medium and large-scale projects we will analyze which method of data collection will be most efficient. These innovative methods would include GPS (Global Positioning System) Fast Static Control Survey and data collection, 3D fixed base Laser Scanning, Mobile LiDAR Scanning, Aerial Photogrammetry, and Aerial LiDAR Scanning. We have the capability to combine these diverse data acquisition methods resulting in quality and cost effective products.

- *Sketch & Descriptions and Preparation of Easements:*

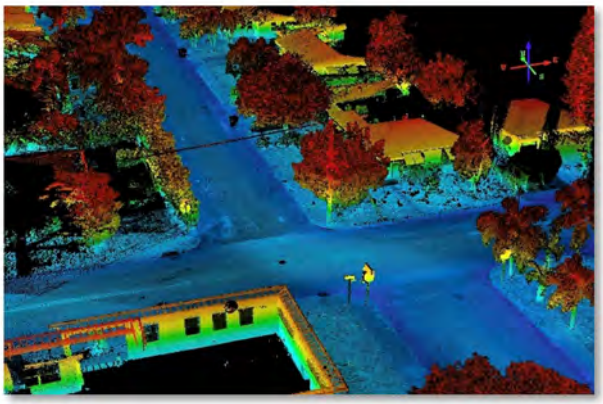
  Our procedures for preparing sketch & descriptions and easements are virtually identical but dependent on the type of document required. These items are quite similar where a sketch & description could include any type of property, and easements would include a sketch & description of a portion of a certain property covering a utility, access, sidewalk or other type of improvement. The procedure would include reviewing the City's Detailed Work Authorization; determining the purpose of the sketch & description, research of the property to determine ownership limits which would also establish the limits of the sketch & description and/or easement. All sketch & descriptions are prepared using AutoCAD Civil 3D software. We also strive to prepare the base calculations and final document in the state plane coordinate system thus providing a seamless importation into current databases.

- *GPS Surveys:*

  We use GPS (Global Positioning System) equipment on almost all of the surveys we prepare. This provides unified survey data that is easily brought into GIS databases with little need for adjustment. Our equipment ranges from hand-held models with 3-meter accuracy to the latest survey-grade receivers and base stations with sub-centimeter accuracy. We also manage our own Continuously Operating Reference Station (CORS) located at our office which is partnered with Trimble Navigation. This CORS, along with continually upgrading our field equipment, provides the ability to provide our clients with survey solutions faster, more accurately and at less cost. Types of GPS surveys usually are Project Network Control (field monumentation for localized survey networks) or Regional GPS Survey Control for large scale projects.

- *Laser Scanning:*

  We often use 3D laser scanning to prepare topographic and as-built surveys of roadways, parking lots, buildings, utility plants and interiors of most any structure. The scanner will capture every aspect needed for design purposes in a point cloud of laser data, consisting of millions of 3D points. From this data we are able to prepare an AutoCAD drawing from any aspect in extreme detail in either 2D or 3D formats. This procedure consists of establishing survey control points at strategic locations around the property in an X-Y-Z format. With these control points set, the 3D scanner can then be positioned on, or near each of these controls and tied down to orientate the laser point clouds collected in the field. Multiple scanning positions are run that capture horizontal and vertical point positions in an X-Y-Z format detailing the facility. Then those scanned points will be registered together to form a seamless overall point cloud of the subject improvements. Each scanner position will capture everything in a 360-degree arc around the scanner in a 100-200-foot radius buffer, above and below the scanner along with digitally registered photographs of each area scanned. These points are then extracted and imported into an AutoCAD Civil3D base for preparation of the drawing.



- *Utilization of Existing Data or Management Systems:*

  Our staff utilizes a multitude of existing data systems to manage different projects. We utilize our accounting system (Deltek 7.5) to manage the budget and the time from individual employees throughout the project, it provides regular updates and alerts by email to run the project efficiently. We utilize ArcGIS to collect existing data from City, County, and State agencies within the areas we are surveying to help organize and define the limits and the surrounding property information. We use various surveying software and hardware packages to do the Survey field and office operations as cost effectively as possible. And we utilize various governmental sites to access records and plans available for land information.

- *Web/Cloud Based Solution Platforms:*

  We use the Trimble Terra-Flex system which is a cloud based solution that allows the organization and control of the field data collection process. The power behind Terra-Flex is the integration between data collection and Geographic Information System, GIS, through a plug-in within GIS. A geodatabase that is created within GIS full of domains and schemas is uploaded to the cloud based Terra-Flex system. From there forms are created based on the geodatabase and crafted to fit the constraints of the project complete with drop down menus and check boxes. These forms dictate how the field crews are to perform their surveys and ensure that all necessary information is recorded including multiple pictures of the target objects if desired. The field crews are able to view and edit these forms directly from a cell phone and/or tablet which provides great versatility in the field. These forms are then synced back to the cloud based Terra-Flex system as soon as the form editing is complete and sends that information straight into the GIS attribute tables in the office where real time processing and analysis can happen.

- *Right-of-Way Surveys*

  Using existing records such as right-of-ways maps, plats, dedications and maintenance maps, we will establish the limits of the corridor and survey the boundaries. The improvements in and adjacent to the right-of-way are then located with either 3D fixed base Laser Scanning, Mobile LiDAR Scanning, Aerial Photogrammetry, or Aerial LiDAR Scanning. We have utilized all of these methods in the past singly or in combination. These methods keep our field crews away from traffic; thereby, increasing the safety of our staff and the driving public.

- *ALTA Surveys*

  Part of the process of the Detailed Work Order will be to make available to the City the Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys. We will work with the City to determine the exact purpose of the survey and tailor the final product that best suits the City's needs and meet the ALTA/ASPS requirements upon delivery.

- *Canal and Embankments Cross Sections and Profiles (Hydrographic)*:

  We use the latest survey-grade sonar equipment integrated with our GPS data collection systems to collect thousands of points in the given body of water. Also, using GPS we collect the embankment topography and then import both sets of data into one seamless 3D drawing. This allows us to then cut cross-sections, profiles at any required position. We can also prepare quantity calculations of the subject site based on this data. The time to collect data and accuracy using our equipment and procedures has been greatly improved over previous standard survey methods.

- *Field Reconnaissance:*

  Prior to performing field reconnaissance, the Project Manager researches all available record documents such as plats, right-of-way maps, previous surveys, state and county survey resources in and around the subject site. The Project Manager then visits the site, to help determine the level of effort and time it will take to complete the proposed task. Reconnaissance will determine availability of horizontal and vertical control along with any unique characteristics of the property that will affect the Detailed Work Order and Schedule.

- *Underground Utilities Detection:*

  We engage a Subsurface Utility Engineering (SUE) location sub-contractor to designate (paint and flag) the locations of the subject facility. We then horizontally locate the utility and plot on the base survey. During the design process, once proposed utilities and located, we will then stake the conflict points and locate test holes (vacuum excavation points) performed by the sub-contractor. This data is added to the survey and provided to the design engineer to resolve any issues in the design.

- *Plan Review Services Including Plan Review Per F.S. Chapter 177*:

  We are currently the plat reviewing surveyors for a number of Cities in Palm Beach and Miami-Dade Counties. We have developed a simplified checklist that mirrors Florida Statutes, Chapter 177, Land Boundaries Platting Law. We have also prepared checklists for each City that directly corresponds with the specific platting code in the Code of Ordinances. These checklists made available to the owner and/or developer (plat applicant) at their initial meeting with the City greatly increases the completeness and consistency of preliminary and final plats thereby saving time and costs for both the City and platting client. In conjunction with the checklists, we also prepare red-lined mark-ups of the plats during the office review and field check of monumentation of the plat boundaries. The documents are all then scanned and emailed to the City and if desired, directly to the platting surveyor thus reducing the paper trail and time it takes to complete the plat process.

CATEGORY 3 – LANDSCAPE ARCHITECTURAL DESIGN

Craven Thompson's Approach to Completing a Landscape Architectural Project

Since 1985, **Craven Thompson and Associates, Inc.** (CTA) has successfully designed and managed hundreds of South Florida landscape architectural projects for a variety of different clients. These projects have ranged in size and complexity from small, single-task assignments, such as the landscape beautification of a single median to large, multi-scaled projects involving numerous sub-consultants and/or specialized services, such as Miramar Regional Park. The timeframes for our projects also vary from project-to-project, depending on the size and specific nature of each project. For example, certain projects of an emergency type basis will require immediate turnaround, while other, multi-phase projects may extend over a period of years. CTA's projects have ranged in size and complexity from a single neighborhood entry sign to complicated streetscape design. In all cases, CTA strives to provide the highest level of landscape architectural competence with the ultimate goal of providing a continuance of high quality service to our clients.

CTA will develop creative and cost-effective design solutions to any project, whether big or small. We will be expected to perform a wide variety of landscape architectural tasks including urban design, streetscape, parking lot landscape & hardscape, median landscape & hardscape, permit assistance, park design, and landscape architectural contract documents for all types of projects. CTA has a long history with providing these exact services to many other government entities. CTA has consistently utilized a predominantly native plant palate and Xeriscape principles thus reducing maintenance and water requirements while still providing a variety of colors and textures to the user. The CTA team will emphasize creativity, cost-effective design, management and scheduling techniques which will result in a beautiful, on-time and within budget, final product that will continue to implement the City's vision for many years to come.

Although every project is unique in its scope and detail, CTA implements a similar management approach for all projects. For any given project or task, CTA will institute the following typical project approach:

- Meet with the City of Delray Beach to review project scope, objectives and budget
- Prepare project design schedule
- Perform preliminary site investigation of existing conditions
- Prepare design alternatives with cost opinions
- Review with City Staff
- Solicit input from public and affected parties through the appropriate City Staff, as necessary
- Prepare preliminary design plans
- Prepare preliminary construction cost opinion with each plans production phase

- Review preliminary plans with City Staff
- Modify preliminary design plans and budget as Necessary
- Provide updates to public/affected parties as the City of Delray Beach deems necessary
- Prepare final construction documents
- Submit and support applications for required government approvals and permits
- Prepare bid documents
- Update construction cost opinion
- Prepare contract documents
- Provide construction services
  - Shop drawing review
  - Construction observation
  - Contract administration
  - Review contractor's pay requests
  - Certifications/Project close-out

Douglas Schultz, R.L.A., LEED AP, the proposed landscape architectural project manager, will coordinate directly with City staff on an on-going basis to update them on the status of all landscape projects and provide the work product that is requested or required. Communication methods will include email, telephone, cell phone, and face-to-face meetings and will be tailored to the City's vision.

CTA will integrate sub-consultants into the project on an as-needed basis, depending on the scope and complexity of any given task.

CTA's approach to problem solving and solutions is one of inclusiveness and a thorough evaluation of options. We will often develop numerous design alternatives (or solutions) and discuss each alternative in detail with the City and any affected parties. Very often these same individuals will also be involved in brainstorming and sharing ideas for a given solution. At the end of the process, CTA will provide a recommendation that will include cost estimates and time lines, if applicable.

Overall, CTA will work to achieve the following goals

- Same day response to inquiries
- Schedule with milestone dates
  - Recovery schedule
- Explore alternatives during design phase
- Verify cost opinions with other sources
- Keep the City's project manager informed of critical elements
  - Monthly updates
- Direct contact with our project manager and landscape architect lead

The following are the generalized approaches for these tasks:

Preparation of bid documents for construction and landscape projects including detailed scale drawings:

The CTA approach will utilize the latest AutoCAD software, using the City of Delray Beach Standards, to create easily readable and understood construction documents including plans and specifications. All projects, no matter what size, require accurate contract documents in order to greatly reduce the possibility of misunderstandings, which could result in a change order. We strive to prepare all construction plans at the same scale for ease in relating the plans to one another. We overlay information, such as existing utilities onto the landscape plans, to identify any conflicting issues.

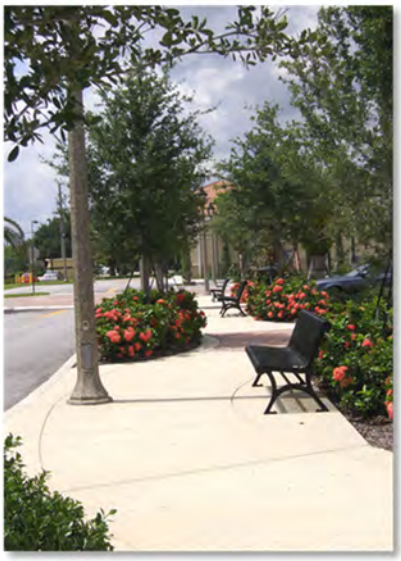
All of our plans go through a thorough Quality Assurance / Quality Control procedure to make every effort to eliminate errors, additional revisions, and construction delays to the maximum extent possible. Our project manager, Douglas Schultz, R.L.A. LEED AP will BE responsible for quality control for all landscape architecture aspects of City of Delray Beach projects.

All of the landscape architecture projects would be designed in accordance with the NatureScape and Xeriscape principals. NatureScape principals have been utilized by the Landscape Architectural Department at CTA for the last thirty (30) years, so they are not new to us.

In summary, these principals include:

- Planning and design
- Limited turf areas
- Efficient irrigation
- Soil improvements
- Use of mulches
- Use of low-water demand plants
- Appropriate maintenance

The landscape design philosophy of CTA is to bring creative, timeless and innovative landscape design solutions to every project. We always take into consideration the maintenance requirements and design for the long-term as well as CPTED (Crime Prevention through Environmental Design) principles to ensure the safety of the public. Our designs always include colorful, texture-rich plantings using a predominantly native plant palate.



CTA will work closely with City Staff to prepare landscape designs that are exciting for both the observer and the City. Following the initial data collection phase, CTA will prepare conceptual landscape plans for review by the City. These conceptual plans will be detailed to a 30% level. Once comments are received, the plans will be revised to become the Final Construction Documents, which may or may not include subsequent 60% 90% and 100% submittals, dependent on the complexity of the project.

If required, the plans will be processed through the site plan review process and then bidding documents, including written specifications, will be prepared to be placed out to bid by the City of Delray Beach.

