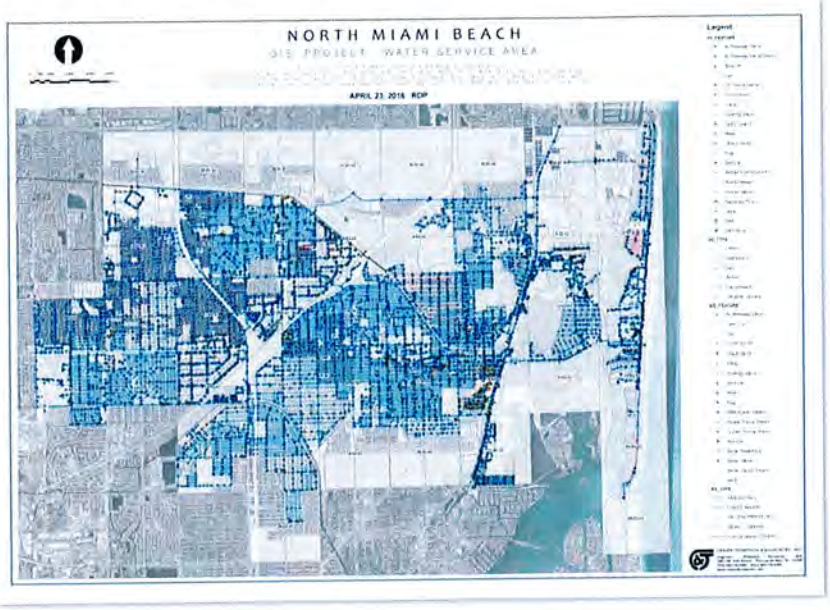
F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*		20. EXAMPLE PROJECT KEY NUMBER **4**
21. TITLE AND LOCATION (CITY AND STATE) North Miami Beach Water & Sewer Service Area GIS & Mapping North Miami Beach, Florida	22. YEAR COMPLETED PROFESSIONAL SERVICES 2014 - 2016	CONSTRUCTION (If applicable) Not Applicable

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
NMB Water / Jacobs	Mr. Karim Rossy Development Engineer 3	Phone: (305) 948-2980, Ext. 7962 Email: karim.rossy@jacobs.com

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

The purpose of the 25,600-Acre Service Area Project was to provide the City with the complete GIS product of their water and sanitary system. This involved the conversion of the City's existing water and sanitary sewer infrastructure, from an AutoCAD drawing file format to the industry standard, Environmental Systems Research Institute (ESRI) Geographic Information System (GIS) format. The Project included the entire North Miami Beach Utility service area. The process included conversion of existing AutoCAD files, into the same coordinate system as the GIS, so that future updates will be more easily transferred between the two systems, for updates and maintenance. The project involved setting up a GIS Network file structure for the City to insert existing and future documentation into, as well as, adding GIS database information in the future.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
a.	(1) FIRM NAME Craven Thompson & Associates, Inc.	(2) FIRM LOCATION *(City and State)* 3563 NW 53rd Street Fort Lauderdale, Florida 33309	(3) Role Prime – G.I.S/Surveying & Mapping
b.	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) Role
c.	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) Role
d.	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) Role

EXHIBIT D
Exhibit 2

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER **5**

21. TITLE AND LOCATION (CITY AND STATE)	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Hollywood Seminole Reservation Stormwater Data Collection/GIS, Hollywood, Florida	2020 - 2021 (Data Collection)	Not Applicable

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Seminole Tribe of Florida	Mr. Ranthus Fouch, P.E. Sr. Civil Engineer	Phone: (954) 203-1034 Email: ranthusfouch@semtribe.com

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

The Hollywood Seminole Reservation is generally bounded by Stirling Road on the north and by Sheridan Street on the south and includes the Hard Rock Hotel and Casino which is located north of Stirling Road. The east and west boundaries are formed by existing residential neighborhoods in the City of Hollywood. Craven Thompson updated the Tribe's stormwater GIS information through entering as-built data, and surveying the hundreds of stormwater/drainage structures located on the reservation

Craven Thompson acquired accurate horizontal and vertical information on every stormwater/drainage feature on the Tribe's Hollywood Reservation. We reviewed existing storm sewer surveys and as-builts that could assist with GIS location and with this information our survey crew measured each structure to get accurate horizontal and vertical information for the Tribe's GIS system. During the data collection phase, the GPS locations of structures, canals, retention areas and ditches were captured with X-Y-Z coordinate values in the data collector. In addition, details such as pipe sizes, material, inverts, weirs, age, and structure condition were obtained in the field.

We modified the Tribe's GIS database to include new relevant information and to include all information from the data collection efforts and condition assessment.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) Role
a.	Craven Thompson & Associates, Inc.	3563 NW 53rd Street Fort Lauderdale, Florida 33309	Prime – Stormwater Master Plan, G.I.S. Data Collection & Mapping
b.	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) Role
c.	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) Role

EXHIBIT D
Exhibit 2

G. KEY PERSONNEL PARTICIPATION IN EXAMPLE PROJECTS											
26. NAMES OF KEY PERSONNEL (From Section E, Block 12)	27. ROLE IN THIS CONTRACT (From Section E, Block 13)	28. EXAMPLE PROJECTS LISTED IN SECTION F (Fill in "Example Projects Key" section below before completing table. Place "X" under project key number for participation in same or similar role.)									
		1	2	3	4	5	6	7	8	9	10
Patrick J. Gibney, P.E.	Project Director	X	X			X					
Richard D. Pryce, P.S.M.	Project Manager - Lead Surveyor	X	X	X	X	X					
Richard Crawford, P.S.M.	Surveying & Field Crew Coord.	X	X								
Raymond Young, P.S.M.	Surveyor & Mapper	X			X	X					
David Reyes	Surveyor & Mapper	X	X	X	X	X					
Johnny Gil, P.E.	Assistant Program Manager	X	X								

29. EXAMPLE PROJECTS KEY			
NO.	TITLE OF EXAMPLE PROJECT (FROM SECTION F)	NO.	TITLE OF EXAMPLE PROJECT (FROM SECTION F)
1	Fort Lauderdale Sanitary Sewer System GIS & Surveying, Fort Lauderdale, Florida		
2	Fort Lauderdale Storm Water Master Plan - GIS & Surveying Fort Lauderdale, Florida		
3	Stormwater GIS/Data Collection Project North Miami Beach, Florida		
4	North Miami Beach Water & Sewer GIS & Mapping, North Miami Beach, Florida		
5	Hollywood Seminole Reservation Stormwater Data Collection/GIS, Hollywood, Florida		

EXHIBIT D
Exhibit 2

H. ADDITIONAL INFORMATION

30. PROVIDE ANY ADDITIONAL INFORMATION REQUESTED BY THE AGENCY. ATTACH ADDITIONAL SHEETS AS NEEDED.

Craven Thompson & Associates, Inc. has been a consulting industry leader in the South Florida area since our inception in 1962. With our office located in South Florida, we have established a high-profile presence through the years with a reputation of excellent service to many varied clients, performing the full range of professional services. We have worked closely with many municipalities to provide services such as survey (platting, right-of-way surveys, special purpose and topographical surveys, easements, sketch & legal descriptions, hydrographical surveys, high definition laser scanning, LiDAR, As-builts, and establishment of horizontal & vertical control), G.I.S./Geo-Spatial Services (for water, sewer, storm, plats, etc.), roadway design, landscape architecture, neighborhood improvements, water and wastewater design, GIS/Mapping, surveying, planning, storm water management, streetscape, roadway beautification and construction management.

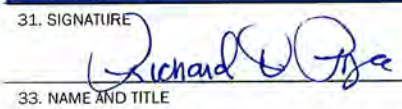
Craven Thompson presents many distinct and unique advantages which will assure timely and cost-effective completion of projects. These advantages include the following:

- An experienced team: Craven Thompson's staff has extensive experience with various types of unusual and difficult surveying and mapping, and G.I.S. tasks.
- Full-service firm: Craven Thompson can provide all of the surveying, G.I.S., civil engineering landscape architecture, planning, and construction support services needed in-house.
- Project management: Organization lines and responsibilities are clearly defined for each project, ensuring that the best qualified individual is matched to a particular assignment.
- Familiarity with the latest surveying and G.I.S. technology and trends.
- Continuity: The Resources and staff available at Craven Thompson ensure responsive service and continuity throughout the entire project.

I. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts

31. SIGNATURE



32. DATE

May 23, 2022

33. NAME AND TITLE

Richard D. Pryce, P.S.M., Vice President, Surveying & G.I.S.

EXHIBIT D
Exhibit 2

ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*: RFQ No. 12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (OR BRANCH OFFICE) NAME: Craven, Thompson & Associates, Inc.	3. YEAR ESTABLISHED: 1962
	4. DUNS NUMBER: 06-362-4910
2b. STREET: 3563 NW 53rd Street	5. OWNERSHIP
2c. CITY: Fort Lauderdale; 2d. STATE: Florida; 2e. ZIP CODE: 33309	a. TYPE: Corporation
6a. POINT OF CONTACT NAME AND TITLE: Richard D. Pryce, P.S.M., Vice President, Surveying & GIS	b. SMALL BUSINESS STATUS: N/A
6b. TELEPHONE NUMBER: (954) 739-6400; 6c. E-MAIL ADDRESS: rpryce@craventhompson.com	7. NAME OF FIRM *(If block 2a is a branch office)*: Same
8a. FORMER FIRM NAME(S) *(If any)*: Davis & Craven, Inc. / Davis, Craven, Thompson, Inc.	8b. YR. ESTABLISHED: 1962 / 1975; 8c. DUNS NUMBER:

9. EMPLOYEES BY DISCIPLINE

a. Function Code	b. Discipline	c. No. of Employees (1) FIRM	c. No. of Employees (2) BRANCH
02	Administrative	8	
12	Civil Engineers	22	3
15	Construction Inspectors	8	
16	Const. Management	1	
38	Land Surveyor	21	
39	Landscape Architect	4	
47	Planners; Urban/Regional	2	
	Other Employees		
	Total	66	3

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*	a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
A06	Airports; Term. & Hangars	1	O01	Office Bldgs.; Industrial Parks	1
B02	Bridges	1	P05	Planning (Comm., Regional)	1
C10	Commercial Bldg.; Shopping	4	P08	Prisons & Correctional	1
C11	Community Facilities	1	P13	Public Safety Facilities	1
D07	Dining Halls; Clubs; Rest.	1	R03	Railroad; Rapid Transit	1
E02	Educational Facilities	3	R04	Rec. Fac. (Parks, Marinas)	5
E09	Environmental Impact Studies	1	R11	Rivers; Canals; Waterways	1
F02	Field Houses; Gyms; Stadiums	1	S04	Sewage Collection, Treatment	4
G01	Garages; Vehicle Maint. Fac.	2	S07	Solid Wastes; Incin.; Landfill	2
G04	Geographic Info. System	2	S13	Storm Water Handling & Fac.	5
H01	Harbors; Ship Terminal Fac.	3	T03	Traffic & Trans. Engineer	1
H07	Hwys.; Streets; Parking Lots	4	T04	Topo. Survey & Mapping	1
H09	Hospital & Medical Facilities	1	U02	Urban Renewals; Comm. Dev.	4
H10	Hotels; Motels	2	W01	Warehouses & Depots	1
H11	Housing (Residential, M-F)	4	W02	Water Resources; Hydrology	1
I01	Industrial Buildings	2	W03	Water Supply; Treatment	5
J01	Judicial & Courtroom Fac.	1			
L04	Libraries; Museums; Galleries	1			

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

a. Federal Work	1
b. Non-Federal Work	8
c. Total Work	8

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000
2. $100,000 to less than $250,000
3. $250,000 to less than $500,000
4. $500,000 to less than $1 million
5. $1 million to less than $2 million
6. $2 million to less than $5 million
7. $5 million to less than $10 million
8. $10 million to less than $25 million
9. $25 million to less than $50 million
10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE: Richard D Pryce

b. DATE: May 23, 2022

c. NAME AND TITLE: Richard D. Pryce, P.S.M., Vice President, Surveying & GIS

EXHIBIT D
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Khamis Al-Omari, PE **Senior Associate**	**Program Manager**	33	23

15. FIRM NAME AND LOCATION *(City and State)*

Hazen and Sawyer, Coral Gables, Florida

Hazen

16. EDUCATION (DEGREE AND SPECIALIZATION)	17. CURRENT PROFESSIONAL REGISTRATION *(STATE AND DISCIPLINE)*
MS, University of Cincinnati, 1988 BS, Ohio University, 1984	PE / FL (FL 90087), FL, MI, OH – Civil Engineering

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Mr. Al-Omari has over 33 years of experience in wastewater and water engineering and project management. He currently serves as a Project Manager on the City of Ft. Lauderdale Sewer Design and Implementation Consent Order Program, responsible for program budget and schedule controls, risk management and reporting. He also served as the Program Manager managing contracts, budgets, and schedules for the $165 million Zarqa Water and Wastewater Networks Projects in Jordan. **Professional Organizations:** Water Environment Federation, Construction Management Association of America.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*: **City of Fort Lauderdale Sewer Design and Implementation Consent Order Program, FL**

(2) YEAR COMPLETED: PROFESSIONAL SERVICES: Ongoing; CONSTRUCTION (If applicable): Ongoing

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

For the $181 million Consent Order Program, Mr. Al-Omari is responsible for developing and monitoring the Master Program Schedule and Cost Model; planning and monitoring the projects defined in the Consent Order by defining their scope, deciding their project delivery method, and validating their schedule and project budget; risk management including risk identification, impact analysis, mitigation, and monitoring; quality assurance; and preparing monthly and semi-annual progress reports. **Status:** The program started in 2017 and is expected to be completed by 2026. **Cost:** $17.2 million (estimated fee authorized to date); $26 million (total fee anticipated); $174.6 million (est. construction). **Specific Role:** Project Manager.

b.

(1) TITLE AND LOCATION *(City and State)*: **Zarqa Water and Wastewater Program Management and Construction Supervision Project, Jordan**

(2) YEAR COMPLETED: PROFESSIONAL SERVICES: 2016; CONSTRUCTION (If applicable): 2016

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

The $163 Million Jordan Water and Wastewater Program included five wastewater and six water projects involving construction of approximately 500 miles of water supply networks, 200 miles of wastewater collection systems, and a new regional administration building for the Water Authority of Jordan. He also served as the Project Manager for the detailed design of the $103-million Water Network Restructuring and Rehabilitation Project (Water Network Project). The scope involved condition assessment of the existing water network, planning and design of the new water supply network (approximately 500 miles), rehabilitation of multiple water storage reservoirs, new booster station, and new pump station and reservoir. **Cost:** $163 million (construction); $19.7 million (fee). **Specific Role:** Program Manager.

c.

(1) TITLE AND LOCATION *(City and State)*: **Miami-Dade Ocean Outfall Legislation (OOL) Program, Miami-Dade County, FL**

(2) YEAR COMPLETED: PROFESSIONAL SERVICES: Ongoing; CONSTRUCTION (If applicable): Ongoing

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Mr. Al-Omari served as Design Project Manager for this program. The $2 billion master planning program addressed implications of new state regulations as well as threats of sea level rise and storm surge to their wastewater infrastructure. He managed design of three 20-MW electrical distribution buildings at the South and Central Districts WWTPs. As a subconsultant to another national firm, Hazen shares responsibility for wastewater system master planning, as well as management of the overall delivery of a long-term program encompassing design, procurement, construction, and commissioning of approximately 26 major capital projects. **Status:** Professional services started in 2014 and are ongoing. **Cost:** $2 billion (construction) $100 million (constructed to-date). **Specific Role:** Design Project Manager.

d.

(1) TITLE AND LOCATION *(City and State)*: **Clarksville WWTP Improvements, Clarksville, TN**

(2) YEAR COMPLETED: PROFESSIONAL SERVICES: 2012; CONSTRUCTION (If applicable): 2012

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Project Manager for the construction management phase of the $72 Million WWTP Improvements, which included (among others) a Headworks Facility, RAS/WAS Pump Station, Final Clarifiers, Administration Building, yard piping, flood protection and Berm improvements, Blower Building, Aeration Basins Improvements, Sludge Dewatering Building, Site Drainage Pump Station, Chemical Building, etc. **Cost:** $72 million. **Specific Role:** Project Manager for construction management phase; and Task Leader for the Preliminary Engineering Report and Detailed Design.

e.

(1) TITLE AND LOCATION *(City and State)*: **Conner Creek 30-MG Pilot CSO Control Facility in Detroit, MI**

(2) YEAR COMPLETED: PROFESSIONAL SERVICES: 2008; CONSTRUCTION (If applicable): 2008

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Project Manager for the construction assistance phase of the award-winning $186.5-million facility. The 8,500 mgd CSO facility includes screening, high-rate disinfection, settling, and skimming. Construction administration services included construction management, project controls, document control, resident engineering, construction inspection, training, startup and testing, project close-out, project performance certification, etc. **Cost:** $186.5 million. **Specific Role:** Project Manager.

EXHIBIT D
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Sean FitzGerald, PE **Vice President**	**Vice President –** **Conveyance Practice Leader**	32	15

15. FIRM NAME AND LOCATION *(City and State)*

Hazen and Sawyer, Cincinnati, Ohio

Hazen

16. EDUCATION (DEGREE AND SPECIALIZATION)	17. CURRENT PROFESSIONAL REGISTRATION *(STATE AND DISCIPLINE)*
MSEnvE, University of Cincinnati, 1994 BSCE, University of Cincinnati, 1992	PE / FL – Civil Engineering, PE / OH, KY, NY, TX, Washington DC, MN

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Mr. FitzGerald has over 30 years of experience in conveyance planning, design and asset management. He serves as Hazen and Sawyer's Corporate Conveyance Practice Leader and has helped develop and implement numerous conveyance related programs across the Country utilizing industry best practices for program controls as well as using innovative tools used to manage, track, and visualize work progress. Many of these programs include detailed asset mapping, condition assessment, and rehabilitation and replacement planning and budgeting. **Professional Organizations:** Water Environment Federation: Collection System Committee; Ohio Water Environment: Association Collection System Committee; American Water Works Association; Kentucky-Tennessee Water Environment Association; Construction Management Association of America (CMAA); Water Environment Federation (WEF).

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*: **Sewer Design and Implementation Program, City of Fort Lauderdale, Florida**

(2) YEAR COMPLETED: PROFESSIONAL SERVICES: Ongoing; CONSTRUCTION (If applicable): N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

The County owns and operates approximately 3,137 miles of sanitary sewer lines, 174 pump stations, and over 81,000 manholes. The County contracted with Hazen and Sawyer to completely overhaul their collections system and operations. Since the program began, overall SSOs are down 50% and dry weather SSOs are down over 55%, with steady improvement expected in the coming years. **Status:** The program started in 2017 and is expected to continue until 2026. **Cost:** $17.2 million (estimated fee authorized to date), $26 million (total fee anticipated), $174.6 million (est. construction). **Specific Role:** Project Engineer.

b.

(1) TITLE AND LOCATION *(City and State)*: **Project Management Services and Staff Augmentation for the City's Water Utilities Program, Florida Baltimore City, Baltimore, MD**

(2) YEAR COMPLETED: PROFESSIONAL SERVICES: 2018; CONSTRUCTION (If applicable): 2018

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

In 2015, Hazen and Sawyer was selected by the City of Baltimore to provide Program Management Services and Staff Augmentation for the Water Utilities program. In this role, Hazen provided staff to support multiple projects within the City's Capital Improvements Program (CIP), including water main rehabilitation and replacement projects, and AMI/R implementation. Project scopes typically consisted of rehabilitation and/or replacement of existing water mains ranging from 3 to 20 inches in diameter, replacement of various sized valves and fire hydrants, renewal of existing water services, meter vault replacement, temporary by-pass piping, sidewalk restoration, curb & gutter, and paving restoration. **Cost:** $4.6 million (construction). **Specific Role:** Project Engineer

c.

(1) TITLE AND LOCATION *(City and State)*: **Collection System Asset Management Program Jefferson County, Birmingham, Alabama**

(2) YEAR COMPLETED: PROFESSIONAL SERVICES: 2009; CONSTRUCTION (If applicable): Ongoing

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Jefferson County retained Hazen to develop and implement a Collection System Asset Management Program and Capital Improvement Plan (CIP). The County owns and operates approximately 3,137 miles of sanitary sewer lines, 174 pump stations, and more than 81,000 manholes as part of its collection system. Hazen has achieved tremendous success in the first few years of the program with eliminations of numerous highly active sanitary sewer overflows and informed budgeting through a robust asset management approach. **Status:** Program management services current contract is expected to conclude in 2023. Construction is scheduled for completion in 2030. **Cost:** $49.5 million (estimated fee), >$400 million (estimated construction). **Specific Role:** Project Engineer.

d.

(1) TITLE AND LOCATION *(City and State)*: **City of Clearwater, FL, Sewer CIP Program Management Services**

(2) YEAR COMPLETED: PROFESSIONAL SERVICES: Ongoing; CONSTRUCTION (If applicable): Ongoing

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Program management services for a citywide review and assessment of existing sewer and facility conditions to facilitate resources for collection systems evaluations and repairs. Hazen's scope of services includes a review of available information and assessment (as directed by City) of existing sewer and facility conditions to facilitate long term planning and allocation of resources for collection system evaluations and repairs. **Status:** Ongoing through 2026. Hazen develops periodic reports quantifying improvements to the wastewater collection system, including ongoing recommendations for future periods. **Cost:** $3.0 million (fee authorized to date) $18 million (total fee anticipated). **Specific Role:** Project Engineer.

e.

(1) TITLE AND LOCATION *(City and State)*: **Remedial Measures Plan (RMP) and Capacity, Management, Operations, and Management (CMOM) Implementation Services, Lexington-Fayette Urban County Government, Lexington, KY**

(2) YEAR COMPLETED: PROFESSIONAL SERVICES: Ongoing; CONSTRUCTION (If applicable): Ongoing

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Hazen and Sawyer is assisting Lexington-Fayette Urban County Government (LFUCG) with the implementation of its RMP and CMOM related programs in compliance with their Consent Decree. With Hazen's assistance, LFUCG has saved over $57M (based on original estimates) in the RMP and met every CMOM related Consent Decree deadline. **Status:** Hazen has been assisting LFUCG with RMP Implementation services since its inception in 2012 and is currently still serving as LFUCG's RMP Program Manager. **Cost:** $900,000/year (RMP fee), $300,000/year (CMOM fee). **Specific Role:** Project Engineer.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Michael Marsjanik, PE **Associate Vice President**	**Program Administration and Controls**	**29**	**8**

15. FIRM NAME AND LOCATION *(City and State)*

Hazen and Sawyer, Baltimore, Maryland

Hazen

16. EDUCATION (DEGREE AND SPECIALIZATION)	17. CURRENT PROFESSIONAL REGISTRATION *(STATE AND DISCIPLINE)*
BSCEnvE, Civil and Environmental Engineering, 1992	PE / FL – Civil Engineering, PE / NY, MD – Civil Engineering

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

As Lead for Program Administration and Controls, Mike will oversee development of the Project Management Plan, selection and tailoring of tools and controls to be used, and management of cost and schedule throughout the project; he will ensure the project is delivered successfully on schedule and within budget. He has a proven track record serving as Program Manager on multiple large-scale water and wastewater infrastructure programs. **Professional Organizations:** Construction Management Association of America (CMAA); Water Environment Federation (WEF)

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*: **Water Main Replacement/Rehabilitation Program, City of Baltimore, Maryland**

(2) YEAR COMPLETED: PROFESSIONAL SERVICES 2018; CONSTRUCTION (If applicable) 2018

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Hazen served as Program Manager assisting the City in the annual replacement/rehabilitation of approximately 15-20 miles of water mains within the City limits. Oversaw and managed a team of office engineers working on-premises performing in-house designs, design review of consultants' deliverables, project management for all capital projects, supporting the internal workforce development initiatives including comprehensive training of City staff, and construction inspection related to the Automated Meter Reading/Infrastructure program. **Cost:** $4.6 million (fee). **Specific Role:** Program Manager.

b.

(1) TITLE AND LOCATION *(City and State)*: **Collection System Asset Management Program, Birmingham, Alabama**

(2) YEAR COMPLETED: PROFESSIONAL SERVICES Phase 1: 2011, Phase 2: Ongoing; CONSTRUCTION (If applicable) Phase 1: 2013, Phase 2: Ongoing*

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

The County owns and operates approximately 3,137 miles of sanitary sewer lines, 174 pump stations, and over 81,000 manholes. The County contracted with Hazen and Sawyer to completely overhaul their collections system and operations. Since the program began, overall SSOs are down 50% and dry weather SSOs are down over 55%, with steady improvement expected in the coming years. ***Status:** Phase 2 is ongoing. **Cost:** Phase 1: $3.5 million. Phase 2: $100 million (total to date). **Specific Role:** Project Advisor.

c.

(1) TITLE AND LOCATION *(City and State)*: **Sewershed Repair, Replacement and Rehabilitation Plan Services, Baltimore County, Maryland**

(2) YEAR COMPLETED: PROFESSIONAL SERVICES Ongoing*; CONSTRUCTION (If applicable) Ongoing*

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Hazen and Sawyer prepared Sewershed Repair, Replacement and Rehabilitation (SRRR) Plans as part of the County's Consent Decree Program for the Bread and Cheese, Delmar, Dundalk and Eastpoint Sewersheds, totaling approximately 568,000 linear feet of gravity sanitary sewers. We reviewed and evaluated the work completed to date, conducted fieldwork, reviewed CCTV and manhole inspection data for approximately 1,400 pipes and 400 manholes, and developed a Corrective Action Recommendation Plan for each SRRR Plan. The SRRR Plans were approved by EPA and MDE. Hazen is performing design services, permitting, and engineering services during construction. ***Status:** Ongoing. **Cost:** $6 million. **Specific Role:** Project Director.

d.