Urban Design Plans

Over the past several years, urban design in South Florida has gone through a drastic change. With the introduction of 'modern urbanism' the language of development has been changed forever. Suburban communities are now urban; mass transit is being taken seriously; pocket parks and urban oasis are becoming more of a common occurrence and 'sustainability' and 'green buildings' has entered into Code requirements from many cities and counties.

The CTA approach to Urban Design Plans builds on three key principles.

- Build on Your Strength
- Create Great Places
- Activate the Street

With every urban design plan, CTA will review these three key principles to determine how they can all be met. All three are incredibly important in an urban environment. By building on the strength that is already present in the City, site or area, by creating a great space that pays

attention to the details and by activating the street which provides an undeniable energy, change will be achieved quicker and will be more successful.

In outlining an applicable approach, it is assumed that the task would be to develop general urban design plans for a specific area within the City. The final deliverable could possibly be a set of design guidelines for the redevelopment of an area. For this task, the CTA approach will generally follow these steps:

- Meet with City Staff to gain initial input on the task at hand and brainstorm first ideas.
- Perform research to determine the strengths present. This will include several site visits and informal discussions with the existing businesses and users.
- Review existing development regulations and programs.
- Develop conceptual ideas for the plan.
- Meet with Delray Beach Staff and other stakeholders to review concept plans.
- Re-evaluate and refine the conceptual plans and revise to accommodate concerns and comments.
- Prepare urban design plan.
- Review with City Staff.
- Finalize urban design plan.
- Present to City Commission.
- Revise as necessary.
- Present final urban design plan to the City.

Streetscapes & Median Design:

Streetscapes and medians are extremely important design elements of any redevelopment area. They often set the main impression on someone who is only passing through the City.

The streetscape projects have involved extensive coordination with residents, staff, engineers and grant funding agencies to bring about the project's success. There are many components within the project requiring coordination and community/stakeholder input that must be carefully coordinated and programmed into the design and project schedule to meet expectations. In addition, we design the streetscape elements in harmony with the existing neighborhood architecture and accentuate the positive themes of the area.

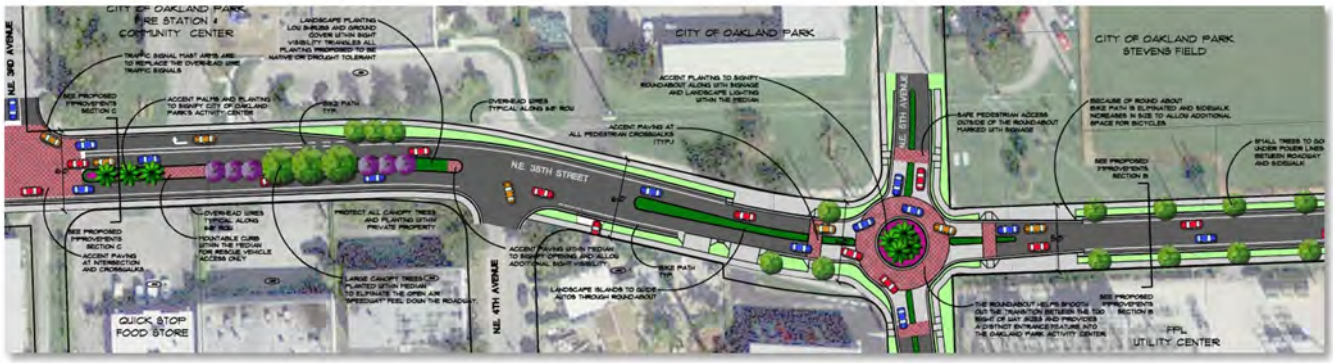
Often overlooked or downplayed, medians actually provide an amazing opportunity to compliment the image and beautification of the municipality while strengthening the branding that the City of Delray Beach is nurturing. Our approach begins with creativity in design.

We strive to design a median that would excite and entice each passerby. Even though there are many regulations that govern the design of the median for safety concerns, such as FDOT Index

No. 546, there are numerous streetscape enhancements, both softscape and hardscape, which are permitted to be placed within the median given conformance to the safety regulations.

The CTA approach would generally follow these steps:

- Meet with City Staff to gain initial input.
- Perform site visits to determining existing conditions while surveying the roadway.
- Identify current and future growth including redevelopment plans underway.
- Apply FDOT sight lines as well as other safety concerns.
- Investigate existing and proposed utilities.
- Prepare design alternatives with cost opinions.
- Review with City Staff.
- Solicit input from the public and other affected parties.
- Prepare preliminary plan with cost opinions.
- Present to the City Commission.



If the project is ready to move ahead to the construction plan phase, the following steps would generally be followed:

- Modify preliminary design plans and budget as necessary.
- Provide updates to public/affected parties as the City deems necessary.
- Prepare final construction documents.
- Submit and support applications for required government approvals and permits.

Park Design:

When CTA is tasked to design a park, the principal goal is to create a place that attracts a wide variety of people and an experience that makes them return again and again throughout the year. Often, parks are treated as aesthetic objects only, which result in a space that is pleasant to look at, but that few people use. Contrastingly, some parks are treated in a purely functional manner which provides a space that serves the designated function, but are not exciting to look at nor do they attract new users to the facility.

The CTA approach begins with the idea that successful parks are places where many functions of the community take place and where people feel connected and have a sense of ownership. At CTA, we believe that parks should have at least ten (10) distinct destinations within it and a variety of ways to use each destination. We strive to create spaces that people want to be in.

Creating a park that meets the criteria begins at the earliest of planning stages and continues throughout the parks development. Park design is a fluid process with the park's ultimate design including not only the facilities that are dictated by the users but should include many other functions that the user may not have even thought of. These activities should be clustered so that they each build off of each other to create the vibrant destination that we all want.

The CTA approach would generally follow these steps:

- Meet with City Staff to gain initial input & review master plan.
- Perform preliminary site investigation of existing conditions including a survey.
- Prepare preliminary design alternatives with cost opinions & image boards.
- Review with City Staff.
- Solicit input from public.
- Prepare final plan with cost opinions.
- Present to the City Commission.

If the park is ready to move ahead to the construction plan phase, the following steps would generally be followed:

- Modify design plans and budget as necessary.
- Provide updates to public/affected parties as the City of Delray Beach deems necessary.
- Prepare final construction documents.
- Submit and support applications for required government approvals and permits.

CATEGORY 9 – WATER RESOURCES/STORMWATER - STUDIES

STORMWATER BASIN STUDIES

Topography, Base Maps and Creation of a Digital Terrain Model

CTA will either sub-contract aerial photogrammetry services from **Aerial Cartographics of America, Inc. (ACA)** or use conventional surveying techniques or existing available data depending on the size and complexity of the analysis. This information will be used to develop the base information for the digital terrain model (DTM) for the drainage analysis and computer modeling for the stormwater study.

Drainage Analysis & Modeling (& Geotechnical)

Based on the DTM model, CTA will create an ICPR Software model of the existing basin storm water system. We will integrate any previous models performed for the area. CTA will provide geotechnical testing, percolation tests and soil borings, through our sub-consultant, **Tierra South Florida, Inc. (TSF).**

At a minimum, the goal is to provide flood to meet the City's desired level of service, or that of LWDD or SFWMD dependent upon project location. The objective will be to maintain static heads at or below the lowest road crown elevation in each drainage basin during a 10-year, 24-hour storm event and to minimize or eliminate standing water on the roadways during those storm events. The highest level of service goal is to prevent house flooding during the 100-year, 72-hour storm event.

The following design criteria will be analyzed and incorporated into the storm water management investigation:

- *Soils Criteria*

  A subsurface soils investigation by our geotechnical sub-consultant (TSF), including soil borings and percolation tests, will be undertaken to determine the soil characteristics within the basin (project study area) limits. The findings of this investigation will be incorporated into the preliminary storm water management system analysis.

- *Hydrology*

  The hydrologic simulations will be completed utilizing the Inter-Connected Pond Routing (ICPR) computer modeling software Version 4.0 (Streamline Technology). Rainfall will be based on an average of the South Florida Water Management District isohyetal maps for specified design storm events. Watershed hydrographs will be prepared based upon the South Florida Water Management District's rainfall distribution curves.

  In general, storm water modeling will be performed, considering the following design storm recurrence intervals:

Design Storm	Level of Service
5-year, 24-hour event	Pavement Encroachment
10-year, 24-hour event	Street Road Crown Flooding
100-year, 72-hour event	Finish Floor House Flooding

- *Hydraulics*

  Watershed hydraulic simulations will be performed utilizing the ICPR computer software system. Modeling of the project area will be based upon accepted hydraulic principles to determine conveyance capacities of pipes; and where no pipes existed, the use of weirs to connect adjacent basins.

- *SFWMD (DERM) Controls*

  Storm water management controls, as promulgated under Chapter 40E of the Florida Administrative Code, will be utilized in the preparation of the storm water management plan.

  CTA will determine water quality requirements and retention/detention area opportunities, and evaluate drainage alternatives and compare their effectiveness to meet the storm water goals of the project.

Develop Projects from Analysis

Based on the analysis above, we would develop individual stormwater capital improvement projects for storm water/drainage projects.

Establish Project Priority Ranking Criteria

Criteria will be established which will be used as a guideline for prioritizing projects. The criteria will be put in writing and distributed to each party involved in the capital planning process. The criteria will facilitate ranking projects on a high, medium or low priority basis.

- High priority projects may be those which (i) improve public safety, (ii) reduce current operating, maintenance or contractual expenses, (iii) increase revenues, or (iv) benefit all or a majority of the study area residents.
- Medium priority projects will include those which (i) prevent deterioration of assets, (ii) improve delivery of services to the public, (iii) contribute to job creation, or (iv) are non-essential but have a high degree of public support.
- Low priority projects may include those which (i) support delivery of a service for which there is a declining demand, (ii) enable the provision of a new service not currently provided, or (iii) improve the quality of life but are non-essential.

Prepare Preliminary Cost Estimates for Projects

A preliminary project cost estimate will be prepared based on the information available for each project included in the recommendations.

Prioritize the Projects

Along with the City Staff, the CTA Team will prioritize each project based on the previously identified high, medium, and low priority parameters. Furthermore, based on funding considerations and their level of priority, the projects will be designated for a specific financial year within the next five years for implementation.

Draft the Plan

CTA will create a draft plan including an executive summary, the report, cost estimates, project request forms, and 24"x36" plans for each. This will be submitted to City Staff for review.

Take Plan to the Public and City Commission

CTA will assist City staff with bringing this plan through the public process and approval by the City Commission as necessary. We will also assist the City in its attempt to secure funding for these improvements.

iii. Narrative that Demonstrates Working Knowledge and Understanding of the Professional Services Requirements for this Contract

The City of Delray Beach is seeking consulting firms to perform Engineering, Surveying and Mapping Services, and Landscape Architectural Services for the City. These services are further broken down into: Engineering; Surveying and Mapping; Landscape Architectural Design; Civil; Mechanical; Electrical; Plumbing; Structural; Transportation; Environmental/Natural Resources; Water Resources/Stormwater Management; and Coastal and Marine Engineering.

CTA was founded in 1961 and has a large group of Professional Engineers, graduate Engineers, Surveyors, G.I.S. Specialists, Landscape Architects and Planners. Over fifty-five years and through scores of a wide variety of governmental projects, CTA has gained an invaluable skill set and extensive experience in providing quality professional services for an enormous diversity of projects for a variety of municipalities. These projects have ranged in size and complexity from small, single-task assignments to large, multi-scaled neighborhood improvement projects involving numerous sub-consultants and/or specialized services. These projects include: water & sewer; lift station rehabilitations; stormwater master plans and stormwater/drainage, major and minor surveys, design & permitting; neighborhood improvements; street design & streetscape improvement projects; traffic calming projects; parks and recreation facilities; marinas; site engineering design; construction engineering and inspection services; and major and minor Capital Improvement Projects for Broward, Palm Beach and Dade County municipalities; including planning, design, permitting, cost estimating, studies/feasibility; project & construction management and construction inspection; Projects have ranged in size and complexity from a park plaza to 6,000 acres of infrastructure redevelopment.

CTA currently has over twenty-eight continuing services contracts with various governmental entities. Do to our extensive background we have a strong understanding of the needs of municipalities.

The services to be provided under this RFQ are subject to the Consultants Competitive Negotiation act (CCNA). This requires that no project be awarded under this contract where the

consultant fees exceed $200,000.00, or the construction cost does not exceed $2,000,000.00. Many of these projects are identified in the City's C.I.P. plan, and Appendix "B" of this RFQ.

The City will expect CTA to make the City aware of the various design solutions and the approach to be taken to solve these issues. It will also be the responsibility of CTA to keep the project on schedule and within budget.

iv. Details of how Work under a Service Authorization will be Implemented and Services Provided

Once the Service Authorization has been signed and the purchase order issued, Implementation will be initiated by the project manager (P.M.) for that particular discipline. The P.M. will assemble the internal team dependent upon the specific scope in the service authorization. He will then initiate an initial internal meeting to define the scope and budget, and assign specific tasks and schedules to each team member. The P.M. will share his ideas as to how to approach the tasks and define the deliverables to the City. At this point the P.M. and the CTA Team will meet with the City to present their intended program to meet the requirements of the Service Authorization. Below is the basic format for a project under a Service Authorization:

The basic services to be provided include planning, design, bidding and construction phases to be applied to projects within these categories. The initial category is identified Phase I – The Study and Report Phase. This phase is equivalent to the CTA 30% Conceptual Phase. Phase II of the City requirements, the Preliminary Design Phase is the same as the CTA 60% Complete Phase; the City's Phase III - Final Design Phase, is tantamount to CTA's 90% Complete Final Design Phase,; Delray Beach's Phase IV – Bidding/Negotiation Phase is equivalent to our 100% Complete Bid Document Phase; and the City's Phase V – Construction Phase and Phase VI – Resident Project Representative Service Phases are commensurate with CTA's Construction Services Phase. Each of our phases are detailed in our project approach.

v. Location Where Work will be Performed

- **Prime Consultant – Craven, Thompson & Associates, Inc.**

  New Delray Beach Satellite Office
  4723 N. Atlantic Avenue
  Delray Beach, Florida 33445

  and

  Craven Thompson Main Office
  3563 NW 53rd Street
  Fort Lauderdale, Florida 33309

- **Sub-consultant – Hazen and Sawyer, P.C.**

  4000 Hollywood Boulevard, Suite 750-N
  Hollywood, Florida 33021

- **Sub-consultant – McMahan & Associates**

  2090 Palm Beach Lakes Boulevard, Suite 400
  West Palm Beach, Florida 33409

- **Sub-consultant – Aerial Cartographics of America, Inc.**

  423 S. Keller Road, Suite 300
  Orlando, Florida 32810

- **Sub-consultant – Tierra South Florida, Inc.**

  2765 Vista Parkway, Suite 10
  West Palm Beach, Florida 33411

vi. Proposer shall Thoroughly Explain

1. Accessibility, Availability for Meetings, Communications, Coordination and Supervision

The CTA Team members are readily accessible for meetings, by phone, or via email during regular hours, 7:00 a.m. to 6:00 p.m. (and outside of regular hours should it become necessary).