(1) TITLE AND LOCATION *(City and State)*: **Wet Weather Sewer Consent Decree, Baltimore, Maryland**

(2) YEAR COMPLETED: PROFESSIONAL SERVICES 2009; CONSTRUCTION (If applicable) Ongoing

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☐ Check if project performed with current firm

Wet weather sewer consent decree program management, including staffing, development of document management system utilizing Primavera Expedition, development of master schedule, preparation of regulatory reports, overseeing over $90 million of study-phase consulting work, and development of more effective preventive and routine maintenance programs. **Cost:** $1 billion. **Specific Role:** Program Manager.

e.

(1) TITLE AND LOCATION *(City and State)*: **Wet Weather Sanitary Sewer Overflow Consent Decree, Baltimore County, Maryland**

(2) YEAR COMPLETED: PROFESSIONAL SERVICES 2010; CONSTRUCTION (If applicable) Ongoing

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☐ Check if project performed with current firm

Oversaw a diverse staff of on-premise and office support personnel in the management of the Consent Decree work. Assisted the County in formulation of policies pertaining to the implementation of the work and ultimately ensured that the team is on top of all aspects of the work. Had overall responsibility for development and oversight of communications protocols, Primavera master schedule, standardization of reports, sewershed deliverables and public outreach efforts, document management in accordance with the recordkeeping requirements, and conducting multiple meetings (both internal and external coordination meetings). Conducted action item and status meetings to review all elements of the Consent Decree. Assisted the County in obtaining extensions for over 30 pumping station construction projects with the end result being no stipulated penalties. Managed the development and maintenance of a web portal to link all data types, including closed circuit television, manhole, smoke/dye tests, Geographic Information System, and flow monitoring to one website for easy access to users. Lastly, performed final reviews on all reports associated with the program, including Quarterly Reports, letters to Maryland Department of the Environment and U.S. Environmental Protection Agency for extensions, and all other reports required. **Cost:** $850 million. **Specific Role:** Program Manager.

EXHIBIT D
Exhibit 2

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER **1**

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Stormwater Master Plan Modeling and Design Implementation Services **City of Fort Lauderdale, Florida**	**Ongoing**	**N/A**

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
City of Fort Lauderdale **Public Services Department**	**Rares Petrica, PE** **Senior Project Manager, Public Works**	**(954) 828-7150**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Size
Delivery of a stormwater master plan and implementation of designs to address chronic flooding and other stormwater management issues in the City.

Cost
$17.4 million (estimated fee authorized to date)
$20 million (total fee anticipated)
$200 million (est. construction for initial 7 neighborhoods)

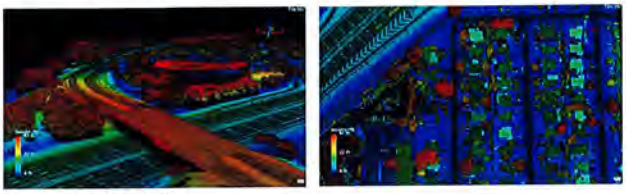
Description
Hazen was selected to deliver a new stormwater master plan model, a prioritized stormwater/resiliency capital improvements plan, and implementation of designs to address chronic flooding and other stormwater management issues in the City.

The city covers approximately 23,000 acres of highly urbanized neighborhoods with much of its coastal land in low-lying areas, and numerous rivers and tributaries running throughout the city.

The scope of work includes data collection; city-wide hydraulic/hydrological stormwater modeling, including consideration of climate change impacts; a revised stormwater master plan with prioritized capital improvements; design, permitting, and construction services for stormwater capital improvement projects resulting from the revised stormwater master plan; watershed planning; community outreach services; and construction management services. The program is expected to result in a re-prioritized capital improvement plan to address key neighborhoods and climate change adaptation action areas.

The project team evaluated long-range solutions that perform effectively over a broad range of climatological and other uncertain future conditions. Concurrent with the planning process, the city identified seven neighborhoods with immediate needs relative to chronic stormwater and/or tidal flooding for accelerated design implementation. Improvements in the neighborhoods include a variety of flood protection and water quality measures, and for certain neighborhoods, heavy focus on resilience to tidal flooding (which will be exacerbated by SLR). Seawall raising, backflow prevention devices, Americans with Disabilities Act-compliant infrastructure, drainage wells, stormwater pump stations, and created wetlands are amongst the components comprising the approximately $200 million worth of initial improvements.

Final designs are substantially complete, and projects are currently in permitting. Further modeling and project development associated with improvements beyond the original seven neighborhoods are anticipated to continue through 2021.



Example LiDAR Data

Scope of Work. Work is being authorized on a task-order basis. Tasks recently completed include the following:

- Collection of high-resolution LiDAR for the entire city
- Field collection of stormwater infrastructure for modeling and geodatabase development purposes
- New City-wide stormwater geodatabase
- Standard construction details and specifications (including Green Infrastructure)
- Comprehensive City-wide hydrologic/hydraulic modeling
- Design for seven priority neighborhoods

Further modeling and project development associated with improvements beyond the original seven neighborhoods are anticipated to continue through 2021.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	**Craven Thompson & Associates**	**Fort Lauderdale, Florida**	**Primary Consultant**
b.			
c.			

EXHIBIT D
Exhibit 2

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER: **2**

21. TITLE AND LOCATION *(City and State)*

Sewer Design and Implementation Program
City of Fort Lauderdale, Florida

22. YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Ongoing	**N/A**

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
City of Fort Lauderdale **Public Services Department**	**Omar Castellon, PE, PMP, ENV SP** **Assistant Public Works Director – Engineering**	**(954) 828-5064**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Size
Program Manager responsible for the implementation and coordination of projects to satisfy 40 Consent Order deadlines.

Cost
$17.2 million (estimated fee authorized to date)
$26 million (total fee anticipated)
$174.6 million (est. construction)

Consent Order Driven

Description
The City of Fort Lauderdale's Sewer Design and Implementation Program is under way to address requirements of a Consent Order with the Florida Department of Environmental Protection (FDEP), as well as to improve the management, operation, and maintenance of its sanitary sewer collection system.

The sanitary sewer system is a regional system that serves the City as well as four large users. It consists of 186 City-operated pump stations, five regional repump stations, 113 miles of force main, and 500 miles of gravity sewer that were built between 1954 and the present.

Hazen serves as Program Manager for this effort and is responsible for implementation and coordination of projects to satisfy 40 Consent Order deadlines. The project includes conducting a risk-based prioritization and condition assessment of the City's wastewater force mains. The work includes prioritization of force mains based on probability and consequence of failure, evaluation and recommendation of alternatives for collection of additional condition assessment data where needed, and development of recommendations for repair or replacement through short- and long-term planning periods.

Key components of the Sewer Design and Implementation Program include:

- Development of a Mapping Plan and mapping of the City's sanitary sewer collection system.
- Development and Implementation of an Asset Management, Capacity Management, Operation, and Maintenance (AM-CMOM) Program for the City's wastewater collection and treatment systems. AM-CMOM efforts include condition assessment, risk analysis, and prioritization of assets for rehabilitation and/or replacement.
- Risk-based prioritization of pipeline repairs.
- Rehabilitation or replacement of approximately 75,000 linear feet of force main.
- Development, calibration, and application of a Wastewater Collection and Transmission System Hydraulic Model using Innovyze software. The model included 113 miles of force mains and more than 170 pump stations.
- Development and calibration of a Water Distribution System Hydraulic Model using Innovyze software. The model included 770 miles of pipes.
- Multi-phase Force Main Condition Assessment, consisting of desktop analysis of all force mains and targeted physical inspection of medium and high-risk force mains.
- Infiltration and inflow (I/I) reduction programs, including CCTV inspection and remediation where required, in six pump station basins (A-7, A-18, A-19, A-21, D-40, and D-43).
- New construction, rehabilitation or replacement of seven pump stations (A-12, B-10, D-41, D-45, A-13, D-11, and D-38), including in-kind services for one of the pump stations and installation of approximately 3,800 linear feet of force main via Horizontal Direction Drilling to offset FDEP penalties.
- Program management of the City's implementation of the Cityworks Enterprise Asset Management System.
- Reporting the progress of all Consent Order activities to FDEP on a semi-annual basis.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	**Craven Thompson & Associates**	**Fort Lauderdale, Florida**	**Primary Consultant**
b.	**Hazen and Sawyer**	**Coral Gables, Florida**	**Subconsultant**
c.	**Hazen and Sawyer**	**Cincinnati, Ohio**	**Subconsultant**

EXHIBIT D
Exhibit 2

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER: **3**

21. TITLE AND LOCATION *(City and State)*

Project Management Services and Staff Augmentation for the City's Water Utilities Program, Florida Baltimore City, Baltimore, MD

22. YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
2018	**2018**

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Baltimore City Department of Public Works, Baltimore, MD	**Hernan Guadalupe Engineer II**	**(410) 396-8198**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Size

Hazen provided Program Management Services and Staff Augmentation to support multiple projects within the City's CIP.

Cost

$4.6 million (construction)

Description

As Program Managers between 2015 and 2018, Hazen and Sawyer is proud to have assisted the City in exceeding their water main replacement goals within that period.

In 2015, Hazen and Sawyer was selected by the City of Baltimore to provide Program Management Services and Staff Augmentation for the Water Utilities program. In this role, Hazen provided staff to support multiple projects within the City's Capital Improvements Program (CIP), including water main rehabilitation and replacement projects, and AMI/R implementation. Project scopes typically consisted of rehabilitation and/or replacement of existing water mains ranging from 3 to 20 inches in diameter, replacement of various sized valves and fire hydrants, renewal of existing water services, meter vault replacement, temporary by-pass piping, sidewalk restoration, curb & gutter, and paving restoration.

To assist in the implementation of capital projects, Hazen provided on-site project managers, design reviewers, in-house CADD/designers, and field construction inspectors. Project Managers worked closely with City staff in managing schedule, cost and quality of on-going capital projects. Roles included development of scope, tracking performance and schedule, communications and progress meetings with design consultants contracted separately with the City, coordination of agency comments of design deliverables and coordination with the City's Office of Asset Management. Hazen also provided technical review services for all design deliverables, typically including 30%, 70%, 90%, and bid-ready documents. Hazen senior engineers provided detailed, focused review comments, typically for all elements of each design deliverable from 30% design to final bid ready documents. For each review, these technical reviews included special focus on valve shut down, sequencing, and bypass plan requirements. Overall, Hazen managed and/or performed technical design reviews for over 30 deliverables.

As part of project management and technical reviews, Hazen assisted the City in their internal workforce development initiatives with the development of a comprehensive training session for City staff working on Water Utilities Projects. Since September 2016, Hazen prepared and conducted, or organized, two training programs, consisting of over 50 training sessions, focused on the technical and managerial aspects of water utility projects. Session topics have included detailed water main replacement design, CADD standards, project management, engineering computations and standard specifications. The graphic below summarizes the training conducted by our team under this contract.

In addition to staff augmentation under this program, Hazen provided construction inspection services in support of the Advanced Metering Infrastructure and Water Meter System Installation projects city-wide, as well as other water capital projects. Hazen provided an inspector on the WC1346 Elm Avenue 48" Joint Repairs emergency contract and rapidly deployed seveen program management staff inspectors assigned to the WC1353 AMI/R Urgent Need Metering Infrastructure Repair & Replacement, Various Repairs.

As part of our programmatic roles, Hazen also assisted the City update multiple standardization documents, including Master Specifications, Standard Notes, internal design review guidelines, cost estimating templates, and the CAD standards manual. In addition, we worked with the City to enhance capital project planning by creating a P6 master schedule with cash flow. This tool was used to track progress of replacement as well as assist in the planning of replacement goals for the outer years, based on anticipated funding.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
b.			
c.	**Hazen and Sawyer**	**Coral Gables, Florida**	**Subconsultant**
c.	**Hazen and Sawyer**	**Cincinnati, Ohio**	**Subconsultant**

EXHIBIT D
Exhibit 2

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER **4**

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Collection System Asset Management Program **Jefferson County, Birmingham, Alabama**		

23. PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Jefferson County Commission **Birmingham, AL**	**Daniel White, PE, Deputy Director,** **Environmental Services Department**	**(205) 214-8610**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Size
Large complex program where Hazen is coordinating and all field inspections, planning, design, and construction for over $400 Million in pojects. Developed robust project controls, dashboards and other tools to efficiently allocate resources and manage vast amounts of data.

Status
Program management services current contract is expected to conclude in 2023. Construction is scheduled for completion in 2030.

Cost
$49.5 million (estimated fee)
>$400 million (estimated construction)

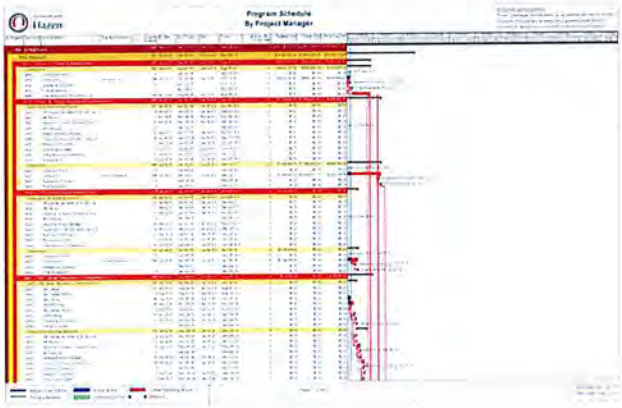
Description
Jefferson County retained Hazen to develop and implement a Collection System Asset Management Program and Capital Improvement Plan (CIP).

The County owns and operates approximately 3,137 miles of sanitary sewer lines, 174 pump stations, and more than 81,000 manholes as part of its collection system.

Jefferson County is under a 1996 Consent Decree to address sanitary sewer overflows in the collection system, but was under bankruptcy, and needed to develop and implement a highly efficient and effective program to address aging infrastructure, as well as significant infiltration and inflow. Hazen was hired to help the County achieve this goal and to provide full program management for implementation, including the following completed within the last 5 years:

- Developed an ongoing cash loaded P6 master schedule to manage all aspects of the program from planning to design and construction.
- Developing plans and specifications for SSES field work in more than 400 priority minibasins.
- Managing all field inspections
- Coordinated with Cityworks team to develop field forms that enables crittical data to be tracked in Cityworks.
- Managing all construction totaling more than $131M to date with an additional $250 million in next five years.
- Managing and analyzing more than 500 flow meter locations.
- Assessing CCTV data for more than 1,200 miles of pipe.
- Developing plans and specifications for rehabilitation and repairs for more than 500,000 LF.
- Conducted detailed field condition assessments of 178 pump stations including development of prioritized
  - 156 pump stations
  - 69 miles of force main
  - 922 miles of gravity sewer
- .Conducting preliminary design and managing more than 15 firms' detailed designs for all pipeline replacements and capacity improvements.
- Conducting pre- and post-construction flow monitoring and I/I reduction effectiveness evaluations.
- Optimization of I/I reduction activities.
- Developing and tracking of program KPIs in Power BI.

Hazen has achieved tremendous success in the first few years of the program with eliminations of numerous highly active sanitary sewer overflows and informed budgeting through a robust asset management approach.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.			
b.	(1) FIRM NAME **Hazen and Sawyer**	(2) FIRM LOCATION *(City and State)* **Coral Gables, Florida**	(3) ROLE **Subconsultant**
c.	(1) FIRM NAME **Hazen and Sawyer**	(2) FIRM LOCATION *(City and State)* **Cincinnati, Ohio**	(3) ROLE **Subconsultant**

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER **5**

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
City of Clearwater Sewer CIP Program Management Services		**N/A**

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
City of Clearwater, FL	**Todd Kuhnel** **Senior Engineering Specialist**	**(727) 562-4798**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Size
Program management services for a citywide review and assessment of existing sewer and facility conditions to facilitate resources for collection systems evaluations and repairs.

Status
Ongoing through 2026

Cost
$3.0 million (fee authorized to date)
$18 million (total fee anticipated)

Description
Hazen's scope of services includes a review of available information and assessment (as directed by City) of existing sewer and facility conditions to facilitate long term planning and allocation of resources for collection system evaluations and repairs. This includes a review of the City's Capacity, Management, Operations and Maintenance (CMOM), force main condition assessment, WWCS's Master Plan maintenance recommendations and flow monitoring data. Hazen also provides construction administration services overseeing City contractor work involving sewer point repairs, I&I identification and remediation, sewer main (gravity & force) and lateral replacement/upsizing and/or relocation, utility conflict resolution, lift station & water reclamation facility repair/remediation, cleaning and CCTV of gravity mains/laterals, cured-in-place pipe (CIPP), and manhole repair and coating. As part of this Hazen oversees the confirmation and repairs of sewer defects previously identified by the City.,

Professional design services are included as well as as-built review and approval followed by Record Drawing development for existing projects.

The City has also collected a significant amount of data using smoke and dye testing in addition to flow monitoring. Hazen is using the data collected to direct the ongoing efforts of the City's current five WWCS repair Contractors for:

- Sanitary Sewer Trenchless Reconstruction
- Sewer Cleaning and Televising Inspection
- Manhole Surfacing
- Sanitary Cleanout and Lateral Repairs
- Additional Smoke and Dye Testing

Hazen also provides strategic review and prioritization of pending projects. Projects are added to the prioritization list as they are developed, either as part of the City's normal Capital Improvement Plan (CIP) process or as they are identified and developed under this program. After City approval of a proposed repair, Hazen oversees the City's sewer repair contractors for activities including scheduling, MOT, permits, public notifications, procurement, and preparation of record drawings.

Hazen develops periodic reports quantifying improvements to the WWCS system, including ongoing recommendations for future periods.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.			
b.	**Hazen and Sawyer**	**Cincinnati, Ohio**	**Subconsultant**
c.	**Hazen and Sawyer**	**Baltimore, Maryland**	**Subconsultant**

EXHIBIT D
Exhibit 2

ARCHITECT - ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (OR BRANCH OFFICE) NAME Hazen and Sawyer		3. YEAR ESTABLISHED 1951	4. UNIQUE ENTITY IDENTIFIER
2b. STREET 999 Ponce de Leon Boulevard, Suite 1150		5. OWNERSHIP	
2c. CITY Coral Gables	2d. STATE FL	2e. ZIP CODE 33143	a. TYPE Corporation (Employee Owned)
6a. POINT OF CONTACT NAME AND TITLE Jayson Page, PE, Vice President			b. SMALL BUSINESS STATUS
6b. TELEPHONE NUMBER (305) 443-4001	6c. E-MAIL ADDRESS jpage@hazenandsawyer.com		7. NAME OF FIRM *(If block 2a is a branch office)* Hazen and Sawyer
8a. FORMER FIRM NAME(S) *(If any)*		8b. YR. ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER

9. EMPLOYEES BY DISCIPLINE

a. Function Code	b. Discipline	c. No. of Employees (1) FIRM	c. No. of Employees (2) BRANCH
02	Administrative	131	1
06	Architect	13	
08	CADD Technician	109	
10	Chemical Engineer	25	1
12	Civil Engineer	204	6
15	Construction Inspector	28	1
16	Construction Manager	77	1
18	Cost Engineer/Estimator	7	
20	Economist	5	
21	Electrical Engineer	78	
23	Environmental Engineer	377	5
24	Environmental Scientist	28	
30	Geologist	1	
32	Hydraulic Engineer	31	
39	Landscape Architect	1	
41	Mechanical Engineer	40	1
47	Planner: Urban/Regional	1	
53	Scheduler	1	
57	Structural Engineer	48	1
62	Water Resources Engineer	85	
	Other Employees	6	
	Total	**1296**	**17**

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS*

a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
C15	Construction Management	9
C18	Cost Estimating	2
D02	Dams (Earth, Rock)	6
D03	Desalination (Process & Facilities)	2
D04	Design-Build	8
E03	Electrical Studies & Design	2
E07	Energy Conservation	4
E08	Engineering Economics	5
E09	Environmental Impact Studies	6
H04	HVAC	2
I03	Industrial Waste Treatment	1
P05	Planning (Comm., Reg., Area, State)	6
P06	Planning (Site, Install. and Project)	3
P07	Plumbing and Piping Design	2
S04	Sewage Collect, Trmt and Disposal	10
S07	Solid Wastes	1
S10	Surveying; Platting; Mapping	2
S11	Sustainable Design	6
S13	Stormwater Handling & Facilities	9
T02	Testing & Inspection Services	5
W02	Water Resources; Hydrology; Ground Water	8
W03	Water Supply; Trmt and Distribution	9

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

a. Federal Work	6
b. Non-Federal Work	10
c. Total Work	10

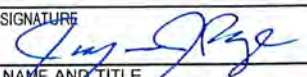
PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000
2. $100,00 to less than $250,000
3. $250,000 to less than $500,000
4. $500,000 to less than $1 million
5. $1 million to less than $2 million
6. $2 million to less than $5 million
7. $5 million to less than $10 million
8. $10 million to less than $25 million
9. $25 million to less than $50 million
10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE



b. DATE
April 26, 2022

c. NAME AND TITLE
Jayson Page PE, Vice President

EXHIBIT D
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
John Cestnick, PSM, IAM	Program Director	a. TOTAL: 26	b. WITH CURRENT FIRM: 23

15. FIRM NAME AND LOCATION *(City and State)*
Woolpert, Inc., Miami, Florida

16. EDUCATION (DEGREE AND SPECIALIZATION)	17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)
B.S., Surveying Engineering, University of New Brunswick	Professional Surveyor and Mapper: Florida Certified Asset Management

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED: PROFESSIONAL SERVICES	(2) YEAR COMPLETED: CONSTRUCTION *(If Applicable)*
Cityworks Asset Management System Implementation, Fort Lauderdale, FL	Ongoing	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — [X] Check if project performed with current firm

Project Manager responsible for project oversight and contract compliance. In 2019 the City of Fort Lauderdale selected Woolpert to implement a new Cityworks AMS GIS-centric asset management system for the water, wastewater, and stormwater divisions. Also included within the project was system integrations between Cityworks and their Cayenta meter billing system, and the QAlert 311 system.

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED: PROFESSIONAL SERVICES	(2) YEAR COMPLETED: CONSTRUCTION (If Applicable)
Asset Management Implementation GIS/GPS Utility Mapping and Data Conversion, Fort Lauderdale, FL	2007	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — [X] Check if project performed with current firm

Phase Manager for all surveying and inventory services. Between 2000 and 2002, Woolpert assisted the Public Services Department in developing and implementing a state-of-the-art asset management system to provide accurate, current information on its utility infrastructure. After initial planning, Woolpert provided a GPS inventory of water, sewer, and stormwater utility structures, as well as an inventory of light poles, to build GIS layers in geodatabase format. Woolpert then integrated the GIS with the City's Hansen CMMS, and developed specifications and applications for maintaining, querying, and viewing the asset data in a web environment.

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED: PROFESSIONAL SERVICES	(2) YEAR COMPLETED: CONSTRUCTION (If Applicable)
Onsite GIS Support Services WASD, Miami, FL	2018	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — [X] Check if project performed with current firm

Project Manager responsible for project oversight and contract compliance. Between January 2013 and November 2016, Woolpert had as many as 40 GIS Technicians onsite at WASD providing GIS conversion services to assist the County in updating their water and sewer utility GIS. Onsite staff used a custom application called *GIS Atlas Maintenance System* (GAMS2) to enter new data; used GAMS2 to research and correct reported GIS data errors; used Esri GIS tools to validate and modify GIS layers; interpreted water and sewer as-builts; provided research using various WASD systems; and QA/QC various utility attribute and feature information.

d.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED: PROFESSIONAL SERVICES	(2) YEAR COMPLETED: CONSTRUCTION (If Applicable)
GIS/GPS Water and Sewer Utility Survey WASD, Miami, FL	2020	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — [X] Check if project performed with current firm

Project Manager responsible for all surveying activities. Beginning with a nine square-mile pilot area and continued with full conversion of the 414 square-mile service area, provided services to build a GIS that support both water and sewer distribution networks by locating surface utility features. Woolpert worked extensively with a Trimble Navigation software programmer in co-developing a pen based RTK data collection software. This allowed for the quick and efficient data collection of over 180,000 water and sewer utility features to accuracies of 3.5 centimeters. After the successful completion and client acceptance of the pilot area, John managed the full production of all field aspects of the project.

e.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED: PROFESSIONAL SERVICES	(2) YEAR COMPLETED: CONSTRUCTION (If Applicable)
Utility GIS/GPS Utility Mapping and Data Conversion, Deerfield Beach, FL	2014	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — [X] Check if project performed with current firm

Project Manager responsible for the successful completion of the project. Woolpert was contracted to provide a citywide inventory of their water, sewer, and stormwater utility systems. Following the field data collection, we used existing As-Built and other utility source documentation to build utility networks using a refined version of the Esri Local Government Information Model. Contracted task items included a project management plan; project communications website; field and GIS procedures manuals; geodatabase design documentation; personal geodatabase deliverables; project training; and RTD GPS utility mapping for the entire city.

EXHIBIT D
Exhibit 2

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER: 1

21. TITLE AND LOCATION (City and State)	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (if Applicable)
WOOLPERT GIS Utility Mapping and GPS Data Collection Fort Lauderdale, FL	2007	N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
City of Fort Lauderdale	Ian A. Wint	954.828.6332

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Woolpert assisted the Public Services Department in developing a state-of-the-art asset management system using GPS derived positions of features and customized information system tools. This included planning, collecting data, designing the database, converting the data, developing custom applications, and providing maintenance solutions.

Master Planning. Using our proven planning methodology, Woolpert conducted interviews by teaming Fort Lauderdale's staff experience with Woolpert's technical knowledge. We also evaluated the City's business processes and workflows and recommended changes to reengineer their processes to flow more efficiently.