2. Primary Method for Attending Meetings and how much Advanced Notice is Required

Craven Thompson's primary method for attending meetings would be in person. The appropriate individual based on type of project will attend. This will be primarily the overall client contact or the project manager for that discipline. Preferably, we would like to be given a one day advanced notice; however, we realize that unexpected issues arise. Therefore, we would commit to having someone available for a meeting with as little as two hours' notice.

3. How Proposer Plans on Attending Pre-Scheduled Meetings

From the CTA satellite office to the City of Delray Beach will be approximately five (5) minutes. On average, the trip by car from the main office in Fort Lauderdale would be thirty five (35) minutes. Within a one day notice, the client contact, the project manager or a team member for that discipline will be available for pre-scheduled meetings.

4. How Proposer Plans on Ensuring Accessibility, and Availability

Based on our past experiences (please contact references), CTA has a proven record of being easily accessible and available to meet our clients' needs. We will be available through face to face meetings, by phone, and by email.

C. Projects for Similar Services

CATEGORY 1 - ENGINEERING

Projects where Proposer has Provided Professional Services

1) **Project:** City of Greenacres - City Engineer/Continuing Services
   i. **Organization Name:** City of Greenacres
   ii. **Address:** 5750 Melaleuca Lane, Greenacres, Florida 33463
   iii. **Project Date (start/end):** 2008 – Present
   iv. **Status of Project:** Designed, permitted, bid, constructed (Various)
   v. **Scope of Work: Engineering** - Plan review, capital improvement project, design, permitting and construction services, engineering standards review, municipal facilities site design, housed in City offices engineering services (general).

2) **Project:** City of Aventura - City Engineer
   i. **Organization Name:** City of Aventura
   ii. **Address:** 19200 W. Country Club Drive, Aventura, Florida 33180
   iii. **Project Date (start/end):** 2001 – Present
   iv. **Status of Project:** Designed, permitted, bid, constructed (various)
   v. **Scope of Work: Engineering** - Surveying; engineering studies and reports; project management; sustainability, roadway and drainage improvements; NPDES; infrastructure improvements; park projects; stormwater master plan; street resurfacing; traffic improvement projects; roadway lighting; plan reviews; capital Improvement budgeting, permitting; bidding assistance; and construction administration/management services.

3) **Project:** City of Miami Springs - City Engineer
   i. **Organization Name:** City of Miami Springs
   ii. **Address:** 201 Westward Drive, Miami Springs, Florida 33166
   iii. **Project Date (start/end):** 2013 - Present
   iv. **Status of Project:** Designed, permitted, constructed (various)
   v. **Scope of Work: Engineering** - Canal Bank Stabilization, Roadway design, permitting, citywide ADA ramp installation, FEMA/FIRM CRS advisement, general engineering advisement.

4) **Project:** Central Broward Water Control District - District Engineer
   i. **Organization Name:** Central Broward Water Control District
   ii. **Address:** 8020 Stirling Road, Hollywood, Florida 33024
   iii. **Project Date (start/end):** 2007 – Present
   iv. **Status of Project:** Designed, permitted, bid, constructed (various)
   v. **Scope of Work:** Engineering - Review and recommend approval of all drainage projects within the District; review variance requests; serve on the Development Review Committee; attend Board meetings; and prepare construction plans for capital improvement projects. Services to the District include plan and Constructability Review; engineering studies and reports; plan review, surveying; design & permitting for capital improvement projects; construction services; inspection services; and meeting attendance.

5) **Project:** Tindall Hammock Irrigation and Soil Conservation District - District Engineer
   i. **Organization Name:** Tindall Hammock Irrigation and Soil Conservation District
   ii. **Address:** 1323 SE 3rd Avenue, Fort Lauderdale, Florida 33316
   iii. **Project Date (start/end):** 2004 – Present
   iv. **Status of Project:** Designed, permitted, bid, constructed (various)
   v. **Scope of Work:** CTA reviews and recommends approval of all drainage projects within the District; review variance requests; review of Plats, attend Board meetings; and prepare construction plans for capital improvement projects. Services to the District include plan review; engineering studies and reports; surveying; design & permitting for capital improvement projects; construction

6) **Project:** Port Engineer - Port Everglades
   i. **Organization Name:** Port Everglades – Seaport Engineering & Construction Division
   ii. **Address:** 1850 Eller Drive, Fort Lauderdale, Florida 33316
   iii. **Project Date (start/end):** 1996 - 2013
   iv. **Status of Project:** Designed, permitted, constructed (various)
   v. **Scope of Work: Engineering** - Designed permitted, and constructed roadway improvements, parking lot improvements, security improvements, terminal improvements, provided studies for water, sewer and stormwater, project management, surveying, coordination of sub-consultants, and construction services.

CATEGORY 2 - SURVEYING AND MAPPING

Projects where Proposer has Provided Professional Services

1) **Project:** West Basin Topographic & Canal Survey
   i. **Organization Name**: Central Broward Water Control District
   ii. **Address:** 8020 Stirling Road, Hollywood, Florida 33024
   iii. **Project Date (start/end):** 2013-2015 (Date of Survey only: 2013 - 2014)
   iv. **Status of Project:** Survey complete, GIS and study complete
   v. **Scope of Work: Surveying & Mapping, GIS** -Survey, Cross-section, for 37 District maintained Canals. Established a GPS geodetic control network, located and verified all sizes and material of 400 culverts, exported information into EPA PC SWMM software.

2) **Project:** NE 34th Court Complete Streets Project Survey
   i. **Organization Name**: City of Oakland Park
   ii. **Address:** 5399 N. Dixie Highway, Suite 3, Oakland Park, Florida 33334
   iii. **Project Date (start/end):** 2012 (Date of Survey only), Project - 2011-2015
   iv. **Status of Project:** Surveyed, designed, permitted, bid, constructed
   v. **Scope of Work: Surveying and Mapping** - Surveying, landscape architecture, civil engineering, permitting, bid assistance, and construction engineering services, topographic survey, cross-sections and establishment of Right-of-Way.

3) **Project:** Plantation Historical Area Watermain Rehabilitation Route Survey
   i. **Organization Name**: City of Plantation
   ii. **Address:** 400 NW 73rd Avenue, Plantation, Florida 33317
   iii. **Project Date (start/end):** 2014 (Date of Survey only) Project 2014-2016
   iv. **Status of Project:** Surveyed, designed, permitted, and constructed.
   v. **Scope of Work: Surveying and Mapping** - Surveying, civil engineering, bid assistance, construction engineering services. Mobile LiDAR, surveying including topographic survey, cross-sections and establishment of Right-of-Way for watermain installation

4) **Project:** North County Neighborhood Improvement Project - NE Quadrant
   (Bid Packages: 9, 10, & 11)
   i. **Organization Name**: Broward County Water & Wastewater Services
   ii. **Address:** 2555 W. Copans Road, Pompano Beach, Florida 33069
   iii. **Project Date (start/end):** 2007 – 2014
   iv. **Status of Project:** Surveyed, designed, permitted, bid, constructed
   v. **Scope of Work: Surveying and Mapping** – Scope included surveying, a major drainage basin study, roadway rehabilitation design, new water distribution design, new sanitary sewer collection/transmission system design, water reuse distribution design, new storm sewer/drainage design, stormwater quality treatment, landscaping, signage, and sidewalk design for a 722 acre Neighborhood Improvement Project.

5) **Project:** Bluesten Park Survey
   i. **Organization Name**: City of Hallandale Beach
   ii. **Address:** 630 NW 2nd Street, Hallandale Beach, Florida 33009
   iii. **Project Date (start/end):** 2015 (Date of Survey only)
   iv. **Status of Project:** Survey complete, Park in Design
   v. **Scope of Work: Surveying and Mapping** - CTA is providing surveying, park planning, landscape architecture, and civil engineering services for the project. The park includes a 42,000 sf recreation center with pool and splash play area, soccer/multi-use field, three (3) baseball Fields, three (3) basketball courts, two (2) tennis courts, two (2) racquetball courts, boundless ADA inclusive playground, walking trails and pavilions; and full promenade streetscape design for surrounding streets for pedestrian friendly corridors and parallel parking.

6) **Project:** Oak Hammock Park Survey
   i. **Organization Name**: City of Sunrise
   ii. **Address:** 777 Sawgrass Corporate Parkway, Sunrise, Florida 33325
   iii. **Project Date (start/end):** 2011 (Date of Survey only), Project - 2011-2015
   iv. **Status of Project:** Surveyed, designed, permitted, bid, constructed
   v. **Scope of Work: Surveying and Mapping** - The Survey, park planning and design, civil engineering for a passive park in Sunrise.

7) **Project:** Lift Station E-2 Laser Scan
   i. **Organization Name**: City of Hollywood
   ii. **Address:** 1621 N. 14th Avenue, Hollywood, Florida 33019
   iii. **Project Date (start/end):** Survey 2013, Project 2013-2017
   iv. **Status of Project:** Survey complete, design, permitting complete , under construction
   v. **Scope of Work: Surveying and Mapping** - The surveying, civil engineering, construction. The surveying of the existing above and below ground elements of the station was performed using a Leica C-10 3D Laser Scanner.

8) **Project:** Hallandale City-Wide Survey
   i. **Organization Name**: City of Hallandale Beach
   ii. **Address:** 630 NW 2nd Street, Hallandale Beach, Florida 33009
   iii. **Project Date (start/end):** Survey 2013 - 2014, Study 2013 - 2016
   iv. **Status of Project:** Survey and Study Complete
   v. **Scope of Work: Surveying and Mapping** - City-Wide (2,800 acres) Surveying & Mapping with Aerial LiDAR for a Report - Drainage Master Stormwater Study for the City of Hallandale Beach, Florida.

9) **Project:** Dania Beach Municipal Marina Survey
   i. **Organization Name**: City of Dania Beach
   ii. **Address:** 100 W. Dania Beach Boulevard , Dania Beach, FL 33004
   iii. **Project Date (start/end):** Survey 2011, Project 2011 - 2013
   iv. **Status of Project:** Survey, design, permitting and construction complete
   v. **Scope of Work:** Surveying and Mapping – CTA performed a topographic & hydrographic survey. Survey included hydrographic surveying of the marina area for proposed dredging and bulkhead replacement. We also included a 3D High Definition Survey of the existing bridge at the marina.

CATEGORY 3 - LANDSCAPE ARCHITECTURAL DESIGN

Projects where Proposer has Provided Professional Services

1) **Project:** Pine Island Road and NW 50th Street Athletic Complex
   i. **Organization Name**: City of Sunrise
   ii. **Address:** 777 Sawgrass Corporate Parkway, Sunrise, Florida 33325
   iii. **Project Date (start/end):** 2015 - Present
   iv. **Status of Project:** In design
   v. **Scope of Work:** The professional services include park planning, park design, professional surveying, landscape architecture, and civil engineering. The 16.5 acre complex includes: Four (4) Baseball / Softball Fields; two (2) Soccer fields or One (1) Full Size Multi-Use Soccer / Football Field; hard covered dugouts; bleachers with cantilevered shade canopies; centralized two-story concession, restroom, meeting space and scorer's building; one (1) restroom / maintenance building for the Soccer Fields; two (2) playgrounds with shade structures; sports lighting for all fields; batting cages; two (2) parking lots with entry signage; southbound Right turn lane on Pine Island Road; and pedestrian connections to West Pine Middle School for shared use facilities agreement.

2) **Project:** NE 38th Street Complete Streets Project
   i. **Organization Name**: City of Oakland Park
   ii. **Address:** 5399 N. Dixie Highway, Suite 3, Oakland Park, Florida 33334
   iii. **Project Date (start/end):** 2011 – 2015
   iv. **Status of Project:** Designed, permitted, bid, constructed
   v. **Scope of Work:** Craven Thompson provided survey, civil engineering design, landscape architecture, permitting, bid assistance, construction phase services, and FDOT LAP funding assistance for the project. The complete streets project included landscape and streetscape enhancement, a complete storm sewer system, a roundabout to replace an existing traffic signal, traffic calming devices, utility coordination and relocation, and full roadway reconstruction.

3) **Project:** Oak Hammock Park
   i. **Organization Name**: City of Sunrise
   ii. **Address:** 777 Sawgrass Corporate Parkway, Sunrise, Florida 33325
   iii. **Project Date (start/end):** 2011 - 2015
   iv. **Status of Project:** Surveyed, designed, permitted, and constructed
   v. **Scope of Work:** Craven Thompson was the prime consultant responsible for the park design as well as the survey, preparation of the Open Space Park Management Plan, the design workshops, conceptual site design, construction documents and construction management for the City of Sunrise. The park contains a walking/jogging trail utilizing pervious materials, multiple custom designed picnic pavilions, pervious parking, expansive open play areas, a large playground which includes rock climbing, and two custom designed restroom facilities as well as environmental educational materials along the boardwalk and at the entrance. The park is also 75% planted utilizing native species and utilize recycled materials in all site furnishings.