Data Collection. Woolpert collected GIS data by scanning, indexing, and georeferencing available source documents, such as City atlases, sewer books, intersection detail drawings, and as-built drawings. Field crews then used GPS and pen-based computers to conduct a field inventory of more than 45,000 water, sewer, and stormwater utility features and 13,000 light poles. Utility features were surveyed using RTK technology and provided horizontal and vertical locations of ±0.2-foot accuracy. Light poles were surveyed to an accuracy of ±3 feet using RTD survey techniques.

Database Design. Woolpert first conducted a conceptual database design, organizing the data and deciding what, where, and how it would be stored. Woolpert then created a physical database model for the City's GIS data.

Data Conversion. Once the database was created, Woolpert converted the field-collected data into the following layers: water force mains, gravity sewers, stormwater, environmentally sensitive areas, customer service address, and street annotation. We used proprietary automated tools to check the quality of the data before migrating it from ArcInfo coverages to ArcInfo 8.x geodatabase.

Application Development. The City and Woolpert identified the need for three customized applications and developed software requirements and specifications for each. Woolpert implemented the following three applications:

- **GIS Utility Billing System Integration.** The application extracts and collects data from the existing utility billing system and makes it available to the GIS. ArcGIS Maintenance application combines standard ESRI ArcGIS desktop functions with custom tools to provide a user interface that enables maintenance of an ESRI ArcSDE database.
- **Fort Lauderdale Infrastructure, Public Property, and Environmental Resources**. The application uses custom ESRI, ArcIMS, and Visual Basic development tools to distribute water, sewer, and stormwater utility data to internal and external users over the Internet or intranet. Woolpert also completed the application development necessary to integrate the GIS data into the City's existing Hansen System.
- **Maintenance**. To bring the GIS data to the point where the City can begin routine maintenance of its utility assets, Woolpert incorporated all data changes that had occurred since the data conversion began. The GIS based management system helps the City keep accurate inventories of its assets and spare parts, predict maintenance schedules, and make changing information more efficient by reflecting actual conditions. These benefits make sustainability more cost effective.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	Woolpert, Inc.	Miami, FL	GIS Utility Mapping, GPS Data Collection
b.			
c.			

EXHIBIT D
Exhibit 2

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER: 2

21. TITLE AND LOCATION (City and State)	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (if Applicable)
WOOLPERT University of Miami, CMOM Updates, Coral Gables, Florida	Ongoing	NA

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Corradino Group	Robert Regalado	305.594.0735

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Woolpert was contracted by The Corradino Group to ensure University of Miami (UM) compliance with a Miami-Dade County Consent Decree requiring conformance to State Code and the Federal Clean Water Act for the operation of sanitary sewer collection systems, as well as a proactive system management approach to prevent sanitary sewer overflows (SSO). As a utility volume sewer customer, UM needed Woolpert's assistance in providing a CMOM Plan of Compliance documenting how they would meet the decree requirements as well as updating the University's Sanitary Sewer Master Plan (SSMP). The SSMP incorporated University planning information, past flow data, discussions with University staff and field inspections to provide recommendations to the University. Recommendations were made to ensure adequate sewer capacity for both gravity sewer basins, downstream pump stations and force mains, as necessary. The impact of on-campus growth both in the near-term (within two years) and mid-term (two–five years in the future) planning horizons were evaluated to propose phasing the recommended projects to coincide with the timing of the future demands on the system. Budget-level cost estimates were prepared to allow the University to prepare long-term funding plans for building sufficient system capacity, which are an important part of the regulatory-required CMOM program.

The effect of a student housing complex currently under construction and its proposed sanitary sewer pump station was evaluated for the existing University facilities that would be impacted by the project. Woolpert provided an evaluation of these impacts to the existing upstream pump station No. 2 and nearby pump station No. 3 and pump station No. 7, as well as recommendations for the future flow conditions of the proposed pump station pump station No. 18 within the housing complex. Recommendations included pertinent consistency and constructability observations relative to the sanitary sewer design plans performed by UM's design consultant for the student housing complex.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	Woolpert, Inc.	Miami, FL	Engineering, Compliance Services
b.			
c.			

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER: 3

21. TITLE AND LOCATION (City and State)	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (if Applicable)
WOOLPERT Consulting Services Relating to Consent Decree's CMOM, Miami, FL	2019	N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Miami Dade County Water and Sewer Department (WASD)	Juan Bedoya	305.439.0038

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Miami-Dade WASD provides drinking water and wastewater disposal services to nearly 2.3 million residents. Woolpert provided Miami-Dade County with a multitude of surveying, engineering and other consulting and technical services to comply with a Consent Decree from the US Environmental Protection Agency (USEPA) and Florida Department of Environmental Protection (FDEP), that requires the preparation of CMOM Programs by the County, with WASD as the responsible wastewater system operating entity.

Woolpert assisted WASD with the development of the following programs over the course of this CMOM contract:

- SSO Response Plan
- Information Management System Program
- GIS
- Sewer System Asset Management Program
- Gravity Sewer System Operation and Maintenance Program
- Pump Station Operations and Preventative Maintenance Program
- Force Main Operations, Preventative Maintenance and Assessment/Rehabilitation Program
- Force Main Criticality Assessment and Prioritization Program
- Force Main Rehabilitation and Replacement Program
- WWTP Operations and Maintenance Program

Additionally, climate change impacts on the wastewater collection and transmission system (WCTS) were evaluated under each of the above programs. The CMOM programs were intended to reduce SSOs through the improvement of the operation and maintenance of County wastewater collection, transmission and treatment systems. A key component to achieve this goal was inclusion and integrating WASD's information systems and databases to facilitate improved decision making and allow WASD personnel at all levels better access to data currently stored in standalone databases and to improve reporting capabilities.

Woolpert reviewed and evaluated WASD CMOM Programs' procedures and policies that were currently in place and utilized this information to identify needed refinements and enhancements to the existing programs. Special focus was placed on all related Information Management Systems to understand existing capabilities, existing uses and components of existing systems. This allowed Woolpert to develop an optimal approach that will maximize the value of work that had already been performed by WASD staff. This process also was used to identify interdependencies among the CMOM programs and establish protocols to improve integration of existing and supplemental practices that were compatible with and complementary to the objectives and goals of each of the affected CMOM program elements.

Finally, upon EPA/FDEP approval of each CMOM Program, the client assessed the need for Woolpert to provide implementation assistance. This assistance included implementation with the EPA-approved Gravity Sewer System Operations and Maintenance Program plan prepared by others in addition to the CMOM Programs prepared by Woolpert.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	Woolpert, Inc.	Miami, FL	Survey, Engineering, Consulting
b.			
c.			

EXHIBIT D
Exhibit 2

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)	20. EXAMPLE PROJECT KEY NUMBER: 4

21. TITLE AND LOCATION (City and State)	22. YEAR COMPLETED	
Subsurface Utility GIS and Surveying and Mapping Services, Miami, FL	PROFESSIONAL SERVICES: 2017	CONSTRUCTION (if Applicable): N/A

23. PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER: Miami Dade WASD	b. POINT OF CONTACT NAME: Jose Lopez	c. POINT OF CONTACT TELEPHONE NUMBER: 305.596.8461

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Woolpert was contracted to perform utility mapping and GIS services at the Port of Miami through five separate work orders.

Seaboard Subsurface Utility Engineering (SUE) Services

Woolpert performed surveying and engineering services for locating and mapping all utilities in support of future project development. The work included a complete subsurface investigation to conform to ASCE Quality Levels B, C, and D. The work entailed a review of preliminary engineering design, topographic surveying, location of existing pipelines, integrating orthophotography images for background mapping, preparation of site plans for future construction projects, and utility investigation reports.

Onsite GIS Consulting Services

Woolpert completed a full GIS Needs Assessment for the Port of Miami IT systems and operations to determine opportunities to leverage GIS and their asset management system. Services included designing full enterprise-wide geodatabase design for communications, water, sewer, stormwater, and electrical assets. Future phases may include developing custom web-based applications and system integration between ship berth systems, security systems, and GIS.

Quality Level D SUE Services

Woolpert was contracted to design and build ArcGIS geodatabases for each of the five existing utilities at the Port of Miami to include: water, sanitary sewer, stormwater, communication, and electrical. Each geodatabase design was developed based on existing source documents. Following the approval of each design, Woolpert GIS/Survey technicians used all of the available Port of Miami source documentation to compile each utility according to the ASCE 38-02 Quality Level D standards.

Quality Level B SUE Services (Westside)

Woolpert was contracted to field survey all underground utilities for approximately one-third of the Port of Miami. Deliverables included populated ArcGIS geodatabases according to the ASCE 38-02 Quality Level B utility locating standards.

Quality Level B SUE Services (Eastside)

Woolpert was retained to survey and map the location of the Port's underground utilities. All final data was processed and delivered within Esri ArcGIS geodatabases, separated by utility type.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
a.	(1) FIRM NAME: Woolpert, Inc.	(2) FIRM LOCATION *(City and State)*: Miami, FL	(3) ROLE: Utility Mapping/Engineering, GIS Services
b.	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
c.	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER: 5

21. TITLE AND LOCATION *(City and State)*: Onsite GIS Support Services, Miami, FL

22. YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION (if Applicable)
2018	N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Miami-Dade WASD	Jose Lopez	305.596.8461

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

The Miami-Dade WASD GIS is the system of record for the majority of the field assets maintained in their Enterprise Asset Management System (EAMS). An existing backlog of thousands of as-builts and construction drawings hindered WASD's ability to accurately track inventory and maintenance costs associated with these assets. Conversion and migration of this utility data into the WASD GIS was vital to supporting WASD's compliance with a Federal Consent Decree program. WASD contracted Woolpert to provide onsite GIS staffing resources to assist with eliminating the GIS backlog of as-builts and construction drawings and converting all utility related information to GIS geodatabases.

Between January 2013 and June 2018, Woolpert provided as many as 40 GIS Analysts onsite at WASD supporting GIS conversion services to assist the County in updating their water and sewer utility GIS. Onsite staff used a custom application called GIS Atlas Maintenance System (GAMS2) to enter new data; used GAMS2 to research and correct reported GIS data errors; used Esri GIS tools to validate and modify GIS layers; interpreted water and sewer as-builts; provided research using various WASD systems; and QA/QC various utility attribute and feature information.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	Woolpert, Inc.	Miami, FL	GIS Services
b.			
c.			

ARCHITECT – ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*

PART II – GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (OR BRANCH OFFICE) NAME
Woolpert, Inc.

2b. STREET
6100 Blue Lagoon Drive, Suite 440

2c. CITY
Miami

2d. STATE
FL

2e. ZIP CODE
33126

6a. POINT OF CONTACT NAME AND TITLE
Mark Tomczyk, Project Director

6b. TELEPHONE NUMBER
305.351.2948

6c. E-MAIL ADDRESS
Mark.Tomczyk@woolpert.com

3. YEAR ESTABLISHED
2005

4. UNIQUE ENTITY IDENTIFIER
032923984

5. OWNERSHIP

a. TYPE
Corporation

b. SMALL BUSINESS STATUS
No

7. NAME OF FIRM *(If block 2a is a branch office)*
Woolpert, Inc. (Parent Firm)

8a. FORMER FIRM NAME(S) *(If any)*
Woolpert LLP
(Woolpert has been established since 1911)

8b. YR. ESTABLISHED
1997

8c. UNIQUE ENTITY IDENTIFIER
032923984

9. EMPLOYEES BY DISCIPLINE

a. Function Code	b. Discipline	c. No. of Employees (1) FIRM	(2) BRANCH
02	Administrative	157	1
28	Geodetic Surveyor	10	1
38	Land Surveyor	86	5
58	Technician/Analyst	152	0
62	Water Resources Engineer	26	2
	Other Employees	450	0
	Total	881	9

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
C13	Computer Facilities; Computer Service	3
C16	Construction Surveying	1
G04	Geographic Information System Services:	5
L02	Land Surveying	1
S04	Sewage Collection, Treatment & Disposal	3
S13	Stormwater Handling & Facilities	2
T04	Topographic Surveying and Mapping	1
U03	Utilities (Gas and Steam)	1
W03	Water Supply; Treatment and	1
	CADD, Computer-Aided Design & Drafting	5

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

a. Federal Work	1
b. Non-Federal Work	5
c. Total Work	5

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000
2. $100,000 to less than $250,000
3. $250,000 to less than $500,000
4. $500,000 to less than $1 million
5. $1 million to less than $2 million
6. $2 million to less than $5 million
7. $5 million to less than $10 million
8. $10 million to less than $25 million
9. $25 million to less than $50 million
10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE
J.P. Johns

b. DATE
4/27/2022

c. NAME AND TITLE
J.P. Johns, Vice President

AUTHORIZED FOR LOCAL REPRODUCTION

STANDARD FORM 330 (REV. 8/2016) **PAGE 6**

EXHIBIT D
Exhibit 2

FIRM'S ABILITY TO MEET TIME AND BUDGET REQUIREMENTS

Our careful attention to detail and defined processes have helped ensure that projects are delivered successfully, meeting the highest standard of care while on schedule and on budget. Whether in the beginning stages of the project, currently working through the design, or in the construction phase, experience and insight help our projects succeed every step of the way.

While every civil engineering design is unique, our teams have developed steps around several key milestones that can help save time, money and potential rework for our clients. Success looks different for every project, which is why our team's first priority is to listen. Whether it's cost, schedule, quality or community impact, we develop succinct criteria standards to review during and after project completion, so the focus never deviates from creating a successful project.

By looking at the design process from our client's perspective, we are able to see a comprehensive view of the project and apply our past experience to develop unique solutions. Our team maintains constant communication, both internally across disciplines and with the municipal client, so all parties are aware of the progress on deliverables, design, and permitting. This collaborative relationship with all parties, from the kick-off meeting to project certification, helps ensure an accurate and timely final product.

SUSTAINABLE BUSINESS PRACTICES

Craven Thompson is committed to lessening its environmental impact and advocating green initiatives throughout the company. Our goal is to benefit our community and employees while setting the bar in our profession. The following is a brief summary of our green policies and procedures which were initiated over the past decade:

- At Craven Thompson the recycling of paper goods is not limited to those containing confidential information. All paper, including newspapers, magazines and inter-office memos are thoroughly and completely shredded in order to expedite the recycling process.
- Craven Thompson has instituted effective recycling practices and significantly reduced our paper consumption. We continually seek to minimize the volume of paper used in printing, copying, data storage and communication. We have increased our focus on paperless technology and developed electronic templates for a wide variety of internal and external communications. We have also converted the vast majority of our reports, newsletters and bulletins from hard copy to electronic versions. Internal campaigns urge our personnel to view documents on-screen whenever possible; if paper copies are necessary, we use recycled paper for printing and copying. Duplex printing set as the default for "two-sided" use is an increasingly effective way to achieve our paper reduction goals.
- In addition to paper recycling, we work with our local property managers to minimize disposables and reuse equipment and supplies wherever possible. We systematically recycle large volumes of printer/photocopier cartridges, batteries and plastics.
- Craven Thompson conserves energy by using more efficient lighting systems. We steadily encourage energy-conscious practices across the company. Our offices promote energy efficiency through motion-sensitive light switches.

EXHIBIT D
Exhibit 2

BUSINESS INFORMATION AND STRUCTURE

For over sixty (60) years Craven Thompson & Associates has provided consulting services to governmental agencies throughout South Florida. We have provided some or all of the following services to numerous clients including: civil engineering, landscape architectural services, utilities engineering, land surveying, GIS mapping, and water, wastewater, utility management.

Craven Thompson was founded in 1962 and has a large group of professional engineers, graduate engineers, surveyors, G.I.S. specialists, landscape architects and planners. Craven Thompson has been providing engineering, surveying and CEI services for the past sixty (60) years, landscape architectural services for the past thirty-seven (37) years, and G.I.S. services for the past sixteen (16) years. Craven Thompson has sixty-nine employees consisting of four Landscape Architects, two planners; twenty-five civil engineers, twenty-one surveyors & GIS specialists (includes field crews), one construction manager, eight construction inspectors; and seven administrative personnel - four of which are clerical. Craven Thompson and our sub-consultants have extensive experience with projects involving roadways, complete streets, stormwater drainage, water, wastewater, landscape architecture, surveying, and G.I.S.

Firm Ownership

Thomas M. McDonald
President / 100% Owner
Craven Thompson & Associates, Inc.
3563 NW 53rd Street
Fort Lauderdale, Florida 33309
Phone: (954) 739-6400 / Email: tmcdonald@craventhompson.com

Organizational Structure

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

Joseph D. Handley, P.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

Location of Headquarters, Number and Location of Branch Offices

Corporate Headquarters
3563 NW 53rd Street
Fort Lauderdale, Florida 33309

One Branch Office:
4723 W. Atlantic Avenue, Suite 12A
Delray Beach, Florida 33445

EXHIBIT D
Exhibit 2

PROFESSIONAL LICENSES / CERTIFICATIONS

CRAVEN THOMPSON & ASSOCIATES, INC.

License

Name:	CRAVEN, THOMPSON & ASSOCIATES, INC.	License Number:	271
Rank:	Registry	License Expiration Date:	
Primary Status:	Current	Original License Date:	05/10/1977

Related License Information

License Number	Status	Related Party	Relationship Type	Relation Effective Date	Rank	Expiration Date
49428	Current, Active	GIBNEY, PATRICK J	Registry	03/14/2014	Professional Engineer	02/28/2023

STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

GIBNEY, PATRICK J
525 NE 34TH STREET
BOCA RATON FL 334310000

LICENSE NUMBER: PE49428
EXPIRATION DATE: FEBRUARY 28, 2023

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STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

GIL, JOHNNY
6745 NW 169TH STREET
UNIT B
HIALEAH FL 33015

LICENSE NUMBER: PE76613
EXPIRATION DATE: FEBRUARY 28, 2023

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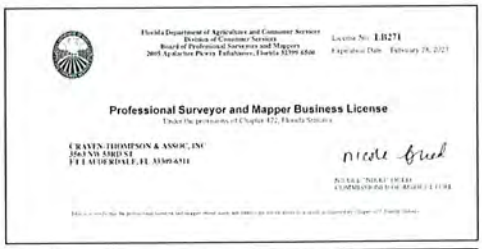
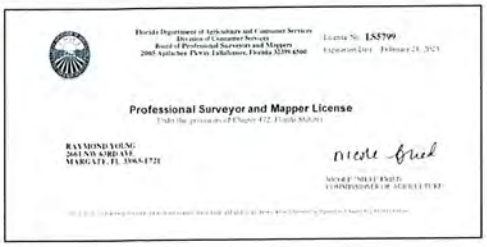


Professional Surveyor and Mapper Business License

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

Professional Surveyor and Mapper License

RICHARD PRYCE
1901 SW 26TH ST
DAVIE FL 33325-5106



Professional Surveyor and Mapper License

RAYMOND YOUNG
2661 NW 63RD AVE
MARGATE FL 33063-1721

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, 2022, that its most recent annual report/uniform business report was filed on January 10, 2022, 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, 2022

Secretary of State

FDOT

Florida Department of Transportation

June 15, 2021

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 prequalification package and determined that the data submitted is adequate to technically prequalify 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
8.4 - Right of Way Mapping
Group 10 - Construction Engineering Inspection
10.1 - Roadway Construction Engineering Inspection
Group 15 - Landscape Architect

Your firm is now technically prequalified with the Department for Professional Services in the above referenced work types. Your firm may pursue projects in the referenced work types with fees estimated at less than $500,000.00. This status shall be valid until June 15, 2022, for contracting purposes.

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

Sincerely,

Carlayn Kell
Professional Services
Qualification Administrator

CEH/Cka

EXHIBIT D
Exhibit 2

HAZEN & SAWYER

dbpr Department of Business & Professional Regulation

HOME CONTACT US MY ACCOUNT

ONLINE SERVICES

- Apply for a License
- Verify a Licensee
- View Food & Lodging Inspections
- File a Complaint
- Continuing Education Course Search
- View Application Status
- Find Exam Information

Licensee

Name	HAZEN AND SAWYER, P.C.	License Number	2771
Rank	Registry	License Expiration Date	
Primary Status	Current	Original License Date	11/08/1978

Related License Information

License Number	Status	Related Party	Relationship Type	Relation Effective Date	Rank	Expiration Date
44165	Current Active	TAYLOR, ROBERT B JR	Registry	04/27/2017	Professional Engineer	02/28/2023

STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

AL-OMARI, KHAMIS ABDEL-RAHMAN
8445 HAMMOCKS BLVD
UNIT 2207
MIAMI FL 33193

LICENSE NUMBER: PE90087
EXPIRATION DATE: FEBRUARY 28, 2023
Always verify licenses online at MyFloridaLicense.com

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STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

FITZGERALD, SEAN WILLIAM
4060 OAK TREE CT
LOVELAND OH 45140

LICENSE NUMBER: PE91137
EXPIRATION DATE: FEBRUARY 28, 2023
Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.
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STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

MARSJANIK, MICHAEL VERNON
2144 NODLEIGH TERRACE
JARRETTSVILLE MD 21084

LICENSE NUMBER: PE54717
EXPIRATION DATE: FEBRUARY 28, 2023

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State of Florida
Department of State

I certify from the records of this office that HAZEN AND SAWYER, P.C. is a New York corporation authorized to transact business in the State of Florida, qualified on October 18, 1978.

The document number of this corporation is 841657.

I further certify that said corporation has paid all fees due this office through December 31, 2022, that its most recent annual report/uniform business report was filed on January 12, 2022, and that its status is active.

I further certify that said corporation has not filed a Certificate of Withdrawal.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Twelfth day of January, 2022

Secretary of State

Tracking Number: 4982614325CC

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

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

EXHIBIT D
Exhibit 2

WOOLPERT, INC.

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: LB6777
Expiration Date: February 28, 2023

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

WOOLPERT INC
ATTN: TESS CARAWAN 4454 IDEA CENTER BLVD
DAYTON, OH 45430-1500

NICOLE "NIKKI" FRIED
COMMISSIONER OF AGRICULTURE

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: LS5994
Expiration Date: February 28, 2023

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

JOHN ANGUS CESTNICK
4530 NW 49TH COURT
COCONUT CREEK, FL 33073

NICOLE "NIKKI" FRIED
COMMISSIONER OF AGRICULTURE

FDOT
Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

KEVIN J. THIBAULT, P.E.
SECRETARY

July 8, 2021

Thomas Ruschkewicz, Geospatial Practice Leader
WOOLPERT, INC.
4454 Idea Center Boulevard
Dayton, Ohio 45430

Dear Mr. Ruschkewicz:

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

Group 2 - Project Development and Environmental (PD&E) Studies

Group 4 - Highway Design - Bridges
- 4.1.1 - Miscellaneous Structures
- 4.1.2 - Minor Bridge Design

Group 8 - Survey and Mapping
- 8.1 - Control Surveying
- 8.2 - Design, Right of Way & Construction Surveying
- 8.3 - Photogrammetric Mapping
- 8.4 - Right of Way Mapping

Group 13 - Planning
- 13.3 - Policy Planning
- 13.6 - Land Planning/Engineering

Group 15 - Landscape Architect

Your firm is now technically prequalified with the Department for Professional Services in the above referenced work types. The overhead audit has been accepted, and your firm may pursue projects in the referenced work types with fees of any dollar amount. This status shall be valid until June 30, 2022, for contracting purposes.

Approved Rates

Home/ Branch Overhead	Facilities Capital Cost of Money	Premium Overtime	Reimburse Actual Expenses	Home Direct Expense
200.14%	0.560%	Reimbursed	No	16.92%

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www.fdot.gov

State of Florida
Department of State

I certify from the records of this office that WOOLPERT, INC. is an Ohio corporation authorized to transact business in the State of Florida, qualified on September 27, 2004.

The document number of this corporation is F04000005579.

I further certify that said corporation has paid all fees due this office through December 31, 2020, that its most recent annual report/uniform business report was filed on April 23, 2020, and that its status is active.

I further certify that said corporation has not filed a Certificate of Withdrawal.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Seventeenth day of February, 2021

Secretary of State

Tracking Number: 3885789645CU

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

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

Per Title 23, U.S. Code 112, there are restrictions on sharing indirect cost rates. Refer to Code for additional information.

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

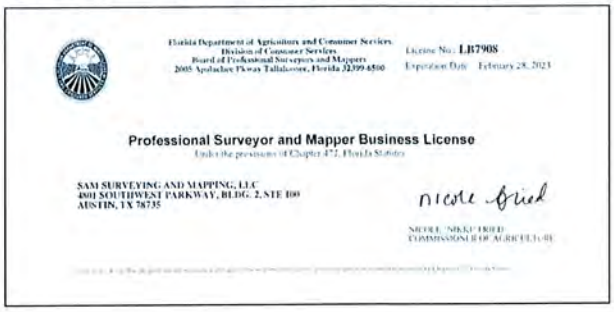
Sincerely,

Carilayn Kell
Professional Services
Qualification Administrator

Safety. Mobility. Innovation.
www.fdot.gov

EXHIBIT D
Exhibit 2

SURVEYING AND MAPPING, INC. (SAM)



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

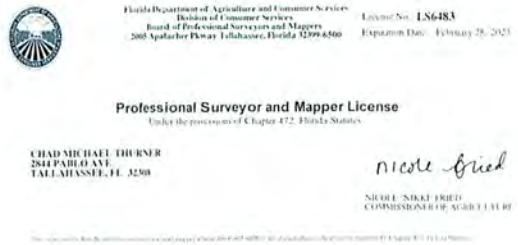
License No.: LB7908
Expiration Date: February 28, 2023

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

SAM SURVEYING AND MAPPING, LLC
4801 SOUTHWEST PARKWAY, BLDG. 2, STE 100
AUSTIN, TX 78735

nicole fried

NICOLE "NIKKI" FRIED
COMMISSIONER OF AGRICULTURE



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

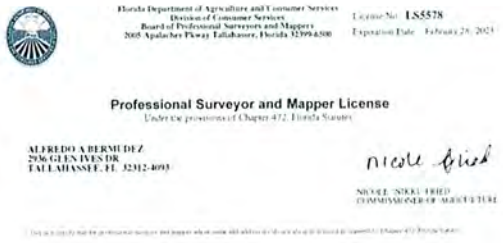
License No.: LS6483
Expiration Date: February 28, 2023

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

CHAD MICHAEL THURNER
2844 PABLO AVE
TALLAHASSEE, FL 32308

nicole fried

NICOLE "NIKKI" FRIED
COMMISSIONER OF AGRICULTURE



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

License No.: LS5578
Expiration Date: February 28, 2023

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

ALFREDO A BERMUDEZ
2936 GLENIVEN DR
TALLAHASSEE, FL 32312-4093

nicole fried

NICOLE "NIKKI" FRIED
COMMISSIONER OF AGRICULTURE

State of Florida
Department of State

I certify from the records of this office that SAM SURVEYING AND MAPPING, LLC is a Texas limited liability company authorized to transact business in the State of Florida, qualified on November 24, 2014.