4) **Project:** Sense of Place Signage
   i. **Organization Name**: City of Oakland Park
   ii. **Address:** 5399 N. Dixie Highway, Suite 3, Oakland Park, Florida 33334
   iii. **Project Date (start/end):** 2010 - 2012
   iv. **Status of Project:** Surveyed, designed, permitted, bid, constructed
   v. **Scope of Work:** CTA provided survey, landscape architecture, signage design, permitting, bid assistance, and construction phase services for the project. The project involved the design of neighborhood entry features (monument signage, landscaping, and lighting). CTA initiated CPTED (Crime Prevention through Environmental Design) principals to an Oakland Park neighborhood by creating a "Sense of Place" feature that the residents would promote the idea of ownership to the community.

5) **Project:** Floranada Road Traffic Calming Improvements
   i. **Organization Name**: City of Oakland Park
   ii. **Address:** 5399 N. Dixie Highway, Suite 3, Oakland Park, Florida 33334
   iii. **Project Date (start/end):** 2011 – 2013
   iv. **Status of Project:** Designed, permitted, bid, constructed
   v. **Scope of Work:** CTA provided survey, civil engineering design, landscape architecture, permitting, bid assistance, and construction phase services. The project intent was to implement traffic calming measures to enhance the safety of pedestrians and slow automobiles on Floranada Road, between Dixie Hwy. and Federal Hwy. Improvements included traffic roundabouts at the roadways intersections with NE 13th Ave. and NE 16th Ave. Two traffic chokers were installed at NE 15th Ave. and at NE 15th Terr.

6) **Project:** NE 34th Court Complete Streets Project
   i. **Organization Name**: City of Oakland Park
   ii. **Address:** 5399 N. Dixie Highway, Suite 3, Oakland Park, Florida 33334
   iii. **Project Date (start/end):** 2011 – 2014
   iv. **Status of Project:** Surveyed, designed, permitted, bid, constructed
   v. **Scope of Work:** CTA provided survey, complete streets design, civil engineering design, landscape architecture, permitting, bid assistance, construction phase services, and FDOT LAP funding assistance for the project. The streetscape and engineering services include full roadway reconstruction design, stormwater management, ICPR modeling and design, utility coordination and relocation, landscape and streetscape enhancement, and all associated jurisdictional permitting.

7) **Project:** Bluesten Park
   i. **Organization Name**: City of Hallandale Beach
   ii. **Address:** 630 NW 2nd Street, Hallandale Beach, Florida 33009
   iii. **Project Date (start/end):** 2015 - Present
   iv. **Status of Project:** Surveyed, and in design
   v. **Scope of Work:** Craven Thompson is providing landscape architectural, surveying and civil engineering services for the park project. The park will include a 42,000 sf recreation center with pool and splash play area, soccer/multi-use field, three (3) baseball fields, three (3) basketball courts, two (2) tennis courts, two (2) racquetball courts, boundless ADA inclusive playground, walking trails and pavilions; and full promenade streetscape design for surrounding streets for pedestrian friendly corridors and parallel parking.

8) **Project:** Powerline Road Median Beautification
   i. **Organization Name**: City of Oakland Park
   ii. **Address:** 5399 N. Dixie Highway, Suite 3, Oakland Park, Florida 33334
   iii. **Project Date (start/end):** 2014 - 2016
   iv. **Status of Project:** Survey, design, permitting and construction complete
   v. **Scope of Work:** Provided survey, and landscape architecture for landscape modifications to medians including tree relocation, new landscaping & irrigation while coordinating between the City and the Florida Department of Transportation (FDOT). CTA assisted the City with submitting for and obtaining the Florida Highway Beautification Council Grant which funded $100,000 of the construction costs.

9) **Project:** Landscape Plan Review Services
   i. **Organization Name**: City of Coconut Creek
   ii. **Address:** 4800 West Copans Road, Coconut Creek, Florida 33063
   iii. **Project Date (start/end):** 2012 – Present
   iv. **Status of Project:** Ongoing reviews
   v. **Scope of Work:** For the City of Coconut Creek, Craven Thompson provides landscape consulting services in regards to Landscape plan reviews. The services provided include full DRC reviews, administrative approval reviews, tree removal/ relocation reviews, and other additional landscape matters as they pertain to City landscape codes.

10) **Project:** Urban Art Park
   i. **Organization Name**: City of Oakland Park
   ii. **Address:** 5399 N. Dixie Highway, Oakland Park, Florida 33334
   iii. **Project Date (start/end):** 2012 - 2013
   iv. **Status of Project:** Surveyed , designed, permitted, and construction complete
   v. **Scope of Work:** Craven Thompson provided surveying, park planning, landscape architecture and civil engineering services and construction services. The park is designed to serve as a venue for art and sculpture installations, but also as a passive relaxing urban park space during times when no art is being displayed.

CATEGORY 4 - CIVIL

Projects where Proposer has Provided Professional Services

1) **Project:** North County Neighborhood Improvement Project - NE Quadrant (Bid Packages: 9, 10, & 11)
   i. **Organization Name**: Broward County Water & Wastewater Services
   ii. **Address:** 2555 W. Copans Road, Pompano Beach, Florida 33069
   iii. **Project Date (start/end):** 2007 – 2014
   iv. **Status of Project:** Designed, permitted, bid, constructed
   v. **Scope of Work: Civil** - CTA provided survey, civil engineering design, ICPR stormwater modeling, WaterCAD water system modeling, landscape architecture, permitting, bid assistance, and construction phase services for the project. The infrastructure improvements to the existing neighborhood included a major drainage basin study, roadway rehabilitation, new water distribution systems, new sanitary sewer collection/transmission systems, new storm sewer/drainage, new stormwater quality treatment, landscaping, signage, and sidewalk systems. The sanitary sewer collection system consisted of 69,550 linear feet - 8" gravity main, 807 linear feet - 10" gravity main, 129 linear feet - 12" gravity main, and 144 linear feet - 16" gravity main. The sanitary forcemain system consisted of 540 linear feet - 8" main, and 1,540 linear feet 12" main. CTA modeled, designed, permitted, and provided construction services for the construction of the water distribution system which included 35,626 linear feet - 6" watermain, 10,161 linear feet - 8" watermain, 841 linear feet - 12" watermain, 1,306 linear feet - 20" watermain, and 1,023 linear feet - 24" watermain. In addition, 22,065 linear feet of existing watermain was abandoned in-place and grouted, and the replacement of 405 services. The project also involved the installation of a reclaimed water distribution system consisting of 94,000 linear feet of 4" diameter, 4,900 linear feet of 12" diameter reclaimed distribution watermain; 5,000 linear feet of 16" diameter reclaimed distribution watermain 1,300 linear feet of 20" diameter main. Roads and sidewalks were either partially or fully reconstructed as a part of the project.

2) **Project:** Garden Acres Neighborhood Improvements
   i. **Organization Name**: City of Oakland Park
   ii. **Address:** 5399 N. Dixie Highway, Suite 3, Oakland Park, Florida 33334
   iii. **Project Date (start/end):** 2012 – 2014
   iv. **Status of Project:** Surveyed, designed, permitted, bid, constructed
   v. **Scope of Work: Civil** - CTA provided survey, analyzed the system using ICPR stormwater modeling software civil engineering design, landscape architecture, permitting, bid assistance, and construction phase services. The new drainage system consists of 4" deep roadway swales, drainage pipes and structures, exfiltration trenches and two controlled discharge points into an existing drainage system located within the NE 6th Avenue right-of-way. The roadway swales help with the storage and convey the runoff from the roadway and the house lots. The swales and exfiltration trenches handle the water quality volume generated by the roadway right-of-way area. The project also included major roadway, water and sanitary sewer improvements. The water improvements consisted of 5,591 linear feet of 6" diameter main, and 962 linear feet of 8" diameter main. The sanitary improvements consisted of 7,045 linear feet of 8"

diameter sewer, 218 linear feet of 4" diameter forcemain, and 1,044 linear feet of 6" diameter forcemain. Improvements included two lift stations.

3) **Project:** Miami Gardens Livable Neighborhoods Improvement Project, Vista Verde, Phases 1A & 1B,
   i. **Organization Name**: City of Miami Gardens
   ii. **Address:** 1050 N.W. 163rd Drive, Miami Gardens, FL 33169
   iii. **Project Date (start/end):** 2014 – 2015
   iv. **Status of Project:** Constructed
   v. **Scope of Work: Civil** - CTA provided survey, civil engineering design, permitting, bid assistance, and construction phase services. Vista Verde Phase 1A & 1B Improvement Project is approximately 25.30 Acres in area. The project consists of drainage improvements for the City of Miami Gardens. The project had no additional increases to the site impervious area and was designed to improve existing flooding conditions. Meeting water quality requirements were the benchmarks in establishing the level of service provided. CTA provided survey, civil engineering design, permitting, bid assistance, and construction phase services.

4) **Project:** Utility Analysis Zone (UAZ) 308
   i. **Organization Name**: Broward County Water & Wastewater Services
   ii. **Address:** 2555 W. Copans Road, Pompano Beach, Florida 33069
   iii. **Project Date (start/end):** 2008 – 2012
   iv. **Status of Project:** Designed, permitted, bid, constructed
   v. **Scope of Work: Civil** - CTA provided survey, WaterCAD water system modeling, civil engineering design, permitting, bid assistance, and construction phase services. The water distribution system including 18,281 linear feet - 6" main, and 575 linear feet – 8" main. The sanitary sewer collection system consisted of 19,253 linear feet - 8" gravity main. The sanitary forcemain system consisted of 1,215 linear feet - 6" main. This project required coordination with the City of Dania Beach and included a lift station located within Meli Park.

5) **Project:** Eastside Master Infrastructure Project, Phases 2 & 3
   i. **Organization Name**: Town of Davie
   ii. **Address:** 4700 Davie Road, Suite D, Davie, Florida 33314
   iii. **Project Date (start/end):** 2015 - Present
   iv. **Status of Project:** Study complete, designed, permitted, bid, & under construction
   v. **Scope of Work: Civil** - CTA provided a master study, stormwater modeling for water quality and attenuation, surveying, civil engineering and CEI services. The work consists of replacement of the existing infrastructure in the neighborhood. It includes several miles of roadway reconstruction with landscaping and sidewalks. The water distribution was designed and permitted by CTA, included 14,800 linear feet of 6" diameter main, 5,075 linear feet of 8" diameter main, and 5,140 linear feet of 12" diameter main. The sanitary improvements included 11,455 linear feet of 8" diameter pipe, 40 sanitary manholes and 2,945 linear feet of 16" diameter forcemain. The project also included 18,940 linear feet of storm sewer and the reconstruction of 5.2 miles of roadway.

6) **Project:** 10th Avenue North Sanitary Sewer Project, Phases 2 and 3
   i. **Organization Name**: City of Greenacres
   ii. **Address:** 5800 Melaleuca Lane, Greenacres, Florida 33463
   iii. **Project Date (start/end):** 2011 – 2015
   iv. **Status of Project:** Designed, permitted, bid, constructed
   v. **Scope of Work: Civil** - The 10th Avenue North Sanitary Sewer project is a 5 phase master planned gravity sanitary sewer project for the City of Greenacres performed in cooperation with the Palm Beach County Water Utility Department. The phases performed by CTA included phases 2, 3, 4 and 5. Palm Beach County Water Utility Department performed Phase 1 design. The project included design of 8" gravity sewer main installation within the 10th Avenue North Palm Beach County right-of-way and numerous City of Greenacres roadway right-of-ways. The total length of gravity main installed was approximately 6,200 linear feet. CTA provided civil engineering design, permitting and construction phase services for the project,

7) **Project:** Lake Worth LW 2020 Master Plan – Year 1 – Project 3 Implementation
   i. **Organization Name**: City of Lake Worth
   ii. **Address:** 1900 Second Avenue North, Lake Worth, FL 33461
   iii. **Project Date (start/end):** 2013 – Present
   iv. **Status of Project:** Surveyed, designed, and permitted
   v. **Scope of Work: Civil** - CTA provided survey, civil engineering design, and permitting, N F Street from 5th Avenue N to 10th Avenue N involved the construction of both storm sewer and watermain. Flood staging did not meet the minimum City criteria for the 5 year, 24 hour event. Therefore, reconstruction of the storm sewer was required and water quantity attenuation with exfiltration trench was implemented. To the north we connected a 12-inch diameter main to the existing 12-inch diameter stub extending south from 10th Avenue N within the road right-of-way and to the south tie into the 8-inch diameter main running east-west along 5th Avenue N. The only existing north-south watermains were 6-inch diameter cast iron mains located in both alleyways immediately east and west of N F Street. The meters were relocated within the road right-of-way and two new fire hydrants were constructed with this project. No pavement was identified with a PCI at or below 55 and therefore road reconstruction was necessary; however, utility trenching necessitated pavement replacement in trench areas and asphalt overlay.

8) **Project:** Hallandale Beach City-Wide Basis of Design Review (BODR)
   i. **Organization Name**: City of Hallandale Beach
   ii. **Address:** 630 NE 2nd Street, Hallandale Beach, Florida 33009
   iii. **Project Date (start/end):** 2014 – 2017
   iv. **Status of Project:** Report and model complete
   v. **Scope of Work: Civil** - Craven Thompson completed an infrastructure master plan for the City. This included surveying, civil engineering, and landscape architecture. This includes City-wide master planning for the 2,800 acres including water, wastewater, stormwater/drainage, complete streets, local roads, sidewalk, landscaping and lighting. A full storm water master drainage plan was performed by CTA in conjunction with this project. CTA is developing a Capital Improvement Plan and schedule.

9) **Project:** 2" Watermain Replacement Program - Phase 2
   i. **Organization Name:** City of Lake Worth
   ii. **Address:** 1749 3rd Avenue South, Lake Worth, Florida 33460
   iii. **Project Date (start/end):** 2015 – Estimated 2017
   iv. **Status of Project:** Surveyed , designed, permitted, under construction
   v. **Scope of Work: Civil** - The City developed a program for the replacement of all 2" diameter watermains throughout the City. Phase 2 consists of: 11,859 linear feet of 4" diameter main, 4,902 linear feet of 6" diameter main, 509 water services, 16 fire hydrants, 78 gate valves, and the restoration of the right-of-way including 27,235 square yards of roadway and curb & gutter and sidewalk. The City sought and secured a FDEP Drinking Water State Revolving Fund loan for the project. Craven Thompson was retained by the City to provide survey, design, permitting, DWSRF loan assistance and construction services for Phases 2 – 6 of the project.