The document number of this limited liability company is M14000008465.

I further certify that said limited liability company has paid all fees due this office through December 31, 2022, that its most recent annual report was filed on March 2, 2022, and that its status is active.

I further certify that said limited liability company has not filed a Certificate of Withdrawal.

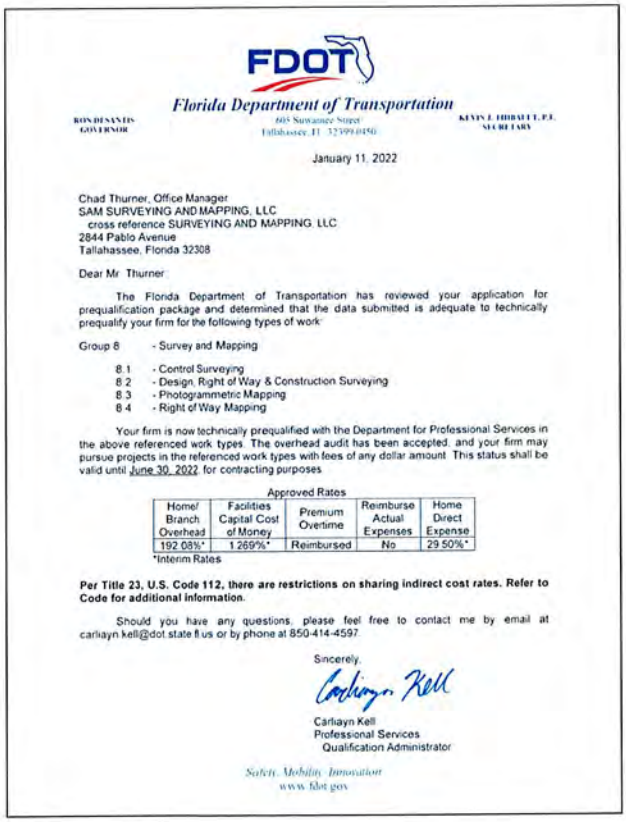
Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Eighth day of April, 2022

Secretary of State

Tracking Number: 5186345053CU

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

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



FDOT

Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

KEVIN J. THIBAULT, P.E.
SECRETARY

January 11, 2022

Chad Thurner, Office Manager
SAM SURVEYING AND MAPPING, LLC
cross reference SURVEYING AND MAPPING, LLC
2844 Pablo Avenue
Tallahassee, Florida 32308

Dear Mr. Thurner:

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

Group 8 - Survey and Mapping

8.1 - Control Surveying
8.2 - Design, Right of Way & Construction Surveying
8.3 - Photogrammetric Mapping
8.4 - Right of Way Mapping

Your firm is now technically prequalified with the Department for Professional Services in the above referenced work types. The overhead audit has been accepted, and your firm may pursue projects in the referenced work types with fees of any dollar amount. This status shall be valid until June 30, 2022, for contracting purposes.

Approved Rates

Home/ Branch Overhead	Facilities Capital Cost of Money	Premium Overtime	Reimburse Actual Expenses	Home Direct Expense
192.08%*	1.269%*	Reimbursed	No	29.50%*

*Interim Rates

Per Title 23, U.S. Code 112, there are restrictions on sharing indirect cost rates. Refer to Code for additional information.

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

Sincerely,

Carlayn Kell
Professional Services
Qualification Administrator

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EXHIBIT D
Exhibit 2

MANUEL G. VERA & ASSOCIATES, INC.

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

License No.: LB2439
Expiration Date: February 28, 2023

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

MANUEL G VERA & ASSOCS INC
13960 SW 47TH ST
MIAMI, FL 33175-4404

Nicole Fried

NICOLE "NIKKI" FRIED
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 Pkwy Tallahassee, Florida 32399-6500

License No.: LS6694
Expiration Date: February 28, 2023

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

ULISES M. BETANCOURT
8030 SW 11TH ST
MIAMI, FL 33144-4316

Nicole Fried

NICOLE "NIKKI" FRIED
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 Pkwy Tallahassee, Florida 32399-6500

License No.: LS5266
Expiration Date: February 28, 2023

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

MARK R SOWERS
19663 HAMPTON DRIVE
BOCA RATON, FL 33434

Nicole Fried

NICOLE "NIKKI" FRIED
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.

State of Florida
Department of State

I certify from the records of this office that MANUEL G. VERA & ASSOCIATES, INC. is a corporation organized under the laws of the State of Florida, filed on April 27, 1977.

The document number of this corporation is 534958.

I further certify that said corporation has paid all fees due this office through December 31, 2022, that its most recent annual report/uniform business report was filed on January 24, 2022, 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 Twenty-fourth day of January, 2022

GREAT SEAL OF THE STATE OF FLORIDA
IN GOD WE TRUST

Secretary of State

Tracking Number: 5708884609CC

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

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

Florida Department of Transportation

RICK SCOTT
GOVERNOR

ANANTH PRASAD, P.E.
SECRETARY

May 1, 2013

MARIA T VERA
MANUEL G VERA & ASSOCIATES INC
13960 SW 47TH STREET
MIAMI FL 33175-4404

ANNIVERSARY DATE - Annually on December 10

Dear Ms. Vera

The Florida Department of Transportation (FDOT) is pleased to announce that your firm has been certified under Florida's Unified Certification Program (UCP) as a Disadvantaged Business Enterprise (DBE) **in accordance with 49 Code of Federal Regulation Part 26.**

DBE Certification is continuing, but it is contingent upon the firm maintaining its eligibility annually through this office. You will be notified of your annual responsibilities in advance of the Anniversary Date. You must submit the annual AFFIDAVIT FOR CONTINUING ELIGIBILITY **no later than the** Anniversary Date.

Only firms listed in the UCP DBE Directory are certified by Florida UCP Members. Prime contractors and consultants should verify your firm's DBE certification status, **and identify the work area(s) for which the firm is DBE eligible, through this Directory.**

Your firm will be listed in Florida's UCP DBE Directory which can be accessed through the Department's website: www.dot.state.fl.us/equalopportunityoffice and then selecting "DBE Directory".

DBE certification is not a guarantee of work. It allows your firm to compete for and perform contract work on ALL USDOT Federal Aid (FAA, FTA, and FHWA) projects in Florida as a DBE contractor, sub-contractor, consultant, sub-consultant or material supplier.

If, at any time there is a material change you must advise this office, by sworn affidavit and supporting documents, within thirty (30) days. Changes include, but are not limited to, ownership, officers, directors, management, key personnel,

www.dot.state.fl.us

FDOT

Florida Department of Transportation

RON DESANTIS
GOVERNOR

KEVIN J. THIBAULT, P.E.
SECRETARY

September 30, 2021

Maria Vera, President
MANUEL G VERA & ASSOCIATES INC.
13960 SW 47th Street
Miami, Florida 33175

Dear Ms. Vera

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

Group 8 - Survey and Mapping
- 8.1 - Control Surveying
- 8.2 - Design, Right of Way & Construction Surveying
- 8.3 - Photogrammetric Mapping
- 8.4 - Right of Way Mapping

Your firm is now technically prequalified with the Department for Professional Services in the above referenced work types. The overhead audit has been accepted, and your firm may pursue projects in the referenced work types with fees of any dollar amount. This status shall be valid until September 30, 2022, for contracting purposes.

Approved Rates

Home/ Branch Overhead	Field Overhead	Facilities Capital Cost of Money	Premium Overtime	Reimburse Actual Expenses	Home Direct Expense	Field Direct Expense
112.51%*	96.82%	0.068%	Reimbursed	No	26.10%	0.00%*

*Rent and utilities excluded from field office rate. These costs will be directly reimbursed on contracts that require the consultant to provide field office.
*For multi-year contracts, DOT has adjusted the overhead rates to mitigate the adverse impacts of Payroll Protection Program loan forgiveness. For information on the adjusted overhead rates, contact the district Procurement Office.
Per Title 23, U.S. Code 112, there are restrictions on sharing indirect cost rates. Refer to Code for additional information.

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

Sincerely,

Carlayn Kell
Professional Services
Qualification Administrator

CBH/kw

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www.fdot.gov

EXHIBIT D
Exhibit 2

CRAIG A. SMITH & ASSOCIATES

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

License No.: LB3110
Expiration Date: February 28, 2023

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

CRAIG A. SMITH & ASSOCIATES, LLC
21045 COMMERCIAL TRL
BOCA RATON, FL 33486-1006

nicole fried

NICOLE "NIKKI" FRIED
COMMISSIONER OF AGRICULTURE

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

License No.: LS4846
Expiration Date: February 28, 2023

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

ROBERT D KEENER
950 SE ATLANTUS AVE
FORT PIERCE, FL 34983-3906

nicole fried

NICOLE "NIKKI" FRIED
COMMISSIONER OF AGRICULTURE

Detach Here

State of Florida
Department of State

I certify from the records of this office that CRAIG A. SMITH & ASSOCIATES, LLC is a limited liability company organized under the laws of the State of Florida, filed on May 13, 2021.

The document number of this limited liability company is L21000210726.

I further certify that said limited liability company has paid all fees due this office through December 31, 2021 and that its status is active.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Tenth day of June, 2021

Secretary of State

Tracking Number: 156193160ICU

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

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

PROJECT MANAGER (PROJECT DIRECTOR)

Patrick J. Gibney, P.E. is the proposed project manager for the *"Water Consent Order Program Management and Mapping Services"*.

Mr. Gibney graduated from Rutgers, The State University, with a Bachelor of Science Degree in Civil Engineering in 1987. He received his professional engineering license in the State of Florida in 1995. With a total of thirty-four years of experience in the civil engineering field, Mr. Gibney has spent twenty-eight of those years with Craven Thompson & Associates.

As project manager, Mr. Gibney serves as the project lead, client contact, and technical specialist for municipal water distribution and wastewater collection and transmission projects. He provides technical experience and expertise for water and wastewater projects and leads planning, study, design and permitting efforts related to water distribution, reuse water distribution and wastewater collection and transmission infrastructure. He provides leadership, direction, and technical guidance to staff and municipal clients on a variety of water, wastewater related projects.

He has designed and/or managed projects involving water, wastewater, and pumping facility rehabilitation in Broward County since 1993. His initial project was the South County Neighborhood Improvement Project for Broward County Water & Wastewater Service which ran from 1993 to 2005. This 1,440-acre project included the design, permitting, bidding and construction consisting of 53 miles of roadway, 140,618 linear feet of watermain, 236,226 linear feet of gravity sanitary sewer, and eleven (11) wastewater pumping stations. Following that project, he was also heavily involved in the design and management of the Central County Neighborhood Improvement Project, the North Central County Neighborhood Improvement Project, and the North County Improvement Project. Combined these projects included hundreds of thousands of feet of watermain, sewer collection main, force main, along with numerous wastewater pump station rehabilitations and new pump station design.

Mr. Gibney has managed and/or directed a large number of water and wastewater system projects for municipalities within Broward County. This includes: Fort Lauderdale, Plantation, Oakland Park, Davie, Hollywood, Miramar, and Hallandale Beach. Craven Thompson currently has continuing services CCNA contracts for water and wastewater for each of these Broward County municipalities. Recently, Mr. Gibney has managed projects such as: Eastside Infrastructure improvements for the Town of Davie; Hollywood Watermain Replacement Program - City Projects 15-5129 and 12-5517, Driftwood Septic to Sewer Conversion Phases 1 & 2; Master Lift Station W-14 and Lift Stations A-6, & E-2 Rehabilitation for Hollywood; and Master Pump Station 8 Rehabilitation for Hallandale Beach. He was the project manager for the Fort Lauderdale *Pump Station A-13 and Sewer Re-Direction South of Federal Highway Project*. Mr. Gibney also acted as project director for the *Fort Lauderdale South Middle River Force Main Crossing Design-Build Project*, as well as the *Fort Lauderdale 54" Diameter Redundant Force Main Bypass Line (Zones 4B & 4C) Design-Build Project.*

EXHIBIT D
Exhibit 2

Section 4.2.4: Qualifications of the Project Team

EXHIBIT D

Exhibit 2

ORGANIZATIONAL CHART

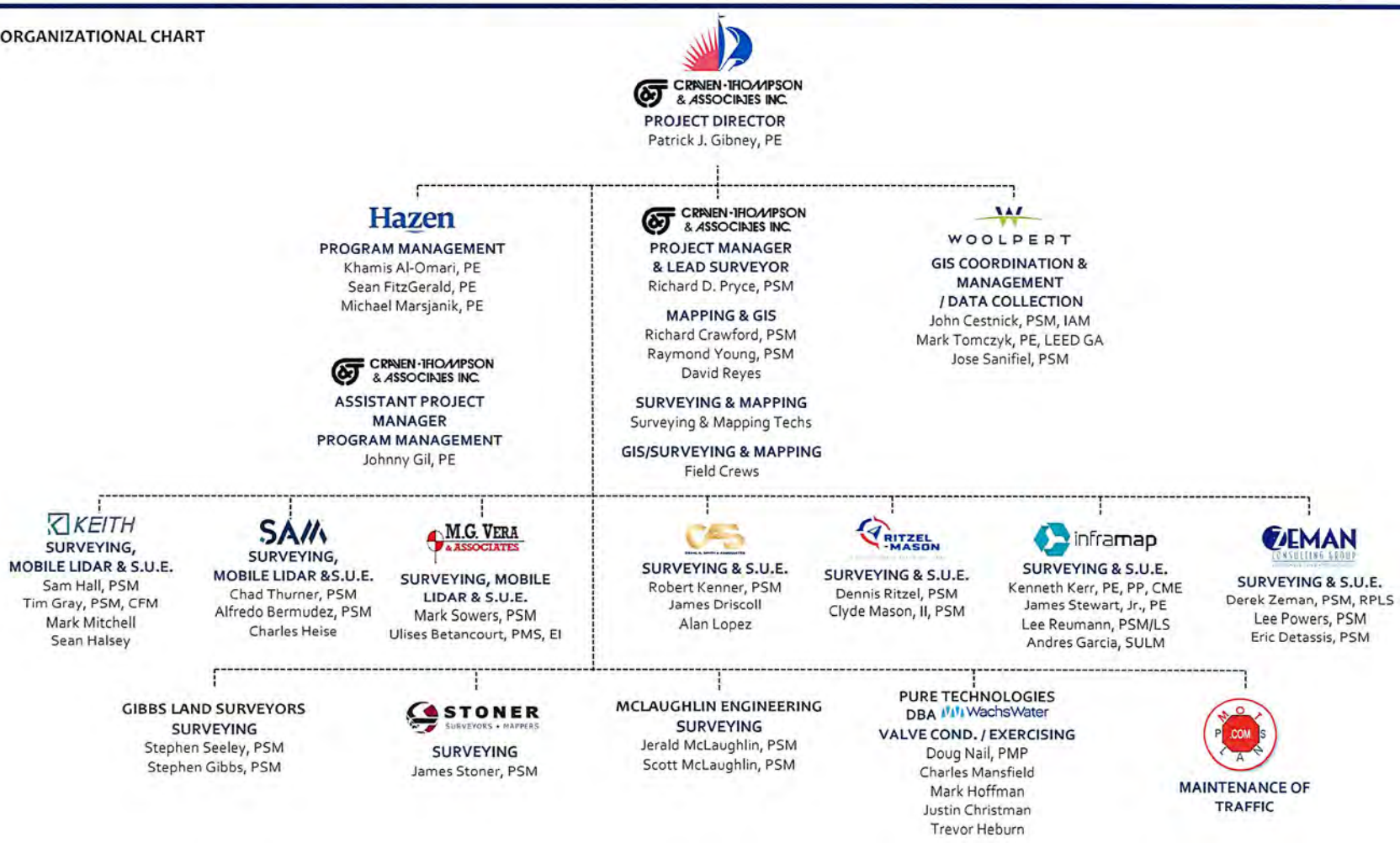

EXHIBIT D
Exhibit 2

PATRICK GIBNEY, P.E.
PROJECT DIRECTOR

Mr. Gibney has over thirty-four years of experience providing project management, design and construction management services for public civil engineering projects. These projects include infrastructure improvements for a multitude of infrastructure rehabilitation projects. This includes design and CEI services for water distribution systems, sanitary sewer collection & transmission systems, lift Stations, pavement design, storm water management systems, drainage systems, preparation of contract documents and specifications and construction inspections.

Relevant Experience:

East Las Olas Boulevard Watermain and Forcemain Design Criteria Package | Fort Lauderdale, Florida | Project Manager. The City of Fort Lauderdale retained Craven Thompson & Associates and Hazen and Sawyer to develop the design criteria package documents and obtain all long-lead permits for crossing of the ICW. This team's permitting expertise was critical to meeting the City's Deadline. The purpose of this $3.1 Million project, completed in December 2016, was to deepen a critical 20-inch water main crossing of the ICW along with adding a new 16-inch sewage force main to enhance system reliability. The impetus for this project was a Florida Inland Navigation District (FIND) plan to deepen the Intracoastal Waterway navigation channel from 10 to 17 feet below the water surface to stimulate economic development of the region's marine industry.

Installation of New Redundant Bypass Line (Zone 4B & 4C) – 54" FM | Fort Lauderdale, Florida | Project Director - The project involved the installation of 54" nominal OD HDPE Force Main by Horizontal Directional Drill (HDD), with sections of open cut trench installation of 16" HDPE Force Main. The total length of Horizontal Directional Drill (HDD) 54" OD HDPE Force Main is 3,223 LF in length which was proposed to minimize the disturbance to the community and limit the amount of pavement restoration, with an additional 653 LF of 16" HDPE Force Main installed by open cut trench.

South Middle River Force Main Crossing – 16" Redundant Pipe | Fort Lauderdale, Florida | Project Director - The project involved the installation of 16" nominal OD HDPE Force Main under the South Middle River Waterway, with sections of open cut trench installation of 16" PVC Force Main. The total length of subaqueous crossing of 16" HDPE Force Main is 1,092 LF in length, with an additional 832 LF of 16" PVC Force Main installed by open cut trench.

Pump Station A-13 & Sewer Redirection East of Federal Highway | Fort Lauderdale, Florida | Project Manager - This project is for the construction of Lift Station A-13, located at the southeast corner of Southeast 2nd Court and Southeast 8th Avenue. The project scope included the construction of an 18-inch diameter gravity sanitary sewer system and the connection to an existing active sanitary sewer manhole located at the intersection of Federal Highway and Broward Boulevard to the new lift station.

CRAVEN-THOMPSON & ASSOCIATES INC

Firm:
Craven Thompson & Associates, Inc.
3563 NW 53rd Street
Fort Lauderdale, Florida 33309

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

Years of Experience
Total: 34; With Firm: 28

Licenses/Certifications
State of Florida
Professional Civil Engineer
Florida No. 49428 (1995)

FDOT Pre-Qualified
Roadway Construction
Engineering Inspection

EXHIBIT D
Exhibit 2

RICHARD D. PRYCE, P.S.M.,
PROJECT MANAGER DATA COLLECTION & MAPPING

Mr. Pryce has over forty-four 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.

Relevant Experience:

North Miami Beach Sewer & Water GIS Project | North Miami Beach, Florida – Project Manager - This project for North Miami Beach Utility Department was undertaken to create an ArcGIS geodatabase of water and sanitary sewer system for the entire services area. The goal of this project was to provide Survey/GIS grade data without actual surveying the entire water & sanitary sewer system.

Stormwater GIS/Data Collection Project | North Miami Beach, Florida | Principal Survey/GIS Manager - The City is divided into six (6) zones and that structure/pipe data was collected within each zone and identified by zone and structure numbers. GIS data was collected and processed utilizing the City's existing Unit ID naming system in the geodatabase. The Craven Thompson data was collected by a Unique ID. Craven Thompson provided the city with a copy of the updated geodatabase with all the proposed data fields to be collected for review. The GIS data collected consisted of: Structure type (junction, inlet, control structure, drainage well): Pipes: Culvert, Outfalls, Headwalls & Seawalls.

Fort Lauderdale Stormwater Master Plan GIS & Survey | City of Fort Lauderdale, Florida | Project Manager - Performed surveying, and an As-built/Inventory 5,400 Stormwater Features for GIS City-Wide Stormwater Model. The city was flown with high density aerial LiDAR to a vertical accuracy of 0.15 feet across the entire City. From the Lidar we created a 2-foot grid Digital Elevation Model of the ground for modeling drainage flow. This required a GPS Control Network, and 309 ground control for the flight, performed over 5,000 verification shots on hard surfaces at major roadways across the city. The second part of this survey was to collect and evaluate 5,400 storm structures with Rims, Inverts, Pipe Size, material, and research As-built records of the city in the Stormwater system and provide the data in ArcGIS Geodatabase conforming to their GIS Model Schema.

Fort Lauderdale Sanitary Sewer System GIS & Surveying | Fort Lauderdale, Florida| Project Manager - Craven Thompson established Primary and Secondary Vertical Control with over 3,000 new benchmarks for Sanitary Sewer Mapping of the City, including As-built/Inventory of Manholes, pump Stations, meters, valves, air valves and 80 miles of force mains. During Sewer Mapping Phase I, the Benchmarks and GPS Control monuments were established for each of the 52 Data Collection Zones (DCZ). The benchmarks and monuments were utilized with a GPS base station during the feature data acquisition phase. Phase II included multiple feature data acquisitions for the City's GIS System and for certain areas to be thoroughly modeled. The data acquisition features collected as part of this Phase included 5,908 manholes, 190 Pump Stations, 15 Meters, and 80 miles of pressure pipes with 752 valves and 285 Air release valves.

CRAVEN-THOMPSON & ASSOCIATES INC

Firm:
Craven Thompson & Associates, Inc.
3563 NW 53rd Street
Fort Lauderdale, Florida 33309

education
Broward Community College, Associate of Science in Criminal Justice (1978)

years of experience
Total: 44; With Firm: 16

licenses/certifications
Professional Surveyor and Mapper: LS4038 (1983)

publications
Co-author POB Magazine - "22,000 Acres and Counting" November 1998
Co-author POB Magazine - "The CAD Resolution" September 1999

affiliations
Past Director - Broward County Chapter of Florida Surveying & Mapping Society
State & County Chapters, Florida Surveying & Mapping Society
American Congress on Surveying and Mapping
National Society of Professional Surveyors
American Society of Photogrammetry and Remote Sensing

EXHIBIT D
Exhibit 2

RICHARD G. CRAWFORD, JR., P.S.M.
LAND SURVEYOR / FIELD CREW COORDINATOR

Mr. Crawford has over thirty-six years of experience within the surveying industry. During this time, his experience has grown to include all types of surveys. Richard is well trained and proficient in the processing of survey data collection from a variety of data collection devices, such as GPS, Digital Leveling, and Conventional Total Stations.

Relevant Experience:

Sanitary Sewer Mapping – Control Surveying | Fort Lauderdale | Principal Survey Project Manager - Responsible for establishing Primary and Secondary Vertical Control with over 3,000 new benchmarks for Sanitary Sewer Mapping of the City, including As-built/Inventory 5,917 Sanitary Manholes, 190 pump Stations, 15 meters, and 80 miles of force mains and their associated valves.

Citywide Benchmarks | City of Pompano Beach, Florida | Principal Survey Project Manager – Responsible for establishing Primary and Secondary Vertical First Order Control to establish new city benchmarks to support a Storm Drainage Study.

Florida Department of Transportation (FDOT), District 4 and District 6, Districtwide Miscellaneous Services Contract-South Florida – Project Surveyor. Supervised a wide variety of land surveying assignments throughout Southeast Florida region as a Project Surveyor in responsible charge. Utilized GNSS, and conventional land surveying techniques to perform digital terrain modeling, subsurface utility locations (SUE), boundary determinations, sewage infrastructure analysis, bridge details, control surveys, and right-of-way establishment.

City of Fort Lauderdale Modeling and Design Implementation of Storm Water Master Plan | Fort Lauderdale, Florida | Project Surveyor. Responsible for directing survey data collection, GIS analysis, and assisting others team members. Provided oversight for field data acquisition of storm water infrastructure attributes needed to populate an existing GIS Database.

Dania Pointe | Dania Beach, Florida | Project Surveyor
Construction of 101+ acres of infrastructure, roadways and buildings, retail and residential, as-builts of the same. Project cost - $1 Billion.

Broward County UAZ 110/111 & 113 Water Sewer Improvements 113B | Lauderhill - Project Surveyor/Field Coordinator. Mapping, Field Coordination, Survey Data Processing. Responsible for establishing Primary and Secondary Vertical Control for Drone Mapping including flying, and processing drone data.

CRAVEN-THOMPSON & ASSOCIATES INC

Firm:
Craven Thompson & Associates, Inc.
3563 NW 53rd Street
Fort Lauderdale, Florida 33309

education
Palm Beach Community College, Associates of Science in Land Surveying (1994)
Broward College, Associate of Arts in Architecture (1986)

Years of experience
Total: 36

Licenses/certifications
Professional Surveyor and Mapper: LS5371 (1994)

FAA Remote Pilot with a UAS Rating Certificate Number 3911523 (2016)

Computer Skills
AutoCAD, MicroStation, Star Net, Civil 3D, Carlson Survey

Affiliations
Florida Surveying & Mapping Society - Broward Chapter

RAYMOND YOUNG, P.S.M.
LAND SURVEYOR

Mr. Young has thirty-nine 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.

Related Work Experience (Partial Listing):

North Miami Beach Water & Sewer Service Area GIS &Mapping | North Miami Beach, Florida | Surveyor - Project surveyor/GIS. Data Collection and G.I.S. Specialist - The purpose of the 25,600 Acre Service Area Project was to provide the city with the complete GIS product of their water and sanitary system. This involved the conversion of the City's existing water and sanitary sewer infrastructure, from an AutoCAD drawing file format to the industry standard, ESRI Geographic Information System (GIS) format. The Project included the entire North Miami Beach Utility service area.

Fort Lauderdale Sanitary Sewer System GIS & Surveying |Fort Lauderdale, Florida | Surveyor - Project surveyor/GIS. Data Collection and G.I.S. Specialist - Craven Thompson performed surveying, and an As-built/Inventory 5,400 Stormwater Features for GIS City-Wide Stormwater Model. The survey limits of this project are described as the entire City limits of Fort Lauderdale. The city was flown with high density aerial LiDAR to a vertical accuracy of 0.15 feet across the entire City. From the Lidar we created a 2-foot grid Digital Elevation Model of the ground for modeling drainage flow. This required a GPS Control Network, and 309 ground control for the flight, performed over 5,000 verification shots on hard surfaces at major roadways across the city. The second part of this survey was to collect and evaluate 5,400 storm structures with Rims, Inverts, Pipe Size, material, and research Asbuilt records of the city in the Stormwater system and provide the data to the City in ArcGIS Geodatabase conforming to their GIS Model Schema.

Seminole Hollywood Reservation Stormwater Data Collection/GIS| Hollywood, Florida| | North Miami Beach, Florida - Senior Survey /GIS Technician - The Hollywood Seminole Reservation is generally bounded by Stirling Road on the north and by Sheridan Street on the south and includes the Hard Rock Hotel and Casino which is located north of Stirling Road. Craven Thompson updated the Tribe's stormwater GIS information through entering as-built data, and surveying the hundreds of stormwater/drainage structures located on the reservation. Craven Thompson acquired accurate horizontal and vertical information on every stormwater/drainage feature on the Tribe's Hollywood Reservation. We reviewed existing storm sewer surveys and as-builts that could assist with GIS location and with this information our survey crew measured each structure to get accurate horizontal and vertical information for the Tribe's GIS system. During the data collection phase, the GPS locations of structures, canals, retention areas and ditches were captured with X-Y-Z coordinate values in the data collector. In addition, details such as pipe sizes, material, inverts, weirs, and structure condition were obtained in the field.

CRAVEN THOMPSON & ASSOCIATES INC

Firm:
Craven Thompson & Associates, Inc.
3563 NW 53rd Street
Fort Lauderdale, Florida 33309

years of experience
Total: 39; With Firm: 29

licenses/certifications
Professional Surveyor and Mapper: LS5799

affiliations
Florida Society of Professional Surveyors and Mappers

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Exhibit 2

DAVID REYES, SURVEY & G.I.S. TECHNICIAN
LAND SURVEYING, G.I.S. DATA COLLECTION & MAPPING

CRAVEN·THOMPSON & ASSOCIATES INC

Firm:
Craven Thompson & Associates, Inc.
3563 NW 53rd Street
Fort Lauderdale, **Florida 3**3309

Registrations / Certifications
Certified Survey Technician Level III, Florida, 2003
FDOT Maintenance of Traffic, Florida

Continuing Education
FDOT Intermediate Work Zone Traffic Control Refresher (2005)

Years of Experience
Total: 30; With Firm: 6

FDOT Work Type Codes:
8.1 - Control Surveying
8.2 - Design, Right-of-Way Construction Survey
8.4 - Right-of-Way Surveying

Affiliations
Member, CAICE Users Group
Member, Florida GPS Users Group
Member, Florida Local Users Group
MicroStation Community
Secretary, Florida Surveying & Mapping Society, Broward County Chapter 2004

Mr. Reyes has significant surveying and mapping experience in Florida. He has extensive private and public sector project experience including design, construction engineering inspection (CEI), construction, global positioning systems (GPS), geographic information systems (GIS), right-of-way control.

Relevant Experience:

Fort Lauderdale Sanitary Sewer System GIS & Surveying | Fort Lauderdale, Florida - Craven Thompson established Primary and Secondary Vertical Control with over 3,000 new benchmarks for Sanitary Sewer Mapping of the City, including As-built/Inventory of Manholes, pump Stations, meters, valves, air valves and 80 miles of force mains. During Sewer Mapping Phase I, the Benchmarks and GPS Control monuments were established for each of the 52 Data Collection Zones (DCZ). The benchmarks and monuments were utilized with a GPS base station during the feature data acquisition phase. Phase II included multiple feature data acquisitions for the City's GIS System and for certain areas to be thoroughly modeled. The data acquisition features collected as part of this phase included 5,908 manholes, 190 Pump Stations, 15 Meters, and 80 miles of pressure pipes with 752 valves and 285 Air release valves

Seminole Hollywood Reservation Stormwater Data Collection/GIS| Hollywood, Florida | Senior Survey /GIS Technician - The Hollywood Seminole Reservation is generally bounded by Stirling Road on the north and by Sheridan Street on the south and includes the Hard Rock Hotel and Casino which is located north of Stirling Road. The east and west boundaries are formed by existing residential neighborhoods in the City of Hollywood. Craven Thompson updated the Tribe's stormwater GIS information through entering as-built data, and surveying the hundreds of stormwater/drainage structures located on the reservation. Craven Thompson acquired accurate horizontal and vertical information on every stormwater/drainage feature on the Tribe's Hollywood Reservation. During the data collection phase, the GPS locations of structures, canals, retention areas and ditches were captured with X-Y-Z coordinate values in the data collector. In addition, details such as pipe sizes, material, inverts, weirs, and structure condition were obtained in the field.

Fort Lauderdale Stormwater Master Plan GIS & Survey | City of Fort Lauderdale, Florida - Performed surveying, and an As-built/Inventory 5,400 Stormwater Features for GIS City-Wide Stormwater Model. The city was flown with high density aerial LiDAR to a vertical accuracy of 0.15 feet across the entire City. From the Lidar we created a 2-foot grid Digital Elevation Model of the ground for modeling drainage flow. This required a GPS Control Network, and 309 ground control for the flight, performed over 5,000 verification shots on hard surfaces at major roadways across the city. The second part of this survey was to collect and evaluate 5,400 storm structures with Rims, Inverts, Pipe Size, material, and research As-built records of the city in the Stormwater system and provide the data to the City in ArcGIS Geodatabase conforming to their GIS Model Schema.

EXHIBIT D
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JOHNNY GIL, P.E.
ASSISTANT PROGRAM MANAGER

Mr. Gil's experience includes program management, and design of paving, grading & drainage, water & sanitary sewer, permitting, project coordination, estimating and drafting.

Relevant Experience:

City of Fort Lauderdale Wastewater Consent Order Program (OGC No 16-1487) – Program Management Services (2019-Present) | Fort Lauderdale |Senior Engineer Responsibilities include periodically gathering project status information, producing monthly progress reports, and Semi-Annual Reports, maintaining and consistently updating the overall Consent Order Program Master Schedule, recording and archiving of project completion and certification documentation, coordinating presentation graphics, assembling program status updates, drafting project notifications for project completions and Milestone achievements to the Florida Department of Environmental Protection (FDEP).

- Responsible for gathering, compiling and overall production of the Consent Order Projects Monthly Progress Report and Semi-Annual Reports. The projects reported consists of (15) Sewer Force Main projects, (5) Pump Station projects, (6) Infiltration & Inflow projects and (2) Wastewater Treatment Plant Generator projects, among other City-wide asset management plans, infrastructure mapping and Utility Condition Assessments programs and reports.
- Responsibilities also include maintaining and tracking updates of the Master Program Schedule, which tracks all the Consent Order Projects and required Milestones. Tracking and tabulating project percent complete for each individual project. Planning and coordinating the completion of the Consent Order requirements with the City and Consultants to meet the Program Milestones. Development and updating of program and project costs reports requested by FDEP as per the Amended Consent Order.

Project Delivery Plan - Bid Package 10 | City of Oakland Park | Project Engineer - Responsible for the layout, replacement and upgrade design of approximately 10,000 LF of water main and 2,000 LF of force main throughout the City of Oakland Park. Design required coordination with existing utilities and permitting with City, County and State Agencies.

City of Miami Gardens, Vista Verde Drainage Design | Miami Gardens | Project Engineer - Responsible for creating a drainage model of the Vista Verde Neighborhood and preparing a complete set of drainage plans and cost estimate. Design included pipe sizing, grading and coordination with concurrent Dade County water main installation.

Floranada Road Roundabout and Traffic Calming Improvements | City of Oakland Park | Project Engineer - Assisted project manager in preparation of contract documents, including revisions to plans and quantity take-offs.

CRAVEN-THOMPSON & ASSOCIATES INC

Firm:
Craven Thompson & Associates, Inc.
3563 NW 53rd Street
Fort Lauderdale, Florida 33309

Education
Georgia Institute of Technology, Atlanta, Georgia, Masters of Science, Civil Engineering - Structures (2010)

Florida International University, Miami, Florida Bachelor of Science in Civil Engineering (2008)

Years of Experience
Total: 12; With Firm: 7

Licenses/Certifications
State of Florida
Professional Civil Engineer
Florida No. 78613 (2015)

Technical Skills
AutoCAD Civil 3D, Microstation, GTSTRUDL, STAAD, ETABS MathCAD, Matlab, Primavera, Project Planner, Microsoft PowerPoint, Advanced Excel Programming, Word, ICPR3, Cascade

EXHIBIT D
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Khamis Al-Omari, PE

Program Manager

Mr. Al-Omari has over 33 years of experience in wastewater and water engineering and project management. He currently serves as a Project Manager on the City of Ft. Lauderdale Sewer Design and Implementation Consent Order Program, responsible for program budget and schedule controls, risk management and reporting. He also served as the Program Manager managing contracts, budgets, and schedules for the $165 million Zarqa Water and Wastewater Networks Projects in Jordan.

Education

MS, University of Cincinnati, 1988
BS, Ohio University, 1984

Certification/License

Professional Engineer: FL, MI, OH

Master Citizen Planner, Michigan State University Extension, 2007

Areas of Expertise

- Construction management
- Program management
- Constructability review
- Combined sewer systems
- Wastewater treatment plants
- Water and sewer systems
- Pumping stations

Experience

- 33 total years
- 23 years with Hazen

Professional Activities

Water Environment Federation

Construction Management Association of America

Project Awards

Conner Creek CSO Control Facility, Detroit, MI:

- *2007 Construction Management Association of America (CMAA) Project Achievement Award for Infrastructure Project with Constructed Value Greater than $100 Million*
- *2007 Honorable Conceptor Award for Engineering from the American Council of Engineering Companies (ACEC) of Michigan and Michigan Society of Professional Engineers MSPE)*

City of Fort Lauderdale Sewer Design and Implementation Consent Order Program, FL

Mr. Al-Omari currently serves as a Project Manager on the City of Fort Lauderdale's $181 million Consent Order Program. He is responsible for developing and monitoring the Master Program Schedule and Cost Model; planning and monitoring the projects defined in the Consent Order by defining their scope, deciding their project delivery method, and validating their schedule and project budget; risk management including risk identification, impact analysis, mitigation, and monitoring; quality assurance; and preparing monthly and semi-annual progress reports.

Zarqa Water and Wastewater Program Management and Construction Supervision Project, Jordan

Mr. Al-Omari served as the Program Manager for the $163 Million Jordan Water and Wastewater Program which included five wastewater and six water projects involving construction of approximately 500 miles of water supply networks, 200 miles of wastewater collection systems, and a new regional administration building for the Water Authority of Jordan. He also served as the Project Manager for the detailed design of the $103-million Water Network Restructuring and Rehabilitation Project (Water Network Project). The scope involved condition assessment of the existing water network, planning and design of the new water supply network (approximately 500 miles), rehabilitation of multiple water storage reservoirs, new booster station, and new pump station and reservoir.

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Sean FitzGerald, PE

Vice President – Conveyance Practice Leader

Mr. FitzGerald has over 30 years of experience in conveyance planning, design and asset management. He serves as Hazen and Sawyer's Corporate Conveyance Practice Leader and has helped develop and implement numerous conveyance related programs across the Country utilizing industry best practices for program controls as well as using innovative tools used to manage, track, and visualize work progress. Many of these programs include detailed asset mapping, condition assessment, and rehabilitation and replacement planning and budgeting.

Education

MSEnvE, University of Cincinnati, 1994

BSCE, University of Cincinnati, 1992

Certification/License

Professional Engineer: FL, OH, KY, NY, TX, Washington DC, MN

Areas of Expertise

- GIS-based analyses
- Sewer and water master planning
- Sewer and force main assessment and rehabilitation
- Hydraulic analysis
- Pipe and pump station design

Experience

- 32 total years
- 15 years with Hazen

Professional Activities

Water Environment Federation

- Collection System Committee

Ohio Water Environment Association

- Collection System Committee

American Water Works Association

Kentucky-Tennessee Water Environment Association

Technical Publications

Fitzgerald, Sean. Manuals of Practice, including FD-6 Existing Sewer Evaluation and Rehabilitation (2020) and FD-17 Prevention and Control of Sewer System Overflows (2012).

City of Clearwater Wastewater Collection System Program Management, Clearwater, Florida
Technical and QA/QC lead for the Clearwater WCS PM project. The program includes overseeing all aspects of the collection system program including program controls, schedules, field inspections, flow monitoring, data management, reporting, CIP planning, design and construction management.

Sarasota County AM CMOM Program Development and Implementation, Sarasota County Public Utilities, Florida Technical Lead for the development and implementation of the Sarasota County asset management and CMOM programs. Program tasks include the development and implementation of the CSAMP that incorporates all aspects of the collection and transmission system. Supported development of as-is and to-be business process mapping to support the program and development of the lift station risk framework, asset inventory process, and maintenance programs. Also supported evaluation of the CMMS software to consider switching to a more GIS-focused program.

City of Fort Lauderdale Cityworks Implementation, Fort Lauderdale, FL - Senior Project Manager on behalf of the City of Ft. Lauderdale for the implementation of Cityworks CMMS software for the Public Works De-partment and includes all assets for the wastewater, stormwater, and drinking water divisions. Providing technical assistance with development of workflows, business processes, and geodatabase design for im-plementation for linear and vertical assets.

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Michael Marsjanik, PE

Program Administration and Controls

As Lead for Program Administration and Controls, Mike will oversee development of the Project Management Plan, selection and tailoring of tools and controls to be used, and management of cost and schedule throughout the project; he will ensure the project is delivered successfully, on schedule and within budget.

Education

BS, Clarkson University, Civil/ Environmental Engineering, 1992

Certification/License

Professional Engineer: FL

Areas of Expertise

- Program Management
- SSES, I/I Study
- CMOM

Experience

- 29 total years
- 8 years with Hazen

Technical Publications

Marsjanik, M.V., C. Espinosa, and W. Qadri. 2008. Managing a Consent Decree, Baltimore City Consent Decree Program Management. Presented at the Virginia Water Environment Association Spring Conference. Richmond, Virginia. 10 April.

Marsjanik, M.V., W. Frankenfield . 2008. Baltimore County's Sewer Collection System Rehabilitation Program. Presented at the Trenchless Road Show. Ellicott City, Maryland. 12 November.

Marsjanik, M.V., C. Espinosa, A. Lambert, W. Qadri. Managing a Consent Decree – How Baltimore's Unique Approach has led to Innovation, Efficiency, and Success. Published in the July/ August 2008 Edition of Underground Infrastructure Management.

Mike has a proven track record serving as Program Manager on multiple large-scale water and wastewater infrastructure programs.

Asset Management/Program, Jefferson County, AL
Mike served as an advisor to the team responsible for initiating overall program controls and performance tracking. He oversaw development and implementation of a master schedule encompassing over 100 projects; developed cash flow planning procedures; created monthly performance tracking reports; and assisted in the development of a comprehensive Construction Management Plan.

$300M CIP Program, City of Baltimore, MD
Program Manager. Responsible for $5.3M consulting contract for PM/ CM services. Client Point of Contact. Services have included 1) creation, development, maintenance, training, and turn-over of a comprehensive Primavera P3 project tracking system for all CIP projects for DOT, W/Ww, Solid Waste, and General Services Departments (PROJECTSTAT), 2) development of Standard Operating Procedures for design/construction project life cycle, 3) Project Manager training for 50 City Project Managers for pre-design, design and construction, 4) strategic planning and programming for fiscal year project funding, 5) facilitation and report development for bi-weekly meetings between the DOT, DPW and Mayor's Office (ProjectStat), 6) evaluation and analysis of CIP processes and procedures, and 7) staffing support.

$1B Wet Weather Sewer Consent Decree, City of Baltimore, MD
Mike was responsible for overall management for the Consent Decree program, including: development of the document management system utilizing Primavera Expedition; development of the master schedule; overseeing $90 M of study-phase consulting work; coordinating consultants; development and oversight of a highly successful program communication protocol; development of preventive and routine maintenance programs.

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John Cestnick, PSM, IAM

Program Director

As a Program Director within Woolpert's Technology Services Market, John Cestnick leads a team of IT experts in designing and implementing information management solutions to meet clients' diverse needs.

John's more than 20 years of progressive experience encompasses GIS utility mapping and asset inventories; GIS conversions to Esri geodatabases; photogrammetric, aerial, and hydrographic mapping; topographic, boundary, and control surveys; laser scanning; and subsurface utility engineering (SUE) for municipal, utility, and airport clients. As a testament to his experience, John has been intimately involved with nearly every GIS implementation and inventory project that Woolpert has completed in South Florida.

Project Experience

Cityworks Asset Management System Implementation, City of Fort Lauderdale—Fort Lauderdale, Florida. Project Manager responsible for project oversight and contract compliance. In 2019 the City of Fort Lauderdale selected Woolpert to implement a new Cityworks AMS GIS-centric asset management system for the water, wastewater, and stormwater divisions. Also included within the project was system integrations between Cityworks and their Cayenta meter billing system, and the QAlert 311 system.

Asset Management Implementation GIS/GPS Utility Mapping and Data Conversion—City of Fort Lauderdale, Florida. Phase Manager for all surveying and inventory services. Between 2000 and 2002, Woolpert assisted the Public Services Department in developing and implementing a state-of-the-art asset management system to provide accurate, current information on its utility infrastructure. After initial planning, Woolpert provided a GPS inventory of water, sewer, and stormwater utility structures, as well as an inventory of light poles, to build GIS layers in geodatabase format. Woolpert then integrated the GIS with the City's Hansen CMMS, and developed specifications and applications for maintaining, querying, and viewing the asset data in a web environment.

Onsite GIS Support Services, WASD—Miami, Florida. Project Manager responsible for project oversight and contract compliance. Between January 2013 and November 2016, Woolpert had as many as 40 GIS Technicians onsite at WASD providing GIS conversion services to assist the County in updating their water and sewer utility GIS. Onsite staff used a custom application called *GIS Atlas Maintenance System* (GAMS2) to enter new data; used GAMS2 to research and correct reported GIS data errors; used Esri GIS tools to validate and modify GIS layers; interpreted water and sewer as-builts; provided research using various WASD systems; and QA/QC various utility attribute and feature information.

GIS/GPS Water and Sewer Utility Survey, WASD—Miami, Florida. Project Manager responsible for all surveying activities. Beginning with a nine square-mile pilot area and continued with full conversion of the 414 square-mile service area, provided services to build a GIS that support both water and sewer distribution networks by locating surface utility features. Woolpert worked extensively with a Trimble Navigation software programmer in co-developing a pen based RTK data collection software. This allowed for the quick and efficient data collection of over 180,000 water and sewer utility features to accuracies of 3.5 centimeters. After the successful completion and client acceptance of the pilot area, Mr. Cestnick managed the full production of all field aspects of the project, which at times included eight field crews.

Utility GIS/GPS Utility Mapping and Data Conversion—City of Deerfield Beach, Florida. Project Manager responsible for the successful completion of the project. Woolpert was contracted to provide a citywide inventory of their water, sewer, and stormwater utility systems. Following the field data collection, Woolpert used existing as-built and other utility source documentation to build utility networks using a refined version of the Esri Local Government Information Model. Contracted task items included a project management plan; project communications website; field and GIS procedures manuals; geodatabase design documentation; personal geodatabase deliverables; project training; and RTD GPS utility mapping for the entire city.

Professional Data

Years of Experience

26 years

Education

Bachelor of Science, Surveying Engineering, University of New Brunswick

Certificate, Technology Management & Entrepreneurship, University of New Brunswick

Certificate, Survey Technologist, College of Geographic Sciences

Professional Registration

Professional Surveyor and Mapper, Florida, LS5994

Certified Asset Management, National

EXHIBIT D
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Section 4.2.5: Approach to Scope of Work

Section 4.2.5

EXHIBIT D

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UNDERSTANDING OF CITY'S GOALS, NEEDS, OBJECTIVES

Over the past few years, the City of Fort Lauderdale's water system has been subject to watermain breaks that have warranted city-wide boil water orders. During these events, the City could not quickly identify and close the valves necessary to isolate the breaks to small well-defined locations. As a result, the City entered into Consent Order Number 19-1637 with the Florida Department of Environmental Protect (FDEP) on July 24, 2020 to improve the potable water system.

The City's water infrastructure consists of approximately 750 miles of source and distribution water mains, 19,000 valves, 6,200 fire hydrants, 250 air release valves, and 62,000 water meters and service lines. The City is looking to contract with an engineering/surveying consulting team to manage the Water Consent Order Program Report to FDEP; perform data collection, surveying, and georeferenced mapping of the water infrastructure; and assist with the water line valves exercise program. Other tasks required to comply with the Consent Order may be added to the overall scope.

For the program management task, the consultant will prepare and maintain, together with City staff, a Program Management Plan which establishes communication protocols and data collection, and process standards that will ensure the conditions set forth by the FDEP Consent Agreement are met. This includes developing documents, memorandums and progress reports as required for submission to FDEP to meet Consent Agreement mandates and deadlines, and to stay in compliance with FDEP regulations. Other program management tasks to be provided by the consultant includes assistance with the water valve exercising program through planning the field work, providing and updating field schedules, and preparation of field activity reports. The selected consultant is to provide supplemental resources for valve exercising if necessary. Xylem will provide these services. We acknowledge that the City is currently in the process of exercising the valves per the Consent Order requirements. The remaining items to be completed in the valve exercising program include: exercise 20% of the water distribution system valves in Year 2; preparation of an annual report of water distribution system valves exercised in Year 2; exercise 20% of the water distribution system valves in Year 3; exercise 20% of the water distribution system valves in Year 4; and exercise 20% of the water distribution system valves in Year 5.

Under program management, the consultant will review and validate maintenance records and prepare an annual report showing that the water line valves were exercised as required by the Consent Order. They will provide a physical condition assessment of all water valves and provide recommendations based on the findings of the assessment. The selected consultant will also prepare and submit reporting to FDEP in a timely fashion.

MANAGEMENT & COORDINATION

Craven Thompson's Project Director (overall Project Manager), Mr. Patrick Gibney, P.E., will be responsible for all aspects of this contract. He has extensive experience designing and managing watermain projects over the past twenty-nine (29) years. He has worked with the City of Fort Lauderdale staff on a continuing basis on various capital improvement projects for the past ten years. Mr. Gibney will be the main contact between the Program Manager, Mapping Project Manager, City, Hazen and Sawyer, and Woolpert for all aspects of this project.

Under Mr. Gibney's directions, the Mapping Project Manager, Mr. Richard Pryce, PSM with Craven Thompson, will oversee, manage, and coordinate the field efforts of the Craven Thompson survey crews and all subconsultant's field survey crews. He was the survey project manager for the data collection and mapping for the City's Sewer Design and Implementation Consent Order.

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Mr. Khamis Al-Omari, P.E., with Hazen and Sawyer, will serve as the Program Manager for this contract. Mr. Al-Omari currently serves as the Program Manager for Fort Lauderdale's Sewer Design and Implementation Consent Order. He will be assisted by Mr. Johnny Gil, P.E. of Craven Thompson.

Mr. John Cestnick, PSM, with Woolpert, will serve as the Project Manager for Cityworks tasks, as well as the GIS QA/QC services of the survey field data, and City Works integration of the Survey data for this project. He has worked with the City on their asset management and Cityworks implementation.

PROGRAM MANAGEMENT APPROACH

We understand that the City has completed many of the requirements of the Water Consent Order to date. We also understand that one of the City's main priorities is to achieve full compliance with the Consent Order mandates. We will make all efforts to expedite the delivery of the water system map as soon as possible, as well as work with the City and FDEP to implement innovative ideas to expedite the process.

The proper performance of the tasks delineated in this RFQ requires a team that fully understands the City's processes, distribution system, GIS, Cityworks, data models and asset management principles. This Craven Thompson Team not only meets all of those requirements, but our team members have also worked together on multiple projects, which will result in greater efficiency and effectiveness in meeting the aggressive deadlines.