10) **Project:** Utility Analysis Zone (UAZ) 124
   i. **Organization Name:** Broward County Water & Wastewater Services
   ii. **Address:** 2555 W. Copans Road, Pompano Beach, Florida 33069
   iii. **Project Date (start/end):** 2007 – 2012
   iv. **Status of Project:** Designed, permitted, bid, constructed
   v. **Scope of Work:** CTA provided survey, WaterCAD water system modeling, civil engineering design, permitting, bid assistance, and construction phase services. The sanitary sewer collection system consisting of 25,446 linear feet - 8" gravity main, 302 linear feet - 10" gravity main, 2,003 linear feet - 12" gravity main, and 46 linear feet - 16" gravity main. Sanitary forcemain consisted of 2,350 linear feet - 8" main, and 3,790 linear feet 12" main. Water distribution included 28,810 linear feet - 6" main, 4,440 linear feet - 8" main and 5,380 linear feet – 10" main.

CATEGORY 7 - TRANSPORTATION

Projects where Proposer has Provided Professional Services

1) **Project:** NE 191st Street, NE 188th Street, NE 185th Street, and NE 31st Avenue Milling & Resurfacing Project
   i. **Organization Name:** City of Aventura
   ii. **Address:** 19200 W. Country Club Drive, Aventura, Florida 33180
   iii. **Project Date (start/end):** 2010 – 2012
   iv. **Status of Project:** Surveyed, designed, permitted, bid, constructed
   v. **Scope of Work: Transportation** - CTA provided surveying, civil engineering design, permitting and construction phase services for the project. The project included the milling and resurfacing of NE 191st Street for 700 feet from east end of turn lane at Biscayne Boulevard to the point of curvature of NE 29th Avenue; the milling and resurfacing of NE 188th Street for 2,600 feet from NE 29th Avenue to the end of the roadway; and the milling and resurfacing of NE 185th Street & NE 31st Avenue for 2,300 feet from NE 29th Avenue to the end of the roadway.

2) **Project:** NE 38th Street Complete Streets Project
   i. **Organization Name:** City of Oakland Park
   ii. **Address:** 5399 N. Dixie Highway, Suite 3, Oakland Park, Florida 33334
   iii. **Project Date (start/end):** 2011 – 2015
   iv. **Status of Project:** Surveyed, designed, permitted, bid, constructed
   v. **Scope of Work: Transportation** - CTA provided survey, civil engineering design, landscape architecture, permitting, bid assistance, construction phase services, and FDOT LAP funding assistance for the project. The complete streets project included landscape and streetscape enhancement, a complete storm sewer system, a roundabout to replace an existing traffic signal, traffic calming devices, utility coordination and relocation, and full roadway reconstruction. The main Project objective was to discourage truck traffic and redirect cut-through traffic from NE 38th Street to alternate routes between Andrews Avenue and NE 11th Avenue.

3) **Project:** N M Street, N K Street, N F Street, N J Street, 11th Avenue N, 14th Avenue N, and 15th Avenue N - LW 2020 - Year 1 Improvements
   i. **Organization Name:** City of Lake Worth
   ii. **Address:** 1749 3rd Avenue South, Lake Worth, Florida 33460
   iii. **Project Date (start/end):** 2013 - 2016
   iv. **Status of Project:** Surveyed, designed and permitted.
   v. **Scope of Work: Transportation** - CTA is providing survey, civil engineering design, permitting, bid assistance, and construction phase services for the project. N M Street, N K Street, N F Street, N J Street, 11th Avenue N, 14th Avenue N, and 15th Avenue N - Projects 1, 3, 5, 6 & 8 of Year 1 of the Lake Worth 2020 Year 1 Improvements. The projects include the rehabilitation of roadway and right-of-way infrastructure including roads, alleys, curb, sidewalk, hardscape, drainage, and potable water.

4) **Project:** Floranada Road Traffic Calming Improvements
   i. **Organization Name**: City of Oakland Park
   ii. **Address:** 5399 N. Dixie Highway, Suite 3, Oakland Park, Florida 33334
   iii. **Project Date (start/end):** 2011 – 2013
   iv. **Status of Project:** Surveyed, designed, permitted, bid, constructed
   v. **Scope of Work: Transportation** - CTA provided survey, civil engineering design, landscape architecture, traffic calming, permitting, bid assistance, and construction phase services for the project. The City of Oakland Park was seeking to implement traffic calming measures to enhance the safety of pedestrians and automobiles on Floranada Road, between Dixie Highway and Federal Highway. Improvements surveyed, designed and permitted by CTA included traffic roundabouts at the roadways intersections with NE 13th Avenue and NE 16th Avenue. Two traffic chokers were installed at NE 15th Avenue and at NE 15th Terrace.

5) **Project:** NE 34th Court Complete Streets Project
   i. **Organization Name**: City of Oakland Park
   ii. **Address:** 5399 N. Dixie Highway, Suite 3, Oakland Park, Florida 33334
   iii. **Project Date (start/end):** 2011 – 2015
   iv. **Status of Project:** Designed, permitted, bid, constructed
   v. **Scope of Work: Transportation** - CTA provided survey, complete streets design, civil engineering design, landscape architecture, permitting, bid assistance, construction phase services, and FDOT LAP funding assistance for the project. The streetscape and engineering services include full roadway reconstruction design, stormwater management, ICPR modeling and design, utility coordination and relocation, landscape and streetscape enhancement, and all associated jurisdictional permitting.

6) **Project:** 6th Avenue South between Federal & Dixie Highway Roadway and Streetscape Improvements
   i. **Organization Name**: City of Lake Worth
   ii. **Address:** 1749 3rd Avenue South, Lake Worth, Florida 33460
   iii. **Project Date (start/end):** 2016 – 2017
   iv. **Status of Project:** Surveyed, designed, permitted and constructed
   v. **Scope of Work: Transportation** - CTA provided survey, civil engineering design, permitting, bid assistance, and construction phase services for the project. The project limits are 6th Avenue South – Federal Highway to Dixie Highway. The scope of work included mill existing pavement 1" +/- and reconstitute existing Type F curb, selective removal/replacement of sidewalk and curbing, striping, ADA ramps, and traffic calming features that will add aesthetic value.

7) **Project:** NW 21st Avenue Improvements
   i. **Organization Name**: Broward County Highway Construction and Engineering Division
   ii. **Address:** One University Drive, Suite 300B, Plantation, Florida 33324
   iii. **Project Date (start/end):** 2008 – 2012
   iv. **Status of Project:** Surveyed, designed, permitted bid and constructed.
   v. **Scope of Work: Transportation** - CTA provided survey, civil engineering design, landscape architecture, permitting, bid assistance, and construction phase services for the project. NW 21st Avenue Project consisted of roadway, a regional outfall, storm

sewer, signalization and landscaping improvements to an existing two lane roadway through heavy commercial and residential area from north of Oakland Park Boulevard to NW 19th Street. Roadway was re-aligned to provide for an additional landscaped buffer area between the commercial and residential property. This regional outfall serves approximately 400 acres of existing residential developments in Fort Lauderdale and Oakland Park, Oakland Park Boulevard drainage relief and NW 21st Avenue. The outfall was jacked under the CSX Railroad into the Interstate 95 Right-of-Way then north to the C-13 Canal

SUB-CONSULTANT – McMAHON & ASSOCIATES

8) **Project:** Traffic Engineering Consulting
   i. **Organization Name:** City of Palm Beach Gardens
   ii. **Address:** 10500 N. Military Trail
   iii. **Project Date (start/end):** November 2007 - Present
   iv. **Status of Project:** Varies
   v. **Scope of Work:** McMahon has been the Transportation Consultant to the City of Palm Beach Gardens since 2005. In this capacity, we have reviewed site development plans, prepared and reviewed traffic impact statements, developed comprehensive Citywide transportation plans, prepared a Citywide transit study, performed intersection operational and signal warrant analysis, prepared analysis for EAR-based amendments to the City Comprehensive Plan, provided expert testimony, coordinated and interacted with various government agencies on behalf of the City of Palm Beach Gardens. In addition to transportation planning and traffic engineering tasks, McMahon has completed roadway design tasks such as signing plans, signal design, access/median modifications and provided plans review services. Work included attending City Council meetings and participating in public involvement.

9) **Project:** Traffic Engineer - Continuing Consultant Services
   i. **Organization Name:** City of Lauderhill
   ii. **Address:** 3800 Inverrary Boulevard, Suite 306
   Lauderhill, Florida 33319
   iii. **Project Date (start/end):** June 2008 to Present
   iv. **Status of Project:** Varies
   v. **Scope of Work:** McMahon has been the Traffic Engineer for the City of Lauderhill since 2000 and has provided a number of transportation engineering and planning services including: reviewing traffic impact studies for land development projects, preparing traffic studies, including several signal warrant analyses. As part of our current assignment, we also review and perform operational analyses for signalized and un-signalized locations and traffic signal/corridor timing and analyses. An interchange analysis was performed as a task to evaluate a proposed interchange at Oakland Park Boulevard with the Florida's Turnpike. A number of tasks required the preparation of design plans and construction drawings for roadway improvements, such as intersection improvements, roundabout design and bus stop design. McMahon has provided design services and construction management services, including inspection

services for two roundabouts that McMahon designed for the City along NW 39th Avenue.

10) **Project:** City Traffic Engineer / Consultant
    i. **Organization Name:** City of Tamarac
    ii. **Address:** 6011 Nob Hill Road, Second Floor
    iii. **Project Date (start/end):** February 2011 to Present
    iv. **Status of Project:** Varies
    v. **Scope of Work:** As the City Traffic Engineer/Consultant, McMahon has been responsible for performing various consulting services related to traffic engineering and transportation planning. These services included intersection/roadway capacity analysis, data collection, traffic calming elements, multi-modal transportation planning, signal warrant analyses, as well as other requested studies. McMahon prepared the Woodlands Boulevard and Mainland Drive Bike Lane Feasibility Studies, which included a feasibility analysis to support bicycle lane implementation. McMahon prepared the evaluation of one-way street conversion, including presentation materials for meetings with the affected Homeowners associations. McMahon also prepared preliminary Engineer's Cost Estimate to obtain FHWA funding for two pedestrian crossing locations of Pine Island Road with post mounted and mast arm mounted rectangular rapid flashing beacons.

CATEGORY 9 - WATER RESOURCES / STORMWATER MANAGEMENT

Projects where Proposer has Provided Professional Services

1) **Project:** Original Section Drainage Study & Implementation
   i. **Organization Name**: City of Greenacres
   ii. **Address:** 5800 Melaleuca Lane, Greenacres, Florida 33463
   iii. **Project Date (start/end):** 2015 - 2016
   iv. **Status of Project:** Surveyed, study completed, recommendations being implemented
   v. **Scope of Work: Water Resources/Stormwater** - CTA provided survey, stormwater modeling, and a stormwater engineering study. Original Section is a 137 acre existing multi-use neighborhood initially developed in the early 1900's located in the City of Greenacres. Some of the building floor elevations in this area are very low and close to the road elevation. We analyzed the drainage within this area to determine potential improvements and restoration required within the ditches, the pipe connections to the LWDD canals, and the roadway drainage systems that might improve flood stages through the development of an ICPR computer model. Typical proposed drainage ditch sections were developed with LWDD for the canal design. The report was completed with capital improvement recommendations. Phase 1 has been designed and permitted.

2) **Project:** Western C-11 Facilities Report Update and Basin Study – CBWCD - Davie, Cooper City, Southwest Ranches, Florida
   i. **Organization Name**: Central Broward Water Control District
   ii. **Address:** 8020 Stirling Road, Hollywood, Florida 33024
   iii. **Project Date (start/end):** 2014 - 2016
   iv. **Status of Project:** Survey and study completed
   v. **Scope of Work: Water Resources/Stormwater** - CTA provided survey, stormwater modeling, and a stormwater engineering study. The study area consisted of the CBWCD Western C-11 Basin which is approximately 22.9 square miles and roughly located south of I-595, north of Sheridan Street, west of Nob Hill Road and east of I-75. A PCSWMM computer model incorporated the existing facilities and survey information to reflect the most representative depiction of the secondary drainage system as possible. The existing developments and undeveloped lands were incorporated into the model and changes in development and drainage patterns since 2002 were identified and evaluated. Furthermore, a model of future built-out conditions was performed by assuming all undeveloped lands to be developed in accordance with the Future Land Use Map. The hydrologic analysis for the 10 year-1 day, 25 year-3 day and 100 year-3 day storm events was performed and evaluated to identify if and where the following District criteria is not met:

      - Finished flood elevations must be above the 100 year-3 day flood elevation.
      - Crown of roadways must be above the 10 year-1 day flood elevation.

      Capital Improvement recommendations were provided and incorporated into the model to ensure District Criteria is met for the current and future built-out conditions. Opinions of Probable Cost were provided as well as a Capital Improvement Plan with implementation schedule.

3) **Project:** Hallandale Beach City-Wide Stormwater Master Plan
   i. **Organization Name**: City of Hallandale Beach
   ii. **Address:** 630 NE 2nd Street, Hallandale Beach, Florida 33009
   iii. **Project Date (start/end):** 2015 - 2016
   iv. **Status of Project:** Survey and study completed
   v. **Scope of Work: Water Resources/Stormwater** - CTA provided survey, stormwater modeling, and a stormwater engineering study in conjunction with the Basis of Design Review (BODR). The drainage master plan study area encompassed the entire City of Hallandale Beach which is approximately 4.4 square miles or 2,816 acres. The hydrologic simulations utilized the Interconnected Pond Routing (ICPR) computer modeling software, Version 3.10 (Streamline Technology – was the most advanced version of the software at the time). CTA determined alternative methods of achieving protection for the chosen design storms. We assessed solutions and provided cost estimates for each alternative. We also identified optimum phasing within the City relative to cost and level of service in the development of the Capital Improvements for stormwater.

4) **Project:** Aventura Comprehensive Stormwater Management Plan
   i. **Organization Name**: City of Aventura
   ii. **Address:** 19200 W. Country Club Drive, Aventura, Florida 33180
   iii. **Project Date (start/end):** 2015 – Present
   iv. **Status of Project:** Surveyed, study underway
   v. **Scope of Work: Water Resources/Stormwater** – CTA is responsible for survey, stormwater modeling, a stormwater engineering report, and an operations and maintenance manual. CTA developed a condition assessment of existing stormwater structures. CTA subcontracted aerial LiDAR services for aerial photogrammetry services. This includes updated LIDAR data and high resolution aerial photography. CTA is creating an ICPR Software model of the existing stormwater system including the integration of previous models performed for the area. A stormwater capital improvement plan is being created based on the results of the model. CTA is developing a comprehensive *Operations and Maintenance Manual* for the City's stormwater system. CTA also prepares the City's yearly NPDES report, attends audits, and performs various other NPDES functions.

5) **Project:** Pompano Place/Andrews Avenue Stormwater Basin Study
   i. **Organization Name**: City of Pompano Beach
   ii. **Address:** 1201 NE 5th Avenue, Pompano Beach, Florida 33060
   iii. **Project Date (start/end):** 2013
   iv. **Status of Project:** Study completed
   v. **Scope of Work: Water Resources/Stormwater** – CTA provided stormwater modeling and a stormwater report. This basin was deemed the City's most critical area of need for drainage improvements as determined through the 2013 Stormwater Master Plan. Using PCSWMM computer modeling software (the commercial version of US EPA SWMM5). CTA reviewed Master Plan assumptions and input data, refined design parameters and developed additional alternatives to lower flood elevations during the 5 year 24 hour, 10 year 4 hour, and 100 year 72 hour storm events.

6) **Project:** Eastern C-11 Facilities Report Update and Basin Study - CBWCD
   i. **Organization Name:** City Central Broward Water Control District
   ii. **Address:** 8020 Stirling Road, Hollywood, Florida 33024
   iii. **Project Date (start/end):** 2015 - Present
   iv. **Status of Project:** Survey complete and study is underway.
   v. **Scope of Work: Water Resources/Stormwater** - CTA is providing survey, stormwater modeling, and a stormwater report. The study area comprises the eastern portion of the CBWCD, an area of approximately 21 square miles located east of the S-13A structure and drained by the Eastern C-11 Canal. Craven Thompson's evaluation includes the combined effects of existing and proposed development on the drainage systems throughout each sub-basin based upon the existing land use plans for the various municipalities located with the District's jurisdiction. The study is limited to basin studies and culvert connections for the secondary canal network operated and maintained by the CBWCD.

7) **Project:** Fort Lauderdale Stormwater Master Plan Implementation – River Oaks and Durrs Basins
   i. **Organization Name:** City of Fort Lauderdale
   ii. **Address:**100 N. Andrews Avenue, Fort Lauderdale, Florida 33301
   iii. **Project Date (start/end):** 2016 – Present
   iv. **Status of Project:** Survey complete, design underway.
   v. **Scope of Work: Water Resources/Stormwater** - CTA is providing survey, civil engineering, permitting and construction services. As a sub-consultant to Hazen and Sawyer, CTA is providing the construction documents and final design for the River Oaks and Durrs basins. The design is based on the Stormwater Master Plan recommendations by Hazen and Sawyer.

SUB-CONSULTANT – HAZEN AND SAWYER, P.C.

8) **Project: Peele Dixie 12-mgd Membrane Plant, Fort Lauderdale, Florida**
   i. **Organization Name**: City of Fort Lauderdale
   ii. **Address:** 949 Northwest 38th Street, Oakland Park, Florida 33309
   iii. **Project Date (start/end):** March 2002 – August 2010
   iv. **Status of Project:** Designed, permitted, bid, and constructed
   v. **Scope of Work:** Hazen was selected to provide engineering services for conversion of the Peele-Dixie lime softening plant to a membrane facility. The Peele-Dixie Membrane Plant project included the testing, predesign, design, and construction oversight services for a 15-mgd raw water wellfield, a 12-mgd finished water membrane plant, and a 5.8-mgd deep injection well for concentrate disposal.

   In recognition of the unpredictable nature of the future water supply for South Florida, Hazen and Fort Lauderdale configured the membrane facility with flexibility to incorporate either additional nanofiltration skids or reverse osmosis skids at a future date. The project includes the following key elements:

   - Membrane Building (process /administrative)
   - Chemical Building
   - Clearwell Structure/Post-Treatment Facility
   - Generator Building
   - Ground Storage Tanks
   - High Service Pump Station
   - Concentrate Disposal System

   The Peele-Dixie Membrane Plant scope of work included raw water evaluation and small-scale pilot testing, technical memorandum development (preliminary design reports), process engineering, mechanical engineering, civil engineering, structural engineering, electrical engineering, instrumentation engineering, architectural design, and building services (HVAC and plumbing) design. Hazen provided membrane start-up specialists, both process experts and key instrumentation personnel, specifically to facilitate the contractor's startup of the membrane plant.

9) **Project: 3C Water Tank and Pump Station**
   i. **Organization Name**: Broward County
   ii. **Address:** 2555 W. Copans Road, Pompano Beach, Florida 33069
   iii. **Project Date (start/end):** December 2008 – April 2012
   iv. Status of Project: Designed, permitted, bid, and constructed
   v. **Scope of Work:** Highly complex sequence of construction required to maintain the existing pump station in-service while the new pumping station was constructed. This project includes the following major elements:
      - 1.5-million-gallon prestressed concrete ground storage tank
      - Three horizontal split case pumps with a capacity of 1,100 gpm and variable frequency drives
      - 12 percent sodium hypochlorite storage and feed system
      - Anhydrous ammonia storage and feed system
      - 300-kW backup power diesel-engine generator

- Demolition of existing water treatment plant facilities
- Complex sequence of construction

The facility was designed to be constructed in phases to maintain service and allow the existing facilities to remain in operation while the new facilities were constructed on a small, crowded site. The initial phase included construction of the new HSP building and dedicated fill line. Next, the new HSPs went into service as in-line booster pumps, while the remainder of the existing facilities were demolished to accommodate the storage tank as the tank was constructed. The HSP station became fully operational pumping out of the storage tank in late 2012. As the prime firm, Hazen provided design, permitting, bidding, and construction management services. Hazen also served as Engineer-of-Record for civil, mechanical, structural, and controls design.

10) **Project: 14.5 mgd Nanofiltration Facility (Expandable to 17 mgd)**

i. **Organization Name**: Town of Jupiter
ii. **Address:** 210 Military Trail, Jupiter, Florida 33458
iii. **Project Date (start/end):** January 2006 – October 2012
iv. **Status of Project:** Designed, permitted, bid, and constructed
v. **Scope of Work:** The Town of Jupiter operated a water treatment plant with three independent treatment processes: lime softening, ion exchange, and reverse osmosis (RO). The Town planned to add a nanofiltration (NF) facility to produce potable water from the surficial aquifer. The NF treatment will continue ongoing product water quality improvement and ultimately allow retirement of a portion of the lime softening treatment plant. The Town requested the design to include the center port arrangement, an innovative technology not previously used in the U.S. Hazen provided design, permitting, and pilot testing oversight services for the 14.5-mgd Nanofiltration Facility (expandable to 17 mgd). Predesign activities for the project included preparation of 22 separate technical memoranda (TM) and review of the Town's pilot testing data. These documents were developed to identify design parameters for the new NF facility. The TMs were developed with Town input and continuous review concurrently with the Town's pilot testing of nanofiltration elements:

- Project Implementation Plan
- Site Development Requirements
- Stormwater Management
- Building Criteria
- Ancillary Systems
- Finished Water Quality Goals
- Product Blending Configuration
- Piping System Design Criteria
- Nanofiltration Treatment Plant Facility Control System
- Nanofiltration Pretreatment
- Membrane Array Recovery and Flux
- Raw Water and Feed Pumping Configuration
- Permeate Degasification and Odor Control
- Nanofiltration Concentrate Treatment and Hydraulics
- Chemical Systems
- Major Process Pumps
- Electrical Distribution and Standby Power Generation
- Nanofiltration Treatment and Pretreatment Building Layouts
- Preliminary Site Plan
- Preliminary Process Flow Diagram
- Preliminary Cost Estimate
- Raw Water Main Hydraulics

The design included preparation of contract documents for construction of the new nanofiltration facility ancillary facilities. This bid package included detailed design drawings and technical specifications which incorporated the following:

- Pretreatment facilities, including pressure media filters and booster pumps
- Raw water booster pump station and backwash waste pump station
- Cartridge filtration and membrane feed systems
- Nanofiltration skids
- Chemical storage and feed facilities
- Degasifiers and odor control system
- Clearwell and transfer pumps
- Nanofiltration building

The predesign technical memoranda were completed in January 2005. Design was completed in January 2007, with construction and start-up complete by October 2010. Total construction costs for the facility were $37 million. The center feed design has proven an annual 30% savings in electrical costs for the facility.

D. Organizational Structure

i. Proposer's Team by Discipline and Number of Personnel within Discipline

Craven Thompson & Associates, Inc. has Eighty (80) employees:

Administrative: Ten (10) Administrative Personnel

Discipline - Civil Engineering: Twenty-six (26) Civil Engineers, two (2) Construction Managers, two (2) AutoCAD Technicians, five (5) Construction Inspectors;

Discipline - Landscape Architecture & Planning: Four (4) Landscape Architects, one (1) Landscape Designer, one (1) Planner

Discipline – Surveying & G.I.S.: Twenty-nine (29) Surveyors & GIS Specialists

Office from which Services will be performed:

Craven Thompson & Associates, Inc.
Satellite Office*
4723 W. Atlantic Avenue
Delray Beach, Florida 33445

ii. Sub-consultants

- **Hazen and Sawyer, Inc.**
  4000 Hollywood Boulevard, Suite 750N
  Hollywood, Florida 33021

  Discipline of Responsibility: Water Resources Stormwater (WTP)

  Hazen and Sawyer's business practice has focused exclusively on water and wastewater engineering. Known for superior technical work, Hazen and Sawyer remains the top firm in the nation focused entirely on water, wastewater, and stormwater. Assignments range in scope from water resource master planning for small communities to water quality assessments and resource economic studies to vast engineering undertakings that include preliminary studies, final design, and construction management of multi-billion dollar projects for large urban centers.

- **McMahon & Associates, Inc.**
  2090 Palm Beach Lakes Blvd #400
  West Palm Beach, Florida 33409

  Discipline of Responsibility: Traffic / Traffic Signals

  Since 1976, McMahon Associates has specialized in delivering innovative engineering, planning, design, and technology transportation solutions to their clients. They provide services for transportation projects from planning, to design and permitting, through construction. Services include but are not limited to: Traffic Signal Studies & Design; Traffic Signal Coordination; Pedestrian Crossing Studies; Corridor & Intersection Optimization; Closed Loop Signal System Design & Operation; and more.

- **Aerial Cartographics of America, Inc.**
  423 S. Keller Road, Suite 300
  Orlando, Florida 32810

  Discipline of Responsibility: Aerial LiDAR

  Aerial Cartographics of America (ACA) provides Precision Mapping for a 3D World™. ACA is experienced in LiDAR, Mobile LiDAR, Digital Imagery and HD Video acquisition and processing, and is uniquely qualified in high accuracy, simultaneous data collection using multiple sensors from fixed wing aircraft, helicopter or ground-based vehicle. We operate our sensors and aircraft from our hangar in Florida. ACA services include:

  - Mobile LiDAR Acquisition
  - LAMP/MAMP Acquisition
  - Fixed Wing Aerial Imagery & LiDAR Acquisition
  - UAV Data Acquisition
  - Helicopter Imagery & LiDAR Acquisition
  - HD Video and Oblique Imagery Acquisition
  - Construction Inspection Documentation
  - 3D DEM, DTM & Contour Generation
  - 3D BIM Scanning and Modeling
  - 3D/2D Feature Extraction
  - 3D As-Builts
  - 3D/2D Asset Management
  - 3D Hydro Flattening
  - 3D PLSCADD Modeling
  - 3D Vegetation Modeling
  - Data Conversion & Merging
  - Digital Ortho Imagery: B&W, Color & Color Infrared
  - Imagery Printing, Wall Murals, and Mounting
  - Historical Imagery Research and Reproduction
  - Sea Grass Imagery and Mapping
  - Coastal Vegetation Mapping
  - GIS Planimetric Updates
  - Impervious Surface Mapping
  - Thermal Infrared Detection & Mapping
  - Surveying
  - Field Verification
  - Emergency Rapid Response Services
  - Volume Calculations