We have a clear line of sight of the City's goals and objectives with respect to the Consent Order. In our approach, we describe our ability to partner with the City, which has been proven with our work on the Sewer Consent Program, to develop a Plan to transition active Consent Order projects without losing any of the momentum that you have already built. We will continue to operate under a "right-sized" Program Management umbrella. This approach requires a large contingent of qualified surveyors, engineers, as well as project controls, GIS and Cityworks personnel who have experience successfully delivering projects in the Fort Lauderdale public works environment. Our team has been specifically constructed to deliver such a talent pool to the City. The success of this project requires a wealth of prior knowledge and experience working with and for the City of Fort Lauderdale.

We have developed our approach methodology with the City's needs and objectives in mind. We formulated a program plan that will enable our team to mobilize quickly to take on (or assist depending upon the City's direction) the execution and reporting activities for active Consent Order projects while simultaneously monitoring the data collection and valve exercising work, assisting the City in determining if a Mapping Plan revision should be proposed to the FDEP, and completing the data collection and mapping work. Our proven operational tools that leverage dashboards, Cityworks and GIS will help ensure efficient planning and scheduling of field crews while providing for real-time visualization of ongoing field activities allowing all key stakeholders to see completed work, planned work, and field survey results enabling on-demand QA/QC and communication. Additionally, inspection and condition data will be effectively managed using Cityworks' inspection work orders, as team member Woolpert led the configuration of the Cityworks' EAM system and fully understands how to ensure the effective use of its full functionality. Below is an example operational dashboard that displays progress along with identified field issues.

The Craven Thompson team will work with the City to develop a framework for the program, including communication protocols and document sharing methods to facilitate effective team coordination. For example, the Sewer Program has successfully maintained a SharePoint site with a City Access Folder that includes an area to share large files, a deliverables folder that maintains a record of deliverables for each Task Order, Monthly Progress Reports regarding each aspect of the program, and a depository of various presentations should the City need to retrieve them easily.

The Team's goal is to avoid overspending on management tasks, thereby ensuring that resources are spent on the program deliverables. We will fully leverage those existing systems to expedite program initiation so we can begin working productively with the City immediately following the Notice to Proceed. Moreover, we will focus on right sizing the management team and program to ensure timely and orderly completion of the work, the judicious expenditure of the public's funds, and meaningful communication with the public during the process. This process is a uniquely "Fort Lauderdale" approach that works.

Early development of program management plans and deliverables is essential to guide our activities and ensure the City's program goals and objectives will be met. The Craven Thompson Team will "right-size" program plans to meet the schedule, while conforming to City's standards, and maximizing investment in actual infrastructure. Examples of program control tools include:

- Program Management/Execution Plan (PMP)
- Document Control Plan (DCP)
- Program Controls Plan (PCP)
- Communications and Stakeholder Management Plan (CSMP)
- Change Management Plan (CMP)
- Health, Safety and Environment Plan (HSE)
- Quality Control Plan (QCP)
- Outreach Plan (OP)
- Risk Management Plan (RMP)

The Craven Thompson Team and the City have a common knowledge base of document control tools for the Stormwater Program and the Sewer Program such as SharePoint, Buzzsaw, and U-serve to coordinate work products and share documents. We have also standardized our computer platforms, established a common drawing set that is compliant with the City's standards, and developed a program execution plan to enable all team members to collaborate seamlessly. This advanced work will

streamline program startup and will allow our team to begin collaborating with the City productively from day one.

- ***Program Management Plan***

The Program Management Plan, developed in conjunction with the City, will include a Master Program Schedule which will be monitored continuously for Consent Order compliance.

Weekly meetings that discuss progress made as well as look-ahead schedules will be discussed, along with any permit, MOT or City staff assistance required. Monthly reports will be prepared to demonstrate progress and call attention to any risks that develop.

- ***Program Communication and Compliance Documentation***

Program Communication Documents will be prepared as needed for submittal to FDEP and Stakeholders (e.g., Neighborhood Associations, Infrastructure Task Force, City Manager's Office, etc.). Compliance documents will be developed for submittal to the FDEP upon completion of requisite milestones, as well as, to regulatory agencies having an interest or jurisdiction over this project, including required Maintenance of Traffic (MOT) permits. A copy of all permits, deliverables, correspondence, presentation, and compliance documentation will be maintained on the Program SharePoint site.

SURVEY AND DATA COLLECTION

The data collection, surveying, and mapping of the water infrastructure comprise the vast majority of the work required for this project. It will necessitate considerable effort and expertise, a large group of team members, meticulous coordination, and a proven background of being able to successfully accomplish similar tasks. The Craven Thompson Team has performed an extensive review and analysis of the current Mapping Plan and the FDEP Consent Order and has developed two different Approach Methods.

The **"First Approach Method"** is suggested because it would be the more traditional survey approach and cost-effective for the City and the Craven Thompson Team to renegotiate the data collection timeframe with FDEP and spread the costs to the City over a period of two years instead of one year while still meeting the intent of the Consent Order. This method would more closely adhere to the current requirements stipulated in the Mapping Plan and the Consent Order. However, this option would require the Craven Thompson Team to renegotiate the data collection and mapping timeframe with FDEP.

We understand that the current accepted mapping plan allows for thirty-six (36) months to complete (from the date of the effective Consent Order, July 24, 2020) the data collection and system certification efforts. As of today, no additional mapping of the water system has occurred since the Consent Order effective date. Therefore, only thirteen (13) months remain and we believe that thirteen (13) months to complete the tasks as currently detailed in the Mapping Plan is not a realistic schedule. The attached Method 1 Approach schedule delineates the actual timeframes we believe necessary to complete the data collection and system certification efforts including renegotiation with FDEP of plan requirements that we feel confident can be accomplished.

The **"Second Approach Method"** is a very aggressive schedule that will come closer to the current Consent Order data collection and certification of the potable water system map deadline of July 24, 2023. The methods employed under this effort, although significantly more costly, will allow us to accomplish the data collection and certification by October 2023. We will focus specifically on the Consent Order requirements using the Mapping Plan as a reference only and recommend ways to reduce actual field time and apply innovative advanced technologies and utilize highly trained technicians and

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field personnel to speed up the process. Both Approaches will require the City to accelerate the negotiation process and issue the Notice to Proceed so that we may begin the project no later than August 22, 2022. Due to the extremely large amount of data that will be delivered, the method of managing the City's review and acceptance will need to be discussed in detail prior to commencing the project. The schedule we prepared for the Method 2 Approach details the timeframe that meets the intent of the Consent Order for certification of the mapping of City's water system.

Survey and Data Collection Approach Method 1

The survey and data collection of the Water System will involve several steps including: evaluating the existing GIS data; creating forms from the existing GIS data for the data collection process; establishing and maintaining survey control for accuracy throughout the collection process; and providing efficient methods for the collection of the data in a consistent manner for the GIS within the project timeframe.

▪ Horizontal Datum and Positions

A high accuracy GPS Control Survey Network was performed by Craven Thompson & Associates as part of the Stormwater Project in 2016 and further defined in the Sanitary Sewer Project in 2018-19. The horizontal coordinate system for this project will be the same as the previous projects, State Plane, Florida East Zone, NAD 83 (2011), U.S. Survey Feet. The survey control established as part of that network will be utilized for this project to maintain a high degree of horizontal positional accuracy and to keep all utilities relative to the same survey control within the City limits and the water service areas.

All features that can be located with GPS\GNSS satellite signals will be done using highly accurate survey grade GPS\GNSS rover and base station units. Those that cannot be located by GPS\GNSS (because of tree canopy, tall buildings, or other ground features that might obstruct the GPS\GNSS satellite signals) will be located by traditional field survey methods and/or the use of Mobile Lidar.

▪ Vertical Datum and Positions

To maintain a high level of vertical accuracy across the entire City, a series of 52 GPS\GNSS monuments were established for the data collection process on the previous sanitary project. These 52 monuments and the additional 3,000 new benchmarks that we established for the sanitary project in 2018 will be utilized for this project. They will be used to calibrate the GPS\GNSS rover units carried by the survey crews for the capturing and for quality assurance of water features in the data collection process. All elevations will be referenced to the North American Vertical Datum of 1988 (NAVD88) and based on the City's Benchmark System that was enhanced and certified by the Craven Thompson Team in 2018.

▪ Data Collection Process

The data collection process starts when we receive the City's ArcGIS geodatabase and agree upon the features and fields to be collected for this project. Meetings between the City's GIS\IT staff and the Craven Thompson Team members to establish the details needed for this will be important to the success of the project. The Craven Thompson Team will take the agreed upon GIS and create electronic forms to be used on an IPAD or Android device that can be attached to a survey-grade GPS\GNSS unit for the field data collection. Each field survey crew will receive direct training on the device and a Field Data Collection Instruction pamphlet will be created for them to always use during the data collection effort. The data collection devices will have the GIS data loaded onto them and the crew will be able to navigate, locate, edit, and add to the field version of the geodatabase. This will be a working geodatabase for the field collection effort. Once the feature is collected and stored in the device, it will also be transferred to

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the internet cloud for storage and retrieval in the office should something happen to the device. All features collected in one of the designated zones, will be reviewed and processed daily, through QA/QC, and then added to the office "working geodatabase". This version will then be sent to the Craven Thompson Team GIS Manager who will review and do a final QA/QC before sending it to the City for review.

We anticipate that we will have a minimum of eight to twelve (8-12) field crews collecting data at any one time during this project, with ten (10) crews being the optimum number we will strive for throughout the project. We currently have six (8) Subsurface Utility companies that will be working full-time on this project.

The City's Mapping Plan established ten (10) data collection zones which correspond to multiple sheets of the Water Atlas and are a reasonable starting place for the data collection process. However, with some further planning, we will most likely increase the number of collection zones by cutting up the existing ten zones into smaller and more manageable pieces for efficiency and project management purposes.

Once the data collection zones are agreed upon and established, previously established vertical benchmarks will be mapped and added to each zone so they can be easily found and identified in the field. These benchmarks will be used to calibrate and check the survey crews GPS\GNSS equipment and to be used for vertical checks during each day's data collection effort. Because of the nature of GPS for vertical precision, the benchmarks surrounding each zone will be utilized to perform a localized calibration for the zone. Each feature will then be collected within that zone at least one time in the field to achieve the horizontal and vertical measurements. The positions for each feature will be analyzed for accuracy based on the GPS Dilution of Precision (DOP) in both the Position (PDOP) and the Vertical (VDOP) levels. This information will be used for the horizontal and vertical coordinates to be placed within the GIS system. The horizontal and vertical positions collected by this methodology will have an accuracy level of plus/minus 0.3 feet which will meet the accuracy needed for this project.

The field acquisition process is to collect detailed aboveground information on the water features, such as fire hydrants, system valves, control valves, air release valves, water mains, and the meters. The acquisition process will include working with the City and the Craven Thompson Team to review the ArcGIS geodatabase structure and make changes as required before commencing collection of the water features information for the GIS. The fields within the geodatabase must be in the correct format with any ArcGIS domains already predetermined to ensure the proper information is exported to the field data collectors for the survey crews.

When the geodatabase format is agreed upon, the Survey Project Manager will perform the export process from ArcGIS to either the Trimble "Terraflex" software or to ArcGIS Collector. Terraflex has been used successfully on the City's Sanitary and Stormwater projects in 2016-2019 and it is an efficient way to collect GIS data in the field electronically. Terraflex and ArcGIS Collector can import the existing GIS fields directly from the geodatabase and create a set of forms associated with the ArcGIS information, including drop-down menus from the domains. The forms created by these processes can be uploaded directly to an IPAD, or other data collection device for use by the field crew doing the investigation of the structures. The primary focus of the initial data collection will be on locating the valves, fire hydrants and air release valves first, leaving the water meters to last.

For efficiency purposes, the data collection process will include two separate operations: 1) Horizontal and Vertical locations; and 2) Maintenance of Traffic (MOT). This process will simplify the data collection at each structure and make it both efficient and time effective. We anticipate a minimum of 20-25% of the features will require some form of MOT.

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- ***Maintenance of Traffic (MOT)***

The data collection for some of the structures will require Maintenance of Traffic (MOT). Mainly along the major roadways within the City as many of the structures lie within travel lanes of heavily traveled rights-of-way.

MOT is a critical part of this project for the safety of the survey field crews while gathering water system features. The information collection process to gather this data may or may not require the crews to open each valve cover to make measurements and observations, and take pictures. This process will require between 15 to 30 minutes per structure with the MOT, so making the area safe for the crews and for the vehicular traffic during this process is critical to the efficiency, speed, and success of the project.

We will have a full-service barricade company, known as, "MOT Plans.com, Inc.", as a subconsultant on our team to ensure the MOT is in place as the survey crews do their work. Most of the MOT barricade work will be on or along the busy highways as we work through the Data Collection Zones.

The survey crews will evaluate the roadways within each zone as they start their work to determine where they will need the MOT service and approximate dates for the data collection effort. As the MOT areas are determined, the Survey Manager will coordinate the information with the City, the Engineer, and MOT subconsultant which will start the process in motion. It is important that all of the pertinent entities, including the Police Department be aware of the MOT areas so that the safety of both individual and vehicular traffic can be made priority. Some areas will involve a rolling MOT that is set up one day for a portion of the road, and then every other day continues to move further down the road as the data collection process moves. Because of the speed at which the data collection process can be accomplished with MOT in place, the MOT setup on each section of roadway can be kept to a minimum, a day or two, in most cases.

It should be noted that expediting the survey and data collection process with MOT is dependent on the timely notification and provision of Police for the functions noted above.

- ***Subsurface Utility Engineering (SUE)***

Subsurface Utility Engineering and Mapping is spelled out in the Water Mapping Plan and will be a key component of the project for locations and connections of the multiple water mains throughout the project. According to the Mapping Plan, all mains will need to be horizontally located based on ASCE 38-02 "Standard Guideline for Collection and Depiction of Existing Subsurface Utility Data" Quality Level B using Ground Penetrating Radar (GPR) for non-toneable mains and/or Direct Induction method where toneable mains. Some mains may possibly need more information and will need ASCE 38-02 Quality Level A by performing test holes by vacuum excavation to obtain pipe attributes.

We will also utilize new technologies for this task as well as the Ground Penetrating Radar (GPR) on non-conductive and Electromagnetic Induction (EMI) on conductive watermains as stated in the Mapping Plan. One of our SUE subconsultants has **"3D Radar Tomography"** units for subsurface utility locations and another subconsultant has the newest technology, **"Raptor Impulse Radar"** units for use on this project. Both units use multiple arrays of GPR sensors to capture 3D images of the utilities underneath the units as they drive down each street in 6-foot swaths. This technology, while being very high-tech and important for this project, is not a catch-all but another technology tool that we will be using to identify and map underground waterlines for this project. These new units will be used in select areas where there are multiple utilities within a corridor and high traffic areas. This will provide a safer environment for the SUE crews to work in those areas and provide high quality data for the project.

We have eight SUE subconsultants on our team with surveyors performing the SUE work so they can certify their locations as they proceed and certify the results.

Survey and Data Collection Approach Method 2

This alternate method will still maintain the Horizontal and Vertical datums as reflected in Method 1, but the data collection process and timeframe will change based on the use of advanced technology and staff, and by adjusting for focus of the Mapping Plan to match the intent of the Consent Order. This may require renegotiating the Water Distribution System Mapping Plan with FDEP, but we feel confident that we can assist the City with this if necessary while we are progressing with this approach.

▪ *Data Collection Process Method 2*

The data collection process for this method still starts when we receive the City's ArcGIS geodatabase and agree upon the features and fields to be collected for this project. Meetings between the City's GIS\IT staff and the Craven Thompson Team members to establish the details needed for this will be important to the success of the project. This should take place immediately after the Notice to Proceed is given.

There will be multiple methodologies used, combining traditional and new technologies to ensure that all assets are collected by the Consent Order deadlines.

Valves, Fire Hydrants, and Air Release Valves:

For this approach we recommend concentrating our field crew data collection efforts only on the valves, fire hydrants, and air release valves that appear under the "Inventory Class" field in the geodatabase as DGPS, GIS entry, Not Found, and Null. The other features that are designated as previously located by GPS or converted to GPS from Asbuilt will only be reviewed in the GIS and overlaid on high-resolution georeferenced aerials. Using both Aerial and Mobile Lidar point clouds collected as part of this project, we will perform a separate QA/QC process to verify their locations and, if necessary, correct them to meet the accuracy levels stated. This method will eliminate field work on 65% of all valves, and 46% of the fire hydrants from having to relocate them with a field crew on the ground.

For the field data collection process with survey crews on these features, the Craven Thompson Team will take the agreed upon GIS and create electronic forms to be used on an IPAD or Android devices that can be attached to survey-grade GPS\GNSS units for the field data collection. Each field survey crew will receive direct training on the device and a Field Data Collection Instruction pamphlet will be created for them to always use during the data collection effort. The data collection devices will have the GIS data loaded onto it and the crew will be able to navigate, locate, edit position, take pictures, and update to a field version of the geodatabase. This will be a working geodatabase for the field collection effort, similar to the same methods used by the Craven Thompson Team on the sanitary project in 2018-19. Once the feature is collected and stored in the device, it is also transferred to the internet cloud for storage and retrieval in the office should something happen to the device. The office personnel will then proceed with the QA/QC effort before it is accepted for the final geodatabase to the City.

The selected remaining features (6,728 valves, 2,153 hydrants, and 250 air release valves) will be located utilizing a GNSS/GPS rover unit connected to either a standalone GNSS/GPS base station unit occupying a known Survey Control monument, or one of several State-wide Real Time Kinematic (RTK) Base Station satellite systems that are accessible within the city limits of Fort Lauderdale.

This plan will also utilize two different but compatible types of Lidar (Mobile and Aerial). Using Mobile Lidar, the Craven Thompson Team will drive every street in the City within a 30-day period and obtain 3D

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point clouds of each street with an accuracy of +/- 0.3 tenths of a foot horizontally and vertically. In the downtown urban areas, where GNSS/GPS satellite signals are interrupted by tall buildings, the features may be collected by traditional survey methods and/or using locations from Mobile Lidar point clouds. The collection will include the horizontal (x-y) position and the elevation of the rim of the valve box only. Top of nut elevation inside the valve box will not be collected as part of this task as it is not necessary to meet the Consent Order and will greatly increase the timeframe for this project. This will save an enormous amount of field effort and time, with the horizontal positioning being most important for meeting the Consent Order requirements. Along with the Mobile Lidar solution, we plan to also have the City flown with brand new high density aerial Lidar with a ground point density of 100-150+ points per square meter and high-resolution aerial photogrammetry with 2-3-inch pixel resolution. The combination of Mobile Lidar, dense aerial lidar data, and high-resolution aerials will allow us to identify and extract ground features such as fire hydrants, valves, and meter boxes inside the office computer environment as opposed to boots on the ground field crews. However, this will not eliminate all field work, but greatly reduce it, and the crews will be assigned to the areas where there in dense vegetation and tree canopy and areas of obstructed views due to traffic and buildings. We do anticipate that by using this methodology, that we can eliminate up to 50 percent of the field crew work and thus speeding up the project and deliverables. As soon as we receive the Notice to Proceed from the City, we will coordinate with the 3-4 Mobile Lidar subconsultants and the Aerial Lidar firm to commence with an anticipated delivery of both within the first two months. The field crews will be working during this time to collect the data in the same manner as Method 1 Approach and restated in this approach.

Water Meters:

Recommendation: It is our opinion, due to the time constraints with the Consent Order and under normal conditions, the 62,000 + water meters, stated in the RFQ could not all be located and validated before the Consent Order due date of July 24, 2023. The original 36-month timeframe in the Consent Order was reasonable at that time on this item and would have been less costly to the City. We recommend that we assist the City to renegotiate the Consent Order timeframe with FDEP for these particular features. Our opinion is that the number of meters should be split into two categories. The first category being the Master Meters and the Commercial Meters, the second category being all other residential meters. The Master and Commercial meters represent about one-quarter (14,645) of the total meters and the most critical in our opinion to be located. The Craven Thompson Team will locate these meters as part of the overall project using Mobile and Aerial Lidar extraction and traditional survey methods where they are hidden in the lidar. We believe these meters can be reliably located and mapped by August 1, 2023.

The residential meters, while being listed in the Consent Order for determining the service lines are important to the overall mapping, however, they do not represent a high risk to any of the mains. What we recommend on the residential meters is that we utilize the City's existing survey staff to assist in this effort or the consultant that reads the meters and knows where they are to assist in mapping them as part of this project. We understand that there are currently about ten people that go in the field to read the meters. We would like to suggest that we purchase handheld GPS units that have an accuracy of +/- a meter, and provide the unit to each meter reader, or City Staff member. We will then set the Mapping grade GPS unit up and train the City Staff or the meter readers to go out and collect the xy horizontal position of each residential meter as they do their normal work operations. We believe we can train and QA/QC their work as they progress across the City getting information on the residential meters. If this is not an option, we will have existing office staff from our other team members to take care of this part of the task.

Technology driven Data Collection Method to meet the Consent Order: To meet the intent of the current Consent Order and to be as close as possible to the original deadline, we will utilize a combination of new

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technologies to cut the timeframe down and assist the City in meeting their deadline and goal. These technologies, as mentioned previously herein, have been in use by the Craven Thompson Team and some of our subconsultants for many years, and they have the expertise and qualified staff it will take to perform and deliver the final product on time.

After receiving the Notice to Proceed, we will utilize our survey subconsultants with Mobile Lidar and imagery capabilities to drive every street using un-controlled Lidar sensors and cameras within the water system limits. This will provide three-dimensional (3D) point cloud data of all features visible in every street to plus/minus 0.25' – 0.50' feet accuracy where there is GNSS/GPS satellite coverage. In the downtown area with the tall buildings, the accuracy will be plus/minus 1 foot, but still acceptable for this project. All roadways within the City should be able to be driven within twenty (20) days using this method. After driving the streets, it will take approximately another twenty (20) days processing the Mobile Lidar data. The processed point clouds can then be cut up into manageable tiles for viewing and data extraction by qualified technicians using the appropriate software. The Mobile Lidar point clouds are connected to the camera imagery collected at the same time through the software as it is driven in the field. The lidar technicians can then view the imagery and measure directly to the lidar points saving extraction time. We should be able to extract at least 50-60% of all water meters, valves, air release valves and fire hydrants using this method if the feature can be seen in the lidar. We could then be able to direct the survey field crews to the areas and features not visible in the lidar. Once the valves and fire hydrants are completed then all survey crews will concentrate on water meter locations. The aerial lidar firm will fly at an altitude of 1,800 feet aboveground level and collect both lidar and aerial photogrammetry across the entire City with 50 percent overlap along each flight line. This overlap area will produce a ground point pixel resolution of lidar points approximately 120-140 pixels per square meter and will be provided to us with ground and hydro classifications within the Lidar. There will be over 300 surveyed ground targets for the aerial firm to use for photo identification and to calibrate to with (x-y-z) positions. This should produce aerials and lidar with an accuracy of +/- 0.25 feet both horizontally and vertically. The aerials collected will be delivered in 2-3" pixel resolution and be adjusted to minimize building lean. But because of the 1,800-foot aboveground level flight, not all lean can be adjusted out of the picture. The Aerial Lidar combined with the Aerial image will provide a platform inside the computer for skilled technicians to extract water line features (fire Hydrants, water valves and meter boxes) in the areas that the Mobile Lidar cannot reach because of obstructions. We estimate that utilizing these methods will save at least 50% of field crew time for this approach.

- ***Maintenance of Traffic (MOT)***

No matter how much advanced technology we utilize on this project, the location of some structures will require Maintenance of Traffic (MOT). Many of the structures lie within heavily traveled Rights of Way. Mobile Lidar should eliminate at least 50% or more of water features that we would need MOT for on this project.

MOT is a critical part of this project for the safety of the Survey and SUE field crews as they gather the water features. The reason for the need to have MOT is because many of the water valves lie within travel lanes on the roads and highways within the City. The information collection process to gather this data in this method will require the crew to do some measurements, observations, and/or the taking of pictures. This process will require from 15 to 30 minutes per structure with the MOT, depending on the area, and making the area safe for both the crew and vehicular traffic during this process is critical to the efficiency, speed, and success of the project.

We will have a full-service barricade company, known as, "MOT Plans.com, Inc.", as a subconsultant on our team to ensure the MOT is in place as the survey crews do their work. Most of the MOT barricade work will be on or along the busy highways as we work through the Data Collection Zones.

The survey crews will evaluate the roadways within each zone as they start their work to determine where they will need the MOT service and approximate dates for the data collection effort. As the MOT areas are determined, the Survey Manager will coordinate the information with the City, the Engineer, and MOT subconsultant which will start the process in motion. It will be important that all of the pertinent entities, including the Police Department be aware of the MOT areas so that the safety of both individual and vehicular traffic can be made aware. There will be some areas that will involve a rolling MOT that is set up one day for a portion of the road, and then every other day continues to moves further down the road as the data collection process moves. Because of the speed at which the data collection process can be accomplished with MOT in place, the MOT setup on each section of roadway can be kept to a minimum, a day or two, in most cases.

It should be noted that expediting the survey and data collection process with MOT is dependent on the timely provision of Police for the functions noted above.

- ***Subsurface Utility Engineering (SUE)***

The Subsurface Utility Engineering and Mapping methods, spelled out in the current Mapping Plan, will be a key component of the project for accurate locations and connections of the Source and Distribution water mains throughout the City. We will also utilize new technologies for this task as well as the Ground Penetrating Radar (GPR) on non-conductive and Electromagnetic Induction (EMI) on conductive watermains as stated in the Mapping Plan. One of our SUE subconsultants has **"3D Radar Tomography"** units for subsurface utility locations and another subconsultant has the newest technology, **"Raptor Impulse Radar"** units for use on this project. Both units use multiple arrays of GPR sensors to capture 3D images of the utilities underneath the units as they drive down each street in 6-foot swaths. This technology, while being very high-tech and important for this project, is not a catch-all but another technology tool that we will be using to identify and map underground waterlines for this project. These new units will be used in select areas where there are multiple utilities within a corridor and high traffic areas. This will provide a safer environment for the SUE crews to work in those areas and provide high quality data for the project.

The timeframe for field collection, processing, and to QA/QC the data to meet the current Consent Order is approximately 300+ days with eight (8) SUE crews working continuously for nine to eleven months, so it will be imperative that the Notice to Proceed be no later than August 22, 2022 in order to meet the schedule we represent for Survey Approach Method 2. The field collection and QA/QC process for the mains is just the start. We will also need to have a comprehensive QA/QC process in the office for the GIS that will include connecting the found mains with the point features (valves, fire hydrants, and air release valves), and verifying the pipe size and materials with random test holes if necessary. If test holes become necessary, we recommend, at the most, only two (2) test holes per mile of waterline, with a total of no more than 1,500 test holes to eliminate time to meet the Consent Order.

Because of the reduced timeframe remaining in the Consent Order and our estimated completion time, there is a concern that by the time the data is collected and prepared, the City may not have time to review and accept the data. The Consent Order stated it should be completed in 36 months which was acceptable at that time, but now the City has less than a year to complete the process, which we have already stated is not possible, but we still feel that our stated schedule time can be met if expedited by the City.

We are committed to using whatever means are possible to meet the intent of the Consent Order, however, we strongly believe that we could assist the City in renegotiations with FDEP to spread the costs and timeframe out into a more manageable timeframe, while still meeting the intent of the Consent Order.

GIS DELIVERY APPROACH

GIS Data Delivery

To ensure a seamless GIS delivery to the City, the Craven Thompson Team will meet with the City GIS and project team at the onset of the project to finalize an approach that is acceptable to all participants. The Craven Thompson Team fully understands that data security and integrity is of the utmost importance to the City IT and GIS divisions. It is also fully understood that there are specific protocols and policies that will have to be followed when data deliverables are accepted and integrated into the City's GIS production environment.

At the beginning of the project, the Craven Thompson Team will work with the City staff to outline and document the entire flow of data. It should include items such as:

- Checking out Zones or Sections of water GIS data from the City's production environment.
- Identifying all asset attributes that will be expected to be populated to meet the intent of the Consent order, and those that will not be expected to be populated because of the time crunch.
- Defining the delivery frequency, as well as the QA/QC review and acceptance process.

As outlined within the RFQ, the timeline for completing this work is extremely limited for the amount of work that is required. To complete the project within our estimated schedule, it will be imperative to have a very defined workflow, QA/QC review process, and acceptance plan.

GIS Data Processing

Prior to processing any field data, the Craven Thompson Team will develop a detailed 'Office Processing Manual' which will outline the specific data processing guidelines. This is necessary to ensure that all office technicians process the field data consistently according to City approved rules. This becomes critical with this type of mass field data collection project because various situations will be encountered that will require a defined processing approach. For example:

- Newly discovered assets: When new assets are found, like water valves, what's the exact procedure to follow for splitting a water line? How should the attribution be populated on the newly created waterline? How will the asset Facility ID be maintained?
- Assets Not Found: How will the technicians process assets identified as 'Not Found'? Will the asset be left within the database and simply marked as 'Not Found', or will the asset be moved to a different layer? If an asset like a water valve is removed, how will the two water mains be joined?

Many such situations will exist requiring discussion and a documented approach to ensure that the GIS data processing is done consistently, and according to directions approved by the City.

Field data collection and verification can be performed in the native GIS geodatabase format, or in a format that is directly compatible with the GIS schema. This will eliminate the need for any complex data conversion process, as well as reduce the effort in processing the field data. Once field data collection is complete for a specific area, office technicians will review the information and make comparisons to available as-builts as well as to the provided source GIS geodatabase. Office technicians will use the 'Office Processing Manual' to make the required data edits, as well as to complete the final review and QA/QC.

Prior to delivery, the Craven Thompson Team will QA/QC each deliverable according to a documented process. QA/QC will not only include visual inspections, but it will also include running automated scripts to check the attribute completeness.

EXHIBIT D
Exhibit 2

- *Cityworks Asset Management System (AMS)*

The Cityworks AMS software directly uses the City's production GIS as the asset registry. As long as there is no change to the GIS schema, or naming of the asset types, there is no special data processing required by Cityworks. As the asset data is loaded into the City's water GIS production environment, it will instantly become available to the Cityworks AMS software.

Once the Craven Thompson Team completes all mapping, we will certify to the FDEP in writing that mapping is complete in accordance with the terms of the Consent Order.

FIRMS CURRENT WORKLOAD

The Craven Thompson business plan target composite utilization rate for the company is 75%. The targeted rate accounts for holiday, vacation, marketing, administration, illness, and other non-billable time. We employ a very small yet efficient number of administration personnel which contributes significantly to reducing our costs.

Our 2022 workload was below the 2021 level as a result of the ongoing pandemic, and therefore our utilization rate was down. In 2021, Craven Thompson was at a company-wide utilization rate of 68%. For the beginning of 2022 we continued with a company-wide utilization of 68%. Uncertainty due to the pandemic and other economic issues has led to a smaller number of projects being issued by our municipal clients, while some existing projects have been placed on hold. At this time our staff is underutilized. We see recovery from this situation as a gradual process and anticipate that for the next year or so we will slowly, but steadily increase our workload and perhaps approach a 70% - 73% utilization rate at the end of that period. This will still leave excess staff availability.

Our Project Director, Program Manager, Data Collection and GIS Managers, will be able to devote all necessary time to the City of Fort Lauderdale as described under this RFQ. Based on our current and projected workload, and that of our subconsultants, the City of Fort Lauderdale can be assured that the Craven Thompson Team will provide the staff as identified in this submittal and the resources necessary to complete the services in the most efficient and timely fashion as possible.

FIRMS AVAILABLE FACILITIES, TECHNOLOGY CAPABILITIES AND OTHER AVAILABLE RESOURCES

In addition to conventional boundary topographic and construction surveys, Craven Thompson has vast experience in providing the latest in 3D Laser Scanning – High-Definition Surveying, Geodetic Control, PLSS Retracement, Hydrographic, Cadastral, Photogrammetric Control, Right-of-Way and Construction Surveys. Through the utilization of our Global Positioning System, 3D Laser Scanner and total stations with state-of-the-art data collectors, our survey data can be imported into a CAD or GIS environment which can be plotted or transferred to our clients via email, FTP, or on CD/DVD. Craven Thompson continues to refine and adapt CAD and GIS to a broad spectrum of uses. This blend of traditional and the newest technology, with personalized service, forms the core of every Craven Thompson project.

Our subconsultants also provide all of the most current SUE equipment and Mobile Lidar capabilities for location and extraction of the underground main information and to provide survey accurate feature locations with the areas that have poor GPS\GNSS satellite signals.

Craven Thompson's Software and Hardware:

Craven Thompson continues to update all of the needed software as the new versions are available. These programs include, but are not limited to:

- Autodesk Civil 3D 2019-2022
- Autodesk Navisworks Freedom 2019-22
- Transoft Solution AutoTURN 10
- ESRI Arc GIS 10.8 Standard and Advanced
- Applied Imagery- Quick Terrain Modeler
- Global Mapper Pro
- Bentley WaterCAD Connect Edition
- Bentley SewerCAD Connect Edition
- EPA PCSWMM Hydro
- Streamline Technologies ICPR
- Custom designed Engineering Calculation Software
- Trimble Geospatial
- Trimble Terraflex
- Leica Cyclone 2021\ 3D Laser Scan Software
- Leica Jetsteam 2021\ AutoCAD Server application
- Leica Cloudworx 2021\ AutoCAD Scan Software

Servers: Our server infrastructure is running two Dell PowerEdge Host Servers running VMware Virtual Software. These 2 servers run 8 virtual servers running Windows 2008 R2 and Windows 2012 R2 server software and connect to a 96 Terabyte SAN (Storage Attached Network) device configured with RAID 6 redundancy which provides us with a high availability of file access and fault tolerance. All data is backed up to a Quantum Ultrium 4 SCSI tape drive with the capacity to backup up to 9.6 TB compressed data.

Network: Our network infrastructure consists of the latest Cisco Catalyst switches and CAT 6 network cabling with speeds up to 1 GBS.

Workstations: Our workstations are Dell Precision line workstations all running Windows 10 Professional with either Xeon or i7 Dual and Quad Core processors with solid state hard drives and a minimum 16 Gigabytes of RAM. Production workstation utilizes a minimum 4 GB video cards with dual 24" high resolution monitors.

Plotting: We have an in-house Ricoh MP W8140 high-capacity wide format plotter with color scanning capability and two Hewlett Packard High Resolution 1050 Design Jet plotters.

Surveying Department Resources and Equipment:

A complete list of Craven Thompson's equipment and software are as follows:

- **Craven Thompson Vehicles**
  Eight (8) Ford F-150 Pick-ups fully equipped for Surveying Crews
  Two (2) - 16-foot John Boat w/motor
- **Craven Thompson Field Data Collection GPS**
  One (1) Trimble R8 GNSS GPS Systems Base Station
  Six (6) Trimble GNSS RTK GPS Systems [Three (3) Trimble R2 and Three (3) Trimble R10]
  One (1) Trimble R9 GNSS GPS Base Station with Trimble VRS Network
  Five (5) Trimble DiNi Digital Level 0.3mm
  One (1) Trimble TSC3 data collectors with Trimble Access Software
  Six (6) Trimble TSC7 data collectors with Trimble Access Software
  Two (2) Intuicom bridge radios
- **Field Data Collection**
  Three (3) Trimble Robotic Total Stations
  Two (2) Trimble Total Stations
  Ten (10) Radios
  Seven (7) Spectra Precision 3L Data Collectors with Survey Pro Software
  Six (6) Leica Total Stations
  Seven (7) Leica Levels
  Two (2) Apple IPAD Pro
  Two (2) Android Tablets
  One (1) Trimble GEO7x GIS Data Collection Unit
- **Sonar Equipment**
  One (1) Hydrolite Single Beam Echo Sounder
  One (1) Hydrone Portable Hydro-Lite Boat

EXHIBIT D
Exhibit 2

- **3D Laser Scanning**
  Leica C10 Laser Scanner - 3D Laser High-Definition Survey System
  Cyclone 2021 Scanning Software
  CloudWorx Pro 2021 for AutoCAD

Team Members and Subconsultants Software and Hardware:

All Survey Team members and Subconsultants have the latest in surveying and SUE equipment that will be utilized on this project. Some key members and subconsultants have specialized and new technology that may be used for this project.

- **WOOLPERT**
  Advanced Surveying & Mapping software and hardware:
  ArcGIS and Cityworks AMS, SUE (GPR, EMI, Vacuum Excavation) **Aerial Photogrammetry and Lidar Services, Leica Pegasus 2 Mobile Lidar Unit and software**
- **CRAIG A. SMITH & ASSOCIATES**
  Advanced Surveying & Mapping software and hardware:
  SUE (3D Radar Tomography System & Software, GPR, EMI, Vacuum Excavation)
- **MANUEL G. VERA & ASSOCIATES**
  Advanced Surveying & Mapping software and hardware:
  Leica Pegasus 2, Mobile Lidar Units and software, SUE (GPR, EMI, Vacuum Excavation)
- **KEITH & ASSOCIATES**
  Advanced Surveying & Mapping software and hardware:
  Leica Pegasus 2, Mobile Lidar Units and software, SUE (GPR, EMI, Vacuum Excavation)

Typical 3-D Radar Tomography Scanning Unit

- **SAM, LLC**
  Advanced Surveying & Mapping software and hardware:
  Riegl VMX-2HA, Mobile Lidar Units and software, SUE (Raptor Impulse Radar System & Software, GPR, EMI, Vacuum Excavation) **Aerial Photogrammetry, Drones and Lidar services**

  Multi-Channel GPR

  The Raptor system is a multi-channel ground penetrating radar system designed for utility locating and mapping. The Raptor utilizes 18 separate channels at 450 MHz to cover wide surfaces in a single path. Data is spatially identified using GPS surveying technology. These units detect additional features such as voids, trench sizes, backfill identification, abandoned underground structures, and other irregularities not identifiable by other means. Using this technology allows SAM, LLC to clarify the horizontal and vertical position of the utilities, while modeling other features identified during the scan. From this, 3-D models for deliverables can be created.

PROPOSED SCHEDULE - APPROACH METHODS 1 & 2

REFER TO PROPOSED SCHEDULE, LOCATED AT THE END OF THIS SECTION.

EXHIBIT D
Exhibit 2

FORT LAUDERDALE PROGRAM MANAGEMENT AND MAPPING SERVICES

Craven Thompson & Associates, Inc.

Richard D. Pryce, P.S.M.

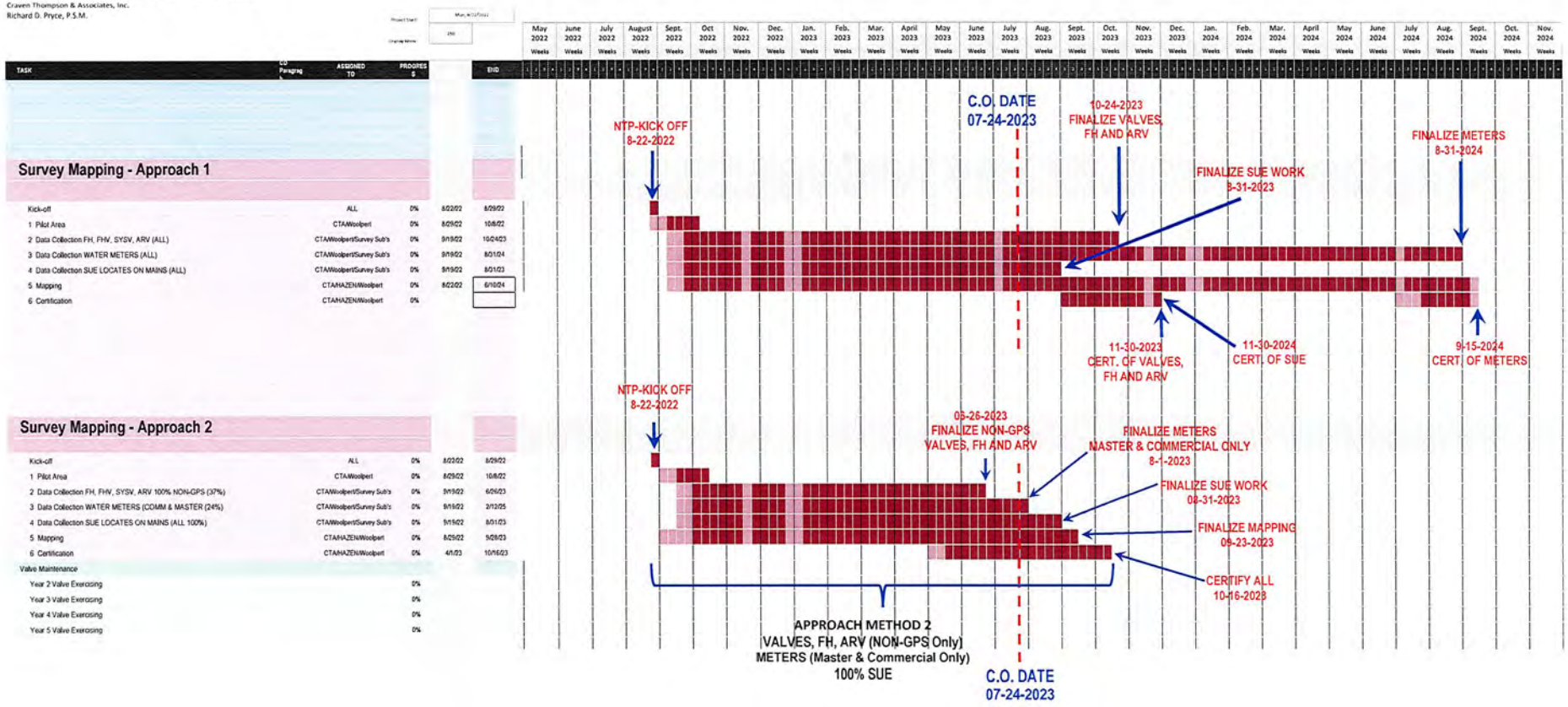

EXHIBIT D
Exhibit 2

Section 4.2.6: References

EXHIBIT D

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REFERENCES

Craven Thompson & Associates (Data Collection and Mapping)

REFERENCE NO. 1:

Client Contact:
Mr. Karim L. Rossy, Development Engineer 3
NMB Water / Jacobs
17050 NE 19th Avenue
North Miami Beach, Florida 33162
Phone: (305) 948-2980 / Email: karim.rossy@jacobs.com

Description of Work:
North Miami Beach Water & Sewer G.I.S. - The purpose of the 25,600-Acre Service Area Project was to provide the city with the complete GIS product of their water and sanitary system. This involved the conversion of the City's existing water and sanitary sewer infrastructure, from an AutoCAD drawing file format to the industry standard, Environmental Systems Research Institute (ESRI) Geographic Information System (GIS) format. The Project included the entire North Miami Beach Utility service area. The process included conversion of existing AutoCAD files, into the same coordinate system as the GIS, so that future updates will be more easily transferred between the two systems, for updates and maintenance. The project involved setting up a GIS Network file structure for the city to insert existing and future documentation into, as well as, adding GIS database information in the future.

- **Project Duration:** 1½ years
- **Year the Project was Completed:** 2016
- **Total Cost of the Construction, Estimated and Actual:** Fees $1,065,580.00

REFERENCE NO. 2:

Client Contact:
Mr. D. Chidi Tobias, Civil Engineer
Public Works Department
City of North Miami Beach
17050 NE 19th Avenue, 2nd Floor
North Miami Beach, Florida 33162
Phone: (305) 947-7581 ext. 2313
Email: Chidi.Tobias@citynmb.com

Description of Work:
Stormwater G.I.S./Surveying Data Collection Project - The City of North Miami Beach is divided into six (6) zones and that structure/pipe data was collected within each zone and identified by zone and structure numbers. GIS data was collected and processed utilizing the City's existing Unit ID naming system in the geodatabase. The data was collected by a Unique ID. Craven Thompson provided the city with a copy of the updated geodatabase with all the data fields that were collected. The GIS data collected consists of:

Structure type (junction, inlet, control structure, drainage well):

- Invert elevation(s) and direction, Bottom of structure, Pollution retardant baffles (PRBs) present, (if present) weir elevation and geometry, (if present) bleeder elevation and geometry, Condition (pictures for documentation)

EXHIBIT D
Exhibit 2

Pipes:

- Diameter (inches) Material (RCP, CMP, HDPE, Other), Condition (pictures for documentation)

Culvert and Outfalls:

- Upstream/Downstream Invert elevations, Material (CMP, RCP), Type (Circular, Elliptical, H. Ellipse, Rectangular), Diameter (inches), Single barrel vs. multiple, Condition (pictures for documentation)

Headwalls and Seawalls:

- Headwall treatment (Square Edge, Projecting Outlet, Mitered Slope)
- Headwall Material (Concrete, Rip Rap)
- Seawall Construction Material (boulder and rock, sheet pipes, cast concrete, rip rap)
- Top of seawall elevation
- Condition (pictures for documentation)

- **Project Duration:** 1 year
- **Year the Project was Completed:** 2018
- **Total Cost of the Construction, Estimated and Actual:** Fees $200,000.00

REFERENCE NO. 3:

Client Contact:
Mr. Ranthus Fouch, P.E.
Sr. Civil Engineer
Public Works Department
Seminole Tribe of Florida
5700 Griffin Road, Suite 200
Davie, Florida 33314
Phone: (954) 203-1034
Email: ranthusfouch@semtribe.com

Description of Work: Hollywood Seminole Reservation Stormwater Data Collection/GIS
The Hollywood Seminole Reservation is generally bounded by Stirling Road on the north and by Sheridan Street on the south and includes the Hard Rock Hotel and Casino which is located north of Stirling Road. The east and west boundaries are formed by existing residential neighborhoods in the City of Hollywood. Craven Thompson updated the Tribe's stormwater GIS information through entering as-built data, and surveying the hundreds of stormwater/drainage structures located on the reservation.

Craven Thompson acquired accurate horizontal and vertical information on every stormwater/drainage feature on the Tribe's Hollywood Reservation. We reviewed existing storm sewer surveys and as-builts that could assist with GIS location and with this information our survey crew measured each structure to get accurate horizontal and vertical information for the Tribe's GIS system. During the data collection phase, the GPS locations of structures, canals, retention areas and ditches were captured with X-Y-Z coordinate values in the data collector. In addition, details such as pipe sizes, material, inverts, weirs, age, and structure condition were obtained in the field.

We modified the Tribes' GIS database to include new relevant information and to include all information from the data collection efforts and condition assessment

- **Project Duration:** 1 ½ -years for GIS/Stormwater data collection efforts.
- **Year the Project was Completed:** 2021 for GIS/Stormwater data collection efforts.
- **Total Cost of the Construction, Estimated and Actual:** This was not a construction project. Fees for GIS/Data collection efforts were $143,720.00

EXHIBIT D
Exhibit 2

Hazen and Sawyer (Program Management)

REFERENCE NO. 4:

Client Contact:
Mt. Hernán Guadalupe, DBA, MEng, PMP, PSP, Engineer II
Baltimore City Department of Public Works
Horizontal Utility Project Delivery Section (Water)
200 Holliday Street, Suite 305
Baltimore, Maryland 21202
Phone: (410) 396-8189 (office) / (410) 804-5279 (Mobile)
Email: Hernan.guadalupe@baltimorecity.gov

Description of Work:
Program management services for the DPW Water Utilities section, including planning, design management and construction management in support of the City's goal of 15 miles of water main replacement every fiscal year.

- **Project Duration:** 2015 to 2018
- **Year the Project was Completed:** Program Management Services ended in 2018
- **Total Cost of the Construction, Estimated and Actual:** Approximately $415M over the three years of Program Management.

REFERENCE NO. 5:

Client Contact:
Mr. Daniel A. White, Deputy Director
Jefferson County Commission, Environmental Services Department
Horizontal Utility Project Delivery Section (Water)
716 Richard Arrington Jr. Boulevard North, Suite A300
Birmingham, Alabama 35203
Phone: (205) 214-8610 (Office) / (205) 281-8931 (Mobile)
Email: whited@jaccal.org

Description of Work:
Asset Management Program for the Collection System with primary goal to reduce/eliminate SSOs from a 2-year storm event.

- **Project Duration**: 3-year contracts until completion; initial term began in 2014 with renewals in 2017, 2020. Program planned to continue until 2035.
- **Year the Project was Completed:** Projected completion is scheduled for 2035.
- **Total Cost of the Construction, Estimated and Actual:** Per the CIP as of 12/15/2021, the total construction cost is $1,228,309,000. (Hazen is not managing all of this but as Program Manager we do the CIP planning). Work completed: Contract amount = $176,195,914; estimated = $187,255,453; completed to date = $130,390,952

Section 4.2.7: Sub-Consultants

Section 4.2.7

EXHIBIT D

Exhibit 2

QUALIFICATIONS OF THE SUBCONSULTANTS

HAZEN & SAWYER - PROGRAM MANAGEMENT
999 Ponce de Leon Boulevard, Suite 1150
Coral Gables, Florida 33431
Phone: (305) 443-4001

Hazen has a staff of over 1,200 professional engineers, scientists, and support personnel who specialize in a wide range of engineering disciplines focused on the field of water and wastewater. Their professionals are experienced in the design of sanitary sewer systems, sanitary sewer treatment plants, stormwater management systems, and rehabilitation plans. Hazen's experience with the City of Fort Lauderdale ongoing Sewer and Stormwater programs and understanding of their needs and expectations will help ensure that the aggressive schedule of this project will be met. Hazen regularly uses powerful real time operations' dashboards to manage and track crew scheduling as well as real time views of data collected and tracking and resolution of field issues.

WOOLPERT, INC. - GIS COORDINATION & MANAGEMENT / DATA COLLECTION
6100 Blue Lagoon Drive, Suite 440
Miami, Florida 33126
Phone: (305) 418-9370

Woolpert began working with the City of Fort Lauderdale in 2000 when selected to build the City's first utility GIS network. Woolpert was then contracted to develop the GIS database design, field survey utility assets, convert utility as-builts, migrate existing asset maintenance data (HANSEN), and develop system applications for the newly created GIS data. Data Collection: Woolpert collected GIS data by scanning, indexing, and georeferencing available source documents, such as city atlases, sewer books, intersection detail drawings, and as-built drawings. Utility Mapping: Using the accurate field survey locations of the above ground utility assets, Woolpert used heads-up digitizing to then create the underground utility networks relying on the provided City utility as-builts. Over the next two decades Woolpert continued to provide various surveying and GIS related professional services to the city. Most recently, Woolpert was selected by the city to implement a new asset and maintenance management system, for the water, wastewater, and stormwater divisions.

KEITH AND ASSOCIATES, INC. - SURVEYING, MOBILE LIDAR / S.U.E. LOCATES
301 East Atlantic Blvd.
Pompano Beach, Florida 33060
Phone: (954) 788-3400

Keith and Associates (Keith) was incorporated as a Florida Corporation in 1998. As a mid-size close-knit firm of over 180 professionals, Keith provides surveying and mapping, subsurface utility engineering, utility coordination, planning, civil engineering, traffic and transportation engineering, landscape architecture, construction management, and virtual design and construction services with offices in Pompano Beach, Fort Lauderdale, Miami, West Palm Beach, Orlando, and Tallahassee.

SURVEYING AND MAPPING, LLC (SAM) - SURVEYING, MOBILE LIDAR & S.U.E. SERVICES

- 1800 Pembrook Drive, # 300
  Orlando, Florida 32810
  Phone: (512) 685-3542
- 2844 Pablo Avenue
  Tallahassee, Florida 32308
  Phone: (512) 685-3542

SAM offers a complete suite of geospatial services including land surveying, airborne/mobile/terrestrial LiDAR, Geographic Information Systems (GIS), Subsurface Utility Engineering (SUE), Utility Coordination (UC), aerial mapping, and photogrammetry.