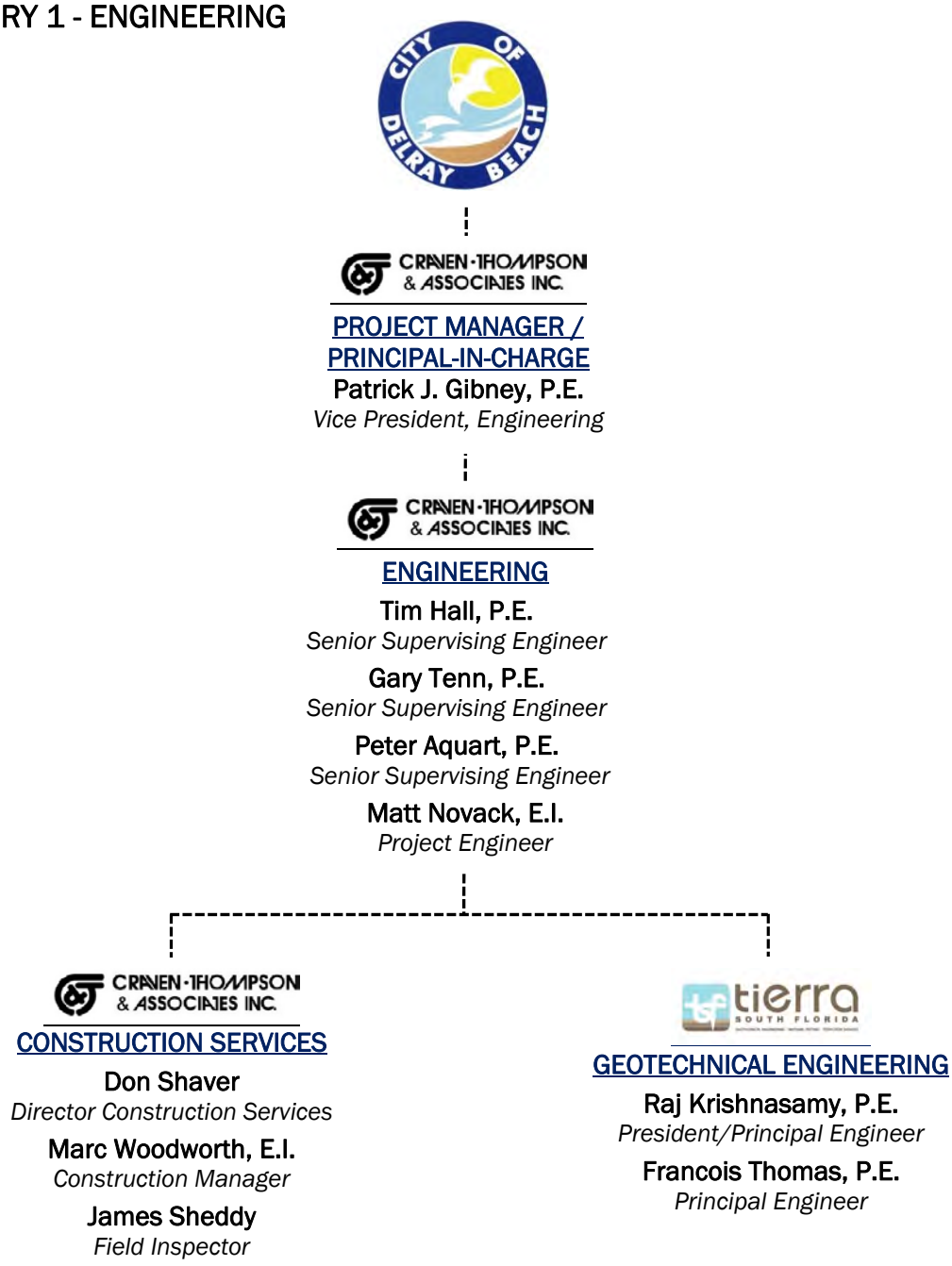
- **Tierra South Florida, Inc.**
  2765 Vista Parkway, Suite 10
  West Palm Beach, Florida 33411

  Discipline of Responsibility: Geotechnical & Testing Services

  Tierra South Florida, Inc. (TSF) is a full service consulting geotechnical engineering, construction materials testing, and inspections firm with capabilities to provide test borings, engineering analyses and reports, AutoCAD and Micro-station plan sheets, laboratory soils testing, and construction materials testing. TSF was incorporated in the State of Florida in 2003. TSF is a certified Small/Minority Business (S/MBE) with Palm Beach County. TSF is also a certified Disadvantaged Business Enterprise (DBE) and Small Business Enterprise (SBE) with the Florida Department of Transportation and a certified Minority Business Enterprise (MBE) with the State of Florida's Office of Supplier Diversity. Their main office is located in West Palm Beach, Florida with operational satellite offices in Hialeah Gardens and Fort Lauderdale, Florida. Their staff includes principal engineers with more than 25 years of experience in geotechnical, construction, laboratory and field materials testing and inspection services.

iii. Organizational Diagram

CATEGORY 1 - ENGINEERING



Organizational Diagram

CATEGORY 2 - SURVEYING AND MAPPING

CRAVEN·THOMPSON & ASSOCIATES INC.

PROJECT MANAGER / PRINCIPAL-IN-CHARGE

Patrick J. Gibney, P.E.
Vice President, Engineering

CRAVEN·THOMPSON & ASSOCIATES INC.

SURVEYING & MAPPING

Richard Pryce, P.S.M.
Vice President, Surveying & GIS

Nicholas Messina, P.S.M.
Surveyor

Ray Young, P.S.M.
Surveyor

Doug Davie, P.S.M.
Director, Surveying

ACA Aerial Cartographics of America, Inc.

AERIAL CARTOGRAPHICS

Matthew LaLuzerne, P.S.M.
Vice President

Iarelis Hall, P.S.M.
Assistant Vice President

Organizational Diagram

CATEGORY 3 - LANDSCAPING ARCHITECTURAL DESIGN SERVICES

CRAVEN·THOMPSON & ASSOCIATES INC.

PROJECT MANAGER / PRINCIPAL-IN-CHARGE

Patrick J. Gibney, P.E.
Vice President, Engineering

CRAVEN·THOMPSON & ASSOCIATES INC.

LANDSCAPE ARCHITECTURE

Douglas Schultz, R.L.A., LEED AP
Senior Landscape Architect

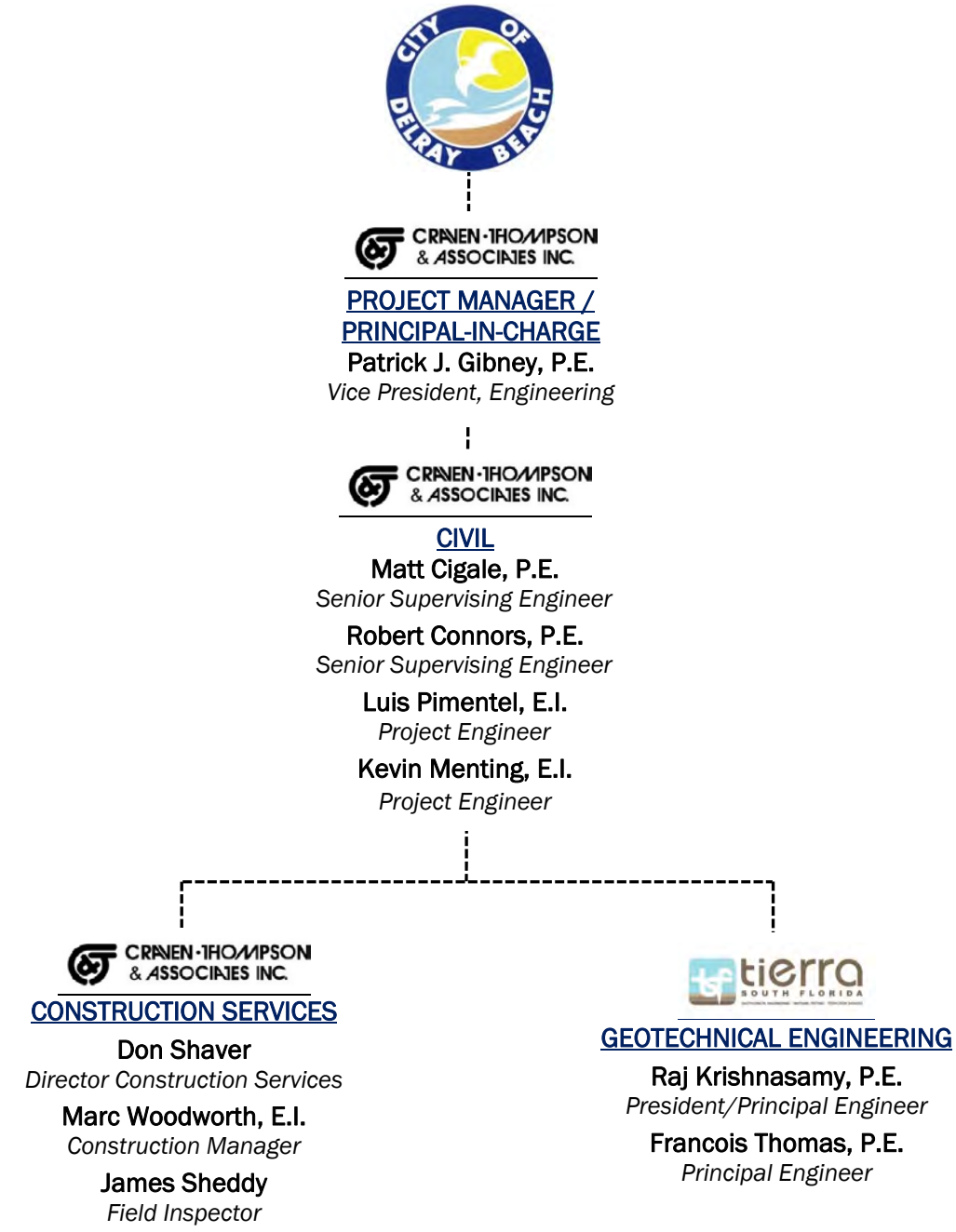
Joseph Handley, R.L.A.
Vice President, Planning & Landscape Architecture

Scott Peavler, R.L.A.
Landscape Architect

Caleb Rothenberger, R.L.A., LEED AP
Landscape Architect

Organizational Diagram

CATEGORY 4 - CIVIL



Organizational Diagram

CATEGORY 7 - TRANSPORTATION

Organizational Diagram

CATEGORY 9 - WATER RESOURCES / STORMWATER MANAGEMENT

CRAVEN-THOMPSON & ASSOCIATES INC.

PROJECT MANAGER / PRINCIPAL-IN-CHARGE
Patrick J. Gibney, P.E.
Vice President, Engineering

CRAVEN-THOMPSON & ASSOCIATES INC.

WATER RESOURCES / STORMWATER
Patrick Gibney, P.E.
Vice President, Engineering
Adolfo Gonzalez, P.E., LEED AP
Senior Supervising Engineer
Zach Gamble, P.E.
Senior Engineer

CRAVEN-THOMPSON & ASSOCIATES INC.

CONSTRUCTION SERVICES
Don Shaver
Director Construction Services
Marc Woodworth, E.I.
Construction Manager
James Sheddy
Field Inspector

Hazen

WATER RESOURCES / STORMWATER (WTP)
Jennifer McMahon, P.E.
Senior Associate
Janeen Wietgrefe, P.E.
Associate Vice President
J. Philip Cooke, P.E.
Senior Associate
George Brown, P.E.
Senior Associate

tierra SOUTH FLORIDA

GEOTECHNICAL ENGINEERING
Raj Krishnasamy, P.E.
President/Principal Engineer
Francois Thomas, P.E.
Principal Engineer

iv. Responsibilities and Contractual Relationships of Personnel

Craven Thompson & Associates (CTA) will be the Prime consultant for this contract. The overall Project Manager for this contract is Patrick Gibney, P.E., Vice President, Engineering. The project managers for each discipline will be as follows:

- **Category 1 - Engineering** – Timothy Hall, P.E. (CTA)
- **Category 2 - Surveying and Mapping** – Richard D. Pryce, P.S.M. (CTA)

  Aerial Cartographics of America will be responsible for Aerial and Mobile LiDAR.
- **Category 3 - Landscape Architectural Design** – Douglas Schultz, R.L.A., LEED AP (CTA)
- **Category 4 - Civil** - Matthew Cigale, P.E. (CTA)

  CTA will be responsible for all Civil including but not limited to site design, drainage, water, sewer, and other right-of-way improvements.
- **Category 7 - Transportation** – Patrick Gibney, P.E. (CTA)

  CTA will be responsible for roadway, alley, complete streets, and streetscape.

  McMahon & Associates' contractual relationship with CTA is that of a sub-consultant for traffic/transportation studies and traffic signal design.
- **Category 9 - Water Resources/Stormwater** – Patrick Gibney, P.E. (CTA)

  CTA will be responsible for Stormwater.

  Hazen and Sawyer's contractual relationship with CTA is that of a sub-consultant for Water Treatment Plant (WTP) design and studies.

  Tierra South Florida's contractual relationship with CTA is that of a sub-consultant for geotechnical services and testing.

v. Narrative of Workload

CTA is currently under contract for a number of projects with multiple clients. In 2016, CTA was at a company-wide utilization rate of 66%. The Engineering Department's rate was 67% utilization for 2016, the Survey Department 63%, and the landscape architectural 70%. The business plan target composite utilization rate for the company was 75%. The targeted rate accounts for holiday, vacation, marketing, administration, illness, and other non-billable time. CTA employs a very small yet efficient number of administration personnel which contributes significantly to reducing our costs. Our projected workload carries above this level for the next six to twelve months. We should be at a company-wide utilization of approximately 68% - 69% at that time. After that time (one year), assuming no new major projects are initiated, we should remain at roughly 68% - 69% utilization. Some work will shift from survey to design, and other work would move from design to construction.

We have very recently been awarded some new projects from Broward County and the cities of Miami Beach, North Miami Beach, Hollywood, Miramar and Hallandale Beach, along with private development projects. Even considering these new projects, we now have the excess capacity to undertake a major planning & design effort such as this.

CTA will adhere to the City's scope for each project with a firm budget; assigned and well defined project duties for each team member; and concrete milestones for each important phase of the project. We have a clear and concise cost control methodology with project tested implementation strategies, with a highly motivated and enthusiastic project team. As long as we adhere to the procedure, the project will progress on schedule and within budget.