EXHIBIT D
Exhibit 2

SECTION 4.2.7: SUB-CONSULTANTS

MANUEL G. VERA & ASSOCIATES, INC. - SURVEYING MOBILE LIDAR & S.U.E. SERVICES
13960 SW 47th Street
Miami, Florida 33175
Phone: (305) 221-6210

Manuel G. Vera & Associates, Inc. has been providing design survey and right of way mapping services to the Central and South Florida area for over forty (40) years, servicing the Florida Department of Transportation for over thirty (30) years in Districts 4, 6, the Turnpike and recently in Districts 1, 5 and 7. In addition to the Florida Department of Transportation, Manuel G. Vera's survey experience in South Florida is second to none.

CRAIG A. SIMITH & ASSOCIATES - SURVEYING & S.U.E. SERVICES
277 Goolsby Boulevard, Unit C
Deerfield Beach, Florida 33442
Phone: (954) 782-8222

Craig A. Smith and Associates, Inc. (CAS) was established in 1980. CAS provides complete subsurface utility engineering and location services utilizing the latest in electronic verification, ground penetrating radar, vacuum excavation and GPS survey equipment. CAS performs subsurface utility engineering providing utility mapping, electromagnetic designating, 2D radar designating, 3D radar tomography, & vacuum soft digs.

RITZEL-MASON - SURVEYING & S.U.E. SERVICES
5119 Beachwood Road
Delray Beach, Florida 33484
Phone: (786) 472-0358

Ritzel-Mason follows the industry recognized ASCE 38 – "Standard Guideline for the Collection and Depiction of Existing Underground Utility Data where quality levels are noted for all utilities investigated. They treat utility issues using engineering judgement, focusing attention to properly assess the potential utilities impacted on each project. They use the latest utility detection equipment including Ground Penetrating Radar (GPR), pipe and cable locators from Radio Detection for soft dig test holes.

ZEMAN CONSULTING GROUP - SURVEYING & S.U.E. SERVICES
3970 RCA Blvd., Suite 7750
Palm Beach Gardens, Florida 33410
Phone: (561) 223-8035

Zeman Consulting Group (ZCG) is focused on serving the public sector through both direct contracts and continuing professional services contracts. Since opening in April of 2021, ZCG has been awarded multiple FDOT and South Florida Water Management District contracts. ZCG is also a Certified SBE with FDOT, Palm Beach County, City of West Palm Beach, Solid Waste Authority and South Florida Water Management District.

INFRAMAP CORP. - SURVEYING & S.U.E. SERVICES
1100 N. Florida Mango Road, Suite D
West Palm Beach, Florida 33409
Phone: (561) 586-0790

Since 1987, InfraMap Corp. has been providing professional subsurface utility engineering (SUE) and locating services. InfraMap was one of the earliest subsurface utility engineering and locating firms established, and since their founding, they have focused on being a quality leader and expert in the field. To date, they have successfully completed some of the largest and most complex utility locating and designating projects ever undertaken. As of 2022, they have completed more than 26,000 projects, designated more than 32 million feet of utilities, and completed more than 130,000 air vacuum excavation test holes.

GIBBS LAND SURVEYORS - SURVEYING SERVICES
2131 Hollywood Boulevard, Suite 204
Hollywood, Florida 33020
Phone: (954) 923-7666

Gibbs Land Surveyors has been doing business from the same location for over thirty (30) years. Part of Gibbs' commitment to the community is their location. From their Hollywood office, in close proximity to Fort Lauderdale, they have provided a wide range of services related to the requirements of this project including: Boundary, Topographic, Hydrographic, Data Collection, As-Built and Utility Locations, Construction Staking, Vertical and Horizontal Control Surveys, ALTA/NSPS Land Title Surveys, Plat Recordation, Condominium Document preparation and Legal Descriptions.

STONER & ASSOCIATES - SURVEYING SERVICES
4341 SW 62nd Avenue
Davie, Florida 33314
Phone: (954) 585-0997

Since 1988, Stoner & Associates has practiced the art and science of land surveying, rising to the top of their industry with a focus on good character, reputation and the successful completion of projects. At Stoner & Associates, they are always seeking innovative solutions to improve their survey products and reduce turn-around times. They are continually updating their equipment and software to ensure rapid and accurate data acquisition. Their personnel are trained to look for innovative ways to approach your project.

MCLAUGHLIN ENGINEERING COMPANY - SURVEYING SERVICES
1700 NW 64th Street, Suite 400
Fort Lauderdale, Florida 33309
Phone: (954) 763-7611

McLaughlin Engineering Company has been proud to serve the various Surveying, Engineering, Land Planning and Platting needs of our clients over 75 years. They strive to ensure that the highest levels of quality control and customer satisfaction are placed upon the unique requirements of each individual client.

MOT PLANS.COM - MAINTENANCE OF TRAFFIC
631 NE 45th Street, #3247
Oakland Park, Florida 33334
Phone: (954) 560-0450

MOT Plans was founded in 2003 with the idea of a more hands on approach to providing superior service. Full-service barricade company providing complete temporary traffic control for any situation. They can provide everything needed from start to finish. MOT Plans starts by evaluating the project to assess the needs, then draw a maintenance of traffic plan to submit to the appropriate agency. Once the plan is approved, MOT Plans will provide the equipment and setup the plan according to FDOT standards. MOT Plans is certified in the State of Florida as a Disadvantaged Business Enterprise and certain municipalities as a SBE and MBE.

PURE TECHNOLOGIES / DBA WACHS WATER SERVICES - VALVE CONDITIONING / EXERCISING
8920 State Route 108, Suite D
Columbia, MD 21045
Phone: (443) 766-7873

Pure Technologies U.S. Inc./dba Wachs Water Services (WWS) is dedicated to helping utilities optimize control of their aging water distribution infrastructures, which reduces the consequences of failure and improves water quality. By deploying the proven methodologies, they have perfected across North America, they provide actionable information that can be used immediately to overcome the most complex underground water infrastructure challenges. They are certified as a General Contractor in the state of Florida. Their experience on similar sized projects as described in their references illustrates their qualifications.

EXHIBIT D
Exhibit 2

Section 4.2.8: Required Forms

EXHIBIT D

Exhibit 2

CRAVTHO-01 ANERVI

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 3/24/2022

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 have ADDITIONAL INSURED provisions or 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:	
Corporate Insurance Advisors, LLC 1401 E. Broward Blvd. Suite 103 Fort Lauderdale, FL 33301	PHONE (A/C, No, Ext): (954) 315-5000	FAX (A/C, No): (954) 315-5050
	E-MAIL ADDRESS: service@ciafl.net	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A : Hartford Casualty Insurance Company	29424
INSURED	INSURER B : Hartford Ins Co of the Midwest	37478
Craven Thompson & Associates, Inc. 3563 NW 53rd Street Fort Lauderdale, FL 33309	INSURER C : Continental Casualty Co.	20443
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES CERTIFICATE NUMBER: 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						EACH OCCURRENCE	$ 1,000,000
	CLAIMS-MADE X OCCUR			21UUNOL5298	12/1/2021	12/1/2022	DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 300,000
	X Data Breach Reto Dat						MED EXP (Any one person)	$ 10,000
							PERSONAL & ADV INJURY	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	POLICY X PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
	OTHER:						EMPLOYEE BENEFI	$ 2,000,000
B	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS			21UENOL5299	12/1/2021	12/1/2022	BODILY INJURY (Per accident)	$
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
A	X UMBRELLA LIAB X OCCUR						EACH OCCURRENCE	$ 6,000,000
	EXCESS LIAB CLAIMS-MADE			21XHUOL5300	12/1/2021	12/1/2022	AGGREGATE	$ 6,000,000
	DED X RETENTION $ 10,000							$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N						X PER STATUTE / OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) N	N/A		21WBOL6H4G	1/1/2022	1/1/2023	E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
C	Prof Liab incl Poll			591918336	3/30/2022	3/30/2023	Each Claim	3,000,000
C	Prof Liab incl Poll			591918336	3/30/2022	3/30/2023	Aggregate	4,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

For Proposals Purposes Only

CANCELLATION

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

EXHIBIT D
Exhibit 2

Supplier Response Form

NON-COLLUSION STATEMENT:

By signing this offer, the vendor/contractor certifies that this offer is made independently and *free* from collusion. Vendor shall disclose below any City of Fort Lauderdale, FL officer or employee, or any relative of any such officer or employee who is an officer or director of, or has a material interest in, the vendor's business, who is in a position to influence this procurement.

Any City of Fort Lauderdale, FL officer or employee who has any input into the writing of specifications or requirements, solicitation of offers, decision to award, evaluation of offers, or any other activity pertinent to this procurement is presumed, for purposes hereof, to be in a position to influence this procurement.

For purposes hereof, a person has a material interest if they directly or indirectly own more than 5 percent of the total assets or capital stock of any business entity, or if they otherwise stand to personally gain if the contract is awarded to this vendor.

In accordance with City of Fort Lauderdale, FL Policy and Standards Manual, 6.10.8.3,

3.3. City employees may not contract with the City through any corporation or business entity in which they or their immediate family members hold a controlling financial interest (e.g. ownership of five (5) percent or more).

3.4. Immediate family members (spouse, parents and children) are also prohibited from contracting with the City subject to the same general rules.

Failure of a vendor to disclose any relationship described herein shall be reason for debarment in accordance with the provisions of the City Procurement Code.

NAME	RELATIONSHIPS
None	

In the event the vendor does not indicate any names, the City shall interpret this to mean that the vendor has indicated that no such relationships exist.

Authorized Signature

Vice President, Engineering
Title

Patrick J. Gibney, P.E.
Name (Printed)

6/27/2022
Date

EXHIBIT D
Exhibit 2

Supplier Response Form

CONTRACTOR'S CERTIFICATE OF COMPLIANCE WITH NON-DISCRIMINATION PROVISIONS OF THE CONTRACT

The completed and signed form should be returned with the Contractor's submittal. If not provided with submittal, the Contractor must submit within three business days of City's request. Contractor may be deemed non-responsive for failure to fully comply within stated timeframes.

Pursuant to City Ordinance Sec. 2-187(c), bidders must certify compliance with the Non-Discrimination provision of the ordinance.

The Contractor shall not, in any of his/her/its activities, including employment, discriminate against any individual on the basis of race, color, national origin, religion, creed, sex, disability, sexual orientation, gender, gender identity, gender expression, or marital status.

1. The Contractor certifies and represents that he/she/it will comply with Section 2-187, Code of Ordinances of the City of Fort Lauderdale, Florida, as amended by Ordinance C-18-33 (collectively, "Section 2-187").
2. The failure of the Contractor to comply with Section 2-187 shall be deemed to be a material breach of this Agreement, entitling the City to pursue any remedy stated below or any remedy provided under applicable law.
3. The City may terminate this Agreement if the Contractor fails to comply with Section 2-187.
4. The City may retain all monies due or to become due until the Contractor complies with Section 2-187.
5. The Contractor may be subject to debarment or suspension proceedings. Such proceedings will be consistent with the procedures in section 2-183 of the Code of Ordinances of the City of Fort Lauderdale, Florida.

Authorized Signature

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

6/27/2022
Date

EXHIBIT D
Exhibit 2

Supplier Response Form

E-VERIFY AFFIRMATION STATEMENT

RFP/Bid /Contract No: RFQ # 12665-1026

Project Description: Water Consent Order Program
Management and Mapping Services

Contractor/Proposer/Bidder acknowledges and agrees to utilize the U.S. Department of Homeland Security's E-Verify System to verify the employment eligibility of,

(a) all persons employed by Contractor/Proposer/Bidder to perform employment duties within Florida during the term of the Contract, and,

(b) all persons (including subcontractors/vendors) assigned by Contractor/Proposer/Bidder to perform work pursuant to the Contract.

The Contractor/Proposer/Bidder acknowledges and agrees that use of the U.S. Department of Homeland Security's E-Verify System during the term of the Contract is a condition of the Contract.

Contractor/Proposer/ Bidder Company Name: Craven, Thompson & Associates, Inc.

Authorized Company Person's Signature:

Authorized Company Person's Title: Vice President, Engineering

Date: 6/27/2022

9/15/2020

EXHIBIT D
Exhibit 2

Supplier Response Form

BID/PROPOSAL CERTIFICATION

Please Note: It is the sole responsibility of the bidder to ensure that his bid is submitted electronically through www.BidSync.com prior to the bid opening date and time listed. Paper bid submittals will not be accepted. All fields below must be completed. If the field does not apply to you, please note N/A in that field.

If you are a foreign corporation, you may be required to obtain a certificate of authority from the department of state, in accordance with Florida Statute §607.1501 (visit http://www.dos.state.fl.us/).

Company: (Legal Registration) Craven, Thompson & Associates, Inc. * EIN (Optional): 59-0948029

Address: 3563 NW 53rd Street *

City: Fort Lauderdale * State: FL * Zip: 33309 *

Telephone No.: 954-739-6400 * FAX No.: 954-739-6409 * Email: pgibney@craventhompson.com *

Delivery: Calendar days after receipt of Purchase Order **(section 1.02 of General Conditions)**: To Be Determined

Total Bid Discount **(section 1.05 of General Conditions)**: N/A

Check box if your firm qualifies for MBE / SBE / WBE **(section 1.09 of General Conditions)**: ☐

ADDENDUM ACKNOWLEDGEMENT - Proposer acknowledges that the following addenda have been received and are included in the proposal:

Addendum No.	Date Issued	Addendum No.	Date Issued	Addendum No.	Date Issued
1 *	5/23/2022 *				
2	6/16/2022				

VARIANCES: If you take exception or have variances to any term, condition, specification, scope of service, or requirement in this competitive solicitation you must specify such exception or variance in the space provided below or reference in the space provided below all variances contained on other pages within your response. Additional pages may be attached if necessary. No exceptions or variances will be deemed to be part of the response submitted unless such is listed and contained in the space provided below. The City does not, by virtue of submitting a variance, necessarily accept any variances. If no statement is contained in the below space, it is hereby implied that your response is in full compliance with this competitive solicitation. If you do not have variances, simply mark N/A. **You must also click the "Take Exception" button.**

None.

*

The below signatory hereby agrees to furnish the following article(s) or services at the price(s) and terms stated subject to all instructions, conditions, specifications addenda, legal advertisement, and conditions contained in the bid/proposal.

I have read all attachments including the specifications and fully understand what is required. By submitting this signed proposal, I will accept a contract if approved by the City and such acceptance covers all terms, conditions, and specifications of this bid/proposal. The below signatory also hereby agrees, by virtue of submitting or attempting to submit a response, that in no event shall the City's liability for respondent's direct, indirect, incidental, consequential, special or exemplary damages, expenses, or lost profits arising out of this competitive solicitation process, including but not limited to public advertisement, bid conferences, site visits, evaluations, oral presentations, or award proceedings exceed the amount of Five Hundred Dollars ($500.00). This limitation shall not apply to claims arising under any provision of indemnification or the City's protest ordinance contained in this competitive solicitation.

Submitted by:

EXHIBIT D
Exhibit 2

Patrick J. Gibney, P.E. Name (printed)	Signature
6/27/2022 Date	Vice President, Engineering Title

Revised 4/28/2020

EXHIBIT D
Exhibit 2

City of Fort Lauderdale • Procurement Services Division
100 N. Andrews Avenue, 619 • Fort Lauderdale, Florida 33301
954-828-5933 Fax 954-828-5576
purchase@fortlauderdale.gov

ADDENDUM NO. 1

RFQ No. 12665-1026
WATER CONSENT ORDER PROGRAM MANAGEMENT AND MAPPING SERVICES

ISSUED: May 23, 2022

This addendum is being issued to make the following changes:

1. The opening date has been changed to Monday, June 27, 2022 at 2:00PM Local Time.

   Microsoft Teams meeting

   Join on your computer or mobile app
   Click here to join the meeting

   Or call in (audio only)
   +1 954-686-7296,,696755482# United States, Fort Lauderdale
   Phone Conference ID: 696 755 482#

All other terms, conditions, and specifications remain unchanged.

Erick Martinez
Senior Procurement Specialist

Company Name: Craven, Thompson & Associates, Inc.
(please print)

Bidder's Signature: Patrick J. Gibney, P.E., Vice Pres., Engineering

Date: June 27, 2022

City of Fort Lauderdale • Procurement Services Division
100 N. Andrews Avenue, 619 • Fort Lauderdale, Florida 33301
954-828-5933 Fax 954-828-5576
purchase@fortlauderdale.gov

ADDENDUM NO. 2

RFQ No. 12665-1026
WATER CONSENT ORDER PROGRAM MANAGEMENT AND MAPPING SERVICES

ISSUED: June 16, 2022

This addendum is being issued to make the following changes:

1. The following new section is hereby added to Section III, "Scope of Services" of this solicitation.

    - Section 3.5 "Incentive – Disincentive" (see attached)

All other terms, conditions, and specifications remain unchanged.

Erick Martinez
Senior Procurement Specialist

Company Name: Craven, Thompson & Associates, Inc.
(please print)

Bidder's Signature: Patrick J. Gibney, P.E., Vice Pres., Engineering

Date: June 27, 2022

EXHIBIT D
Exhibit 2

LOCAL BUSINESS PREFERENCE CERTIFICATION STATEMENT

The Business identified below certifies that it qualifies for the local business preference classification as indicated herein, and further certifies and agrees that it will re-affirm its local preference classification annually no later than thirty (30) calendar days prior to the anniversary of the date of a contract awarded pursuant to this bid/proposal. Violation of the foregoing provision may result in contract termination.

(1)	(Business Name)	is a **Class A** Business as defined in City of Fort Lauderdale Ordinance No. C-17-26, Sec. 2-186. A copy of the City of Fort Lauderdale current year Business Tax Receipt **and** a complete list of full-time employees and evidence of their addresses shall be provided within ten (10) calendar days of a formal request by the City.
(2)	Craven, Thompson & Associates, Inc. (Business Name)	is a **Class B** Business as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec. 2-186. A copy of the Business Tax Receipt **or** a complete list of full-time employees and evidence of their addresses shall be provided within ten (10) calendar days of a formal request by the City.
(3)	(Business Name)	is a **Class C** Business as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec. 2-186. A copy of the Broward County Business Tax Receipt shall be provided within ten (10) calendar days of a formal request by the City.
(4)	(Business Name)	is a **Class D** Business as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec. 2-186, and does not qualify for Local Preference consideration.
(5)	(Business Name)	requests a **Conditional Class A** classification as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec.2-186. Written certification of intent to meet the requirements shall be provided to the City within three (3) months of entering into a contract with the City.
(6)	(Business Name)	requests a **Conditional Class B** classification as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec.2-186. Written certification of intent to meet the requirements shall be provided to the City within three (3) months of entering into a contract with the City.

BIDDER'S COMPANY: Craven, Thompson & Associates, Inc.

AUTHORIZED COMPANY PERSON: Patrick J. Gibney, P.E. (PRINT NAME) (SIGNATURE) 6/27/2022 (DATE)

Forms Non-ISO – Revised 7/2/2021

EXHIBIT D
Exhibit 2

CITY OF FORT LAUDERDALE BUSINESS TAX YEAR 2021-2022

Business Tax Division
700 NW 19TH AVE. | FORT LAUDERDALE, FL 33311 | (954) 828 - 5195

Business ID: BL-1301193 **Business Name:** GIBNEY,PATRICK

Business Address: 3563 NW 53 ST

PATRICK GIBNEY
CRAVEN THOMPSON & ASSOCIATES INC
3563 NW 53 ST
FORT LAUDERDALE FL 33309

TAX CATEGORIES

408800 ENGINEER

Contact: PATRICK GIBNEY
Business Email: Tamcdonald@Craventhompson.Com

- This Receipt is issued for the period commencing October 1st and ending September 30th of the years shown above.
- If you have closed or moved out of the city, please email businesstax@fortlauderdale.gov and include the Business ID #.
- A transfer of business location within city limits is subject to zoning approval. Complete a Business Tax Transfer Application online to obtain the necessary approval. A transfer fee of 10% of the Business Tax fee applies, not less than $3.00, no more than $25.00.
- If you have sold your business, please email a copy of the Bill of Sale to businesstax@fortlauderdale.gov and include the Business ID #. A transfer of ownership will incur a transfer fee of 10% of the Business Tax fee, not less than $3.00, no more than $25.00.

Please be advised that this issuance of a Business Tax Receipt establishes that the business you intend to conduct is a use permitted by the City Zoning Code for the location at which you intend to operate. The issuance of a Business Tax Receipt in no way certifies that the property located at this address is in compliance with other provisions of the City Code of Ordinances.

DISADVANTAGED BUSINESS ENTERPRISE CERTIFICATION STATEMENT

The Business identified below certifies that it qualifies for the disadvantaged business enterprise preference classification as indicated herein, and further certifies and agrees that it will re-affirm its preference classification annually no later than **thirty (30)** calendar days prior to the anniversary of the date of a contract awarded pursuant to this solicitation. Violation of the foregoing provision may result in contract termination.

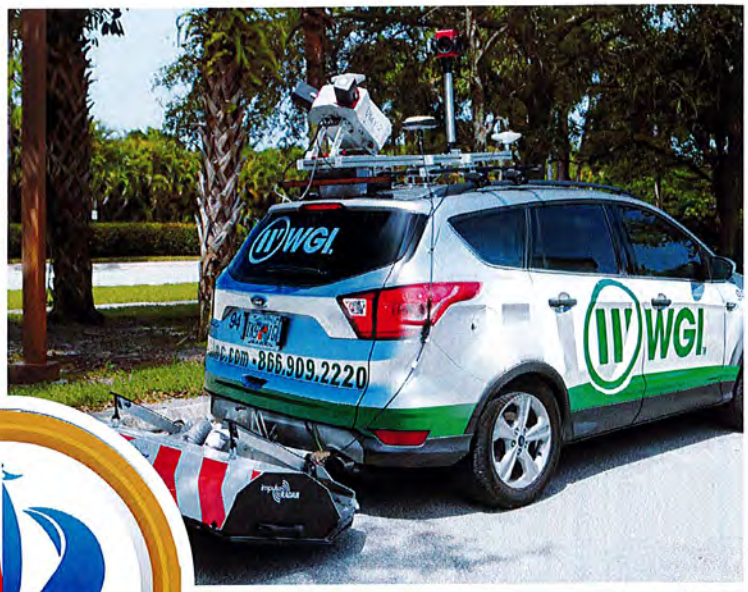
(1)	N/A	(Business Name)	is a disadvantaged **Class 1** enterprise as defined in the City of Fort Lauderdale Ordinance Section 2-185 disadvantaged business enterprise that has established and agrees to maintain a permanent place of business located in a non-residential zone, staffed with full-time employees within the limits of the City, and provides supporting documentation of its City of Fort Lauderdale business tax and disadvantaged certification as established in the City's Procurement Manual.
(2)	N/A	(Business Name)	is a disadvantaged **Class 2** enterprise as defined in the City of Fort Lauderdale Ordinance Section 2-185 disadvantaged business enterprise that has established and agrees to maintain a permanent place of business within the limits of the City with full-time employee(s) and provides supporting documentation of its City of Fort Lauderdale business tax and disadvantaged certification as established in the City's Procurement Manual.
(3)	N/A	(Business Name)	is a disadvantaged **Class 3** enterprise as defined in the City of Fort Lauderdale Ordinance Section 2-185 disadvantaged business enterprise that has established and agrees to maintain a permanent place of business located in a non-residential zone, staffed with full-time employees within the limits of the Tri-County area and provides supporting documentation of its City of Fort Lauderdale business tax and disadvantaged certification as established in the City's Procurement Manual.
(4)	N/A	(Business Name)	is a disadvantaged **Class 4** enterprise as defined in the City of Fort Lauderdale Ordinance Section 2-185 disadvantaged business enterprise that does not qualify as a Class 1, Class 2, or Class 3 business, but is located in the State of Florida and provides supporting documentation of its disadvantaged certification as established in the City's Procurement Manual.
(5)	N/A	(Business Name)	requests a **Conditional Class 1** classification as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec.2-186. Written certification of intent to meet the requirements shall be provided to the City within three (3) months of entering into a contract with the City.
(6)	N/A	(Business Name)	requests a **Conditional Class 2** classification as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec.2-186. Written certification of intent to meet the requirements shall be provided to the City within three (3) months of entering into a contract with the City.

BIDDER'S COMPANY: Craven, Thompson & Associates, Inc.

AUTHORIZED COMPANY PERSON: Patrick J. Gibney, P.E. (PRINT NAME) (SIGNATURE) 6/27/2022 (DATE)

Forms Non-Iso – revised 7/2/2021

EXHIBIT D
Exhibit 2



CREATIVELY TRANSFORMING HOW OUR WORLD IS **envisioned + designed + experienced**

RFQ No. 12665-1026 REQUEST FOR QUALIFICATIONS FOR

Water Consent Order Program Management and Mapping Services

CITY OF FORT LAUDERDALE

WGI

EXHIBIT E
Exhibit 2

June 27, 2022

Erick Martinez, Senior Procurement Specialist
City of Fort Lauderdale
Procurement Services Division
100 North Andrews Avenue, 6th Floor
Fort Lauderdale, FL 33301

RE: WATER CONSENT ORDER PROGRAM MANAGEMENT AND MAPPING SERVICES ▪ RFQ #12665-1026

Dear Mr. Martinez,

The City of Fort Lauderdale (City) has clear intentions to achieve the objectives of Consent Order Number 19-1637. To assist the City with program management and mapping services, and produce the water distribution mapping delivery, you need a comprehensive and achievable approach from WGI's team of professionals, with the local resources, commitment