Based on our current and projected workload, Delray Beach can be assured that CTA will provide the staff and the resources necessary to complete the necessary services on time and within the budget requirements. The staff listed in this proposal was chosen based on their availability to be able to move forward immediately for this project

vi. Key Personnel's Workload

The following is a sample list of medium to significant size projects currently under contract including the names of engineering personnel associated with each project. Note that CTA has twenty-six (26) civil engineers on staff, twelve (12) members of the staff are professional engineers. There are five (5) registered surveyors, and four (4) registered landscape architects. All other engineers working on projects have been listed the available support to key personnel for this project. Construction Costs and percent complete are included in the list

- **City of Aventura Comprehensive Stormwater Master Plan** (75% Study Complete)
  Personnel on Project: Peter Aquart, P.E., Louis Pimentel, E.I., Kevin Menting, E.I., Andrew Dorris, David Reyes, Nick Messina, Jr., P.S.M.
  Construction Cost: Not Applicable (Study Cost - $280,000)
- **Central Broward Water Control District - East Basin Study** (75% Study Complete)
  Personnel on Project: Adolfo Gonzalez, P.E., LEED AP, Philip Joseph, P.E., Zach Gamble, P.E., Edwin Franceschi, E.I., Keyla Lopez, E.I., Donnelly Chin, E.I., Nick Messina, P.S.M.
  Construction Cost: Not Applicable (Study Cost - $500,000)
- **City of Greenacres Gladiator Lake Bank Stabilization** (15% Design Complete)
  Personnel on Project: Douglas Taylor, P.E., Zach Gamble, P.E., Joseph Carothers, Richard Pryce P.S.M.
  Construction Cost: $2 Million
- **City of Greenacres Sidewalk Improvements** (20% Design Complete)
  Personnel on Project: Douglas Taylor, P.E., Zach Gamble, P.E., Joseph Carothers, Ray Young, P.S.M.
  Construction Cost: $350,000.00

- **14th Avenue Streetscape** (100% Designed)
  Personnel on Project: Patrick Gibney, P.E., Mary Cook, P.E., Scott Peavler R.L.A., Caleb Rothenberger, R.L.A.
  Construction Cost: $3 Million
- **Miramar Parkway & Miramar Boulevard Median Beautification** (20% Complete)
  Personnel on Project: Joseph Handley, R.L.A., Caleb Rothenberger R.L.A., LEED AP, Scott Peavler, R.L.A.
  Construction Cost: $250,000.00
- **Fort Lauderdale Stormwater Study** (30% Study Complete - Project is 2 basins within City)
  Personnel on Project: Patrick Gibney, P.E., Donnelly Chin, E.I., Edwin Franceschi, E.I. Richard Pryce, P.S.M., Douglas Davie, P.S.M., Tom Shahan, P.S.M.
  Construction Cost: Not Applicable (Study Cost - $300,000)
- **Broward County Utility Analysis Zone Program - UAZ 122 & 123**
  (15% Design Complete - Project Design over 4 year period)
  Personnel on Project: Patrick Gibney, P.E., Philip Joseph, P.E., Robert Connors, P.E., Matthew Cigale, P.E., Andrew Dorris, Joseph Carothers, Fareez Abrahim, E.I., Matthew Vorderer, E.I., Scott Peavler, R.L.A., Richard Pryce, P.S.M., Douglas Davie, P.S.M., Tom Shahan, P.S.M.
  Construction Cost: $50 Million
- **Hollywood Watermain Replacement Program** (35% Design Complete)
  Personnel on Project: Gary Tenn, P.E., Mary Cook, P.E., Matthew Novack, E.I., Edwin Franceschi, E.I., Donnelly Chin, E.I.
  Construction Cost: $11 Million
- **Broward County Convention Center Expansion & Hotel** (10% Design Complete)
  Personnel on Project: Timothy Hall, P.E., Douglas Taylor, P.E., Philip Joseph, P.E., Eric Toebe, E.I., Matthew Vorderer, E.I., Fareez Abrahim, E.I., Keyla Lopez, E.I.
  Construction Cost: $3 Million (Sitework)
- **Plantation Fashion Mall** (35% Design Complete)
  Personnel on Project: Timothy Hall, P.E., Eric Toebe, E.I., Kevin Menting, E.I., Edwin Franceschi, E.I., Fareez Abrahim, E.I., Joseph Handley, R.L.A., Caleb Rothenberger, R.L.A., LEED AP
  Construction Cost: $4 Million (Sitework)
- **Sunrise Athletic Complex** (30% Design Complete)
  Personnel on Project: Chad Edwards, P.E., Mary Kusper, E.I., Joe Handley, R.L.A., Douglas Davie, P.S.M.
  Construction Cost: $1.5 Million (Site work Cost)
- **Lake Worth 2" Watermain Replacement Phase 3** (15% Complete)
  Personnel on Project: Matthew Cigale, P.E., Andrew Dorris, Joseph Carothers, Fareez Abrahim, E.I., Kevin Menting, E.I.., Richard Pryce, P.S.M., Thomas Shahan, P.S.M.
  Construction Cost: $3 Million

- **Miramar Complete Streets Project** (0% Design Complete)
  Personnel on Project: Douglas Taylor, P.E., Matthew Vorderer, E.I., Mary Cook, P.E., Scott Peavler, R.L.A., , Richard Pryce, P.S.M., David Reyes, Douglas Davie, P.S.M.
  Construction Cost: $1.6 Million
- **Nova Southeastern University General Consulting Services**
  (% Complete- Varies - Multi-Year)
  Personnel on Project: Chad Edwards, P.E., Zach Gamble, P.E., Mary Kusper, E.I., Don Shaver, James Sheddy, Scott Peavler, R.L.A., Ray Young, P.S.M.
  Construction Cost: Varies
- **Bluesten Park** (40% Complete)
  Personnel on Project: Chad Edwards, P.E., Kevin Menting, E.I.., Caleb Rothenberger R.L.A., LEED AP, Douglas Schultz, R.L.A. LEED-AP, Richard Pryce, P.S.M., Nicholas Messina, Jr., P.S.M
  Construction Cost: $5 Million (Sitework)
- **Hallandale Beach Lift Station Rehabilitation** (15% Complete - Varies)
  Personnel on Project: Patrick Gibney, P.E., Robert Connors, P.E., Kevin Menting, E.I.
  Construction Cost: $500,000.00
- **Various other Private Projects** (% Complete - Varies)
  Personnel on Project: Matthew Cigale, P.E., Adolfo Gonzalez, P.E., LEED AP, Chad Edwards, P.E., Robert Connors, P.E., Mary Cook, P.E., Louis Pimentel, E.I., Kevin Menting, E.I., Keyla Lopez, E.I., Joe Carothers, Don Shaver, James Sheddy, Richard Pryce, P.S.M., Nicholas Messina, Jr., P.S.M., Joseph Handley, R.L.A., Douglas Schultz, R.L.A., LEED AP, Scott Peavler, R.L.A., Caleb Rothenberger, R.L.A., LEED AP
  Construction Cost: Varies
- **North Miami Beach Sewer & Watermain Rehabilitation** (20% Complete - Varies)
  Personnel on Project: Timothy Hall, P.E., Philip Joseph, P.E., Fareez Abrahim, E.I., Andrew Dorris
  Construction Cost: $7 Million

CHAPTER 5

Form B - Public Entity Crimes

NOTIFICATION OF PUBLIC ENTITY CRIMES LAW

Pursuant to Section 287.133, *Florida Statutes*, you are hereby notified that a person or affiliate who has been placed on the convicted contractors list following a conviction for a public entity crime may not submit a proposal on a contract to provide any goods or services to a public entity; may not submit a proposal on a contract with a public entity for the construction or repair of a public building or public work; may not submit proposals on leases or real property to a public entity; may not be awarded or perform work as a contractor, supplier, sub-Proposer, or consultant under a contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017 [F.S.] for Category Two [$35,000.00] for a period of thirty-six (36) months from the date of being placed on the convicted contractors list.

Acknowledged by:

Craven, Thompson & Associates, Inc.
Firm Name

Signature — May 22, 2017 Date

Patrick J. Gibney, P.E., Vice President, Engineering
Printed Name and Title

Form C - Drug-Free Workplace

In the event a tie exists at the conclusion of evaluations, preference will be given to the supplier(s) who certifies it has a drug-free workplace program in accordance with Section 287.087, Florida Statutes. The drug-free workplace preference is applied as follows:

TIE: Whenever two or more proposals are equal with respect to scoring for the evaluation criteria (e.g., price, experience, quality, service) are received for the procurement of commodities or contractual services, a proposal received from a supplier that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing a tie will be followed if none of the tied suppliers have submitted this Form C and/or have a drug-free workplace program.

As the person authorized to sign this statement, I certify that this firm complies fully with the following requirements:

1) This firm publishes a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2) This firm informs employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3) This firm gives each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
4) In the statement specified in subsection (1), this firm notifies the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5) This firm imposes a sanction on or requires the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
6) This firm will continue to make a good faith effort to maintain a drug-free workplace through implementation of this section.

Acknowledged by:

Craven, Thompson & Associates, Inc.
Firm Name

Signature

May 22, 2017
Date

Patrick J. Gibney, P.E., Vice President, Engineering
Printed Name and Title

Form D - Conflict of Interest Disclosure

The award of the agreement is subject to the provisions of Chapter 112, Florida Statutes. All Proposers must disclose within their Proposal, the name of any officer, director, or agent who is also an employee or relative of an employee of the City of Delray Beach.

Furthermore, all Proposers must disclose the name of any City employee or relative(s) of a City employee who owns, directly or indirectly, an interest in the Proposers firm or any of its branches.

The purpose of this disclosure form is to give the City the information needed to identify potential conflicts of interest for key personnel involved in the award of this contract.

The term "conflict of interest" refers to situations in which financial or other personal considerations may adversely affect, or have the appearance of adversely affecting, an employee's professional judgment in exercising any City duty or responsibility in administration, management, instruction, research, or other professional activities.

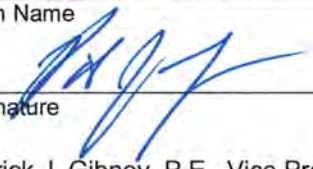
Please check one of the following statements and attach additional documentation if necessary:

☑ To the best of our knowledge, the undersigned firm has no potential conflict of interest as defined in Chapter 112, Florida Statutes and Section 2-443, Palm Beach County Code of Ordinances.

☐ The undersigned firm, by attachment to this form, submits information which may be a potential conflict of interest due to other Cities, Counties, contracts, or property interest for this RFQ.

Acknowledged by:

Craven, Thompson & Associates, Inc.
Firm Name



Signature

May 22, 2017
Date

Patrick J. Gibney, P.E., Vice President, Engineering
Printed Name and Title

Form E - Acknowledgment of Addenda

The Proposer hereby acknowledges the receipt of the following addenda, which were issued by the City and incorporated into and made part of this RFQ. It is the sole responsibility of the Proposer to ensure that all addenda have been received and receipt of each has been acknowledged. Failure to submit acknowledgement of each addendum issued may result in the Proposer being deemed non-responsive.

ADDENDA NUMBER	ADDENDA DATE
No. 1	April 24, 2017
No. 2	April 27, 2017
No. 3	May 4, 2017
No. 4	May 10, 2017
No. 5	May 10, 2017
No. 6	May 18, 2017
No. 7	May 19, 2017

Signature of Proposer's Agent

Vice President, Engineering
Title

Patrick J. Gibney, P.E.
Printed Name

May 30, 2017
Date

CHAPTER 6

INSURANCE CERTIFICATION

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 11/28/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Angela Nervi-Saketkoo
Corporate Insurance Advisors 1401 E Broward Blvd Suite 103 Ft. Lauderdale FL 33301	PHONE (A/C, No, Ext): (954) 315-5000 FAX (A/C, No): (954)315-5050 E-MAIL ADDRESS: ANervi@ciafl.net
	INSURER(S) AFFORDING COVERAGE — NAIC #
	INSURER A: Hartford Fire Insurance Co. — 19682
	INSURER B: Trumbull Insurance Co. — 27120
	INSURER C: Hartford Casualty Insurance Company — 29424
	INSURER D: Hartford Ins Co of the Southea — 38261
	INSURER E: Hanover Insurance Company — 22292
INSURED Craven Thompson & Associates, Inc. 3563 NW 53rd Street Fort Lauderdale FL 33309	INSURER F:

COVERAGES — CERTIFICATE NUMBER: 2017-2018 — REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: X POLICY X PRO-JECT LOC X OTHER Contractual Liability			21UUNIP1507	12/1/2016	12/1/2017	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG Employee Benefits	$ 1,000,000 $ 300,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $ 1,000,000
B	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS			21UEHH8989	12/1/2016	12/1/2017	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) Uninsured motorist property	$ 1,000,000 $ $ $ $
C	UMBRELLA LIAB OCCUR X EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 10,000			21XHUEP1253	12/1/2016	12/1/2017	EACH OCCURRENCE AGGREGATE	$ 5,000,000 $ 5,000,000 $
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N N/A If yes, describe under DESCRIPTION OF OPERATIONS below			21WBAS2828	1/1/2017	1/1/2018	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
E	Professional Liabilty $50,000 Ded			LHJ A591180 02	3/30/2017	3/30/2018	Each Claim Aggregate	$2,000,000 $4,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER	CANCELLATION
For Proposals Purposes Only	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE Mark Schwartz/ANGELA Mark R. Schwartz

ACORD 25 (2014/01) INS025 (201401)

EXHIBIT "B"

Category: Engineering, Civil Engineering, Transportation Engineering, Water Resources Engineering	**Hourly Raw Salary Rate**
Principal Engineer	$ 53.42
Project Manager	$ 33.06
Senior Engineer	$ 34.61
Engineer I	$ 20.00
Engineer II	$ 24.52
Senior Engineering Tech	$ 25.21
Senior CADD Designer	$ 21.75
CADD Designer	$ 20.00
Construction Manager	$ 30.00
Senior Inspector	$ 22.00
Office Support	$ 18.68

Category: Land Surveying	**Hourly Raw Salary Rate**
Professional Land Surveyor	$ 36.00
CADD Drafting	$ 25.00
Survey Field Crew	$ 41.66
Office Support	$ 18.00

Category: Landscaping Architecture	**Hourly Raw Salary Rate**
Principal Landscaping Architecture	$ 51.44
Project Manager	$ 40.38
Landscape Architect	$ 36.67
CADD Designer	$ 24.56
Construction Manager	$ 30.45
Office Support	$ 21.22

PRICE ADJUSTMENTS BASED ON GOVERNMENTAL PRICE INDEX

Prior to the completion of the first year of the Contract term, and every 12-month anniversary thereafter, the City may consider an adjustment to prices based on the most recent 12 month change in the following pricing index: Bureau of Labor Statistics, Employment Cost Index, Private Industry Workers, Total Compensation, Management business and financial occupations, Not Seasonally Adjusted, CIU2010000110000A.

It is Consultant's responsibility to request any pricing adjustment under this provision. For any adjustment to be considered, the Consultant's request for adjustment should be submitted at least sixty (60) days prior to the anniversary date. The adjustment requested shall not be in excess of the relevant pricing index change. If a timely adjustment request is not received from the Consultant, the City may exercise its Option to Renew the Contract for another Term without any pricing adjustment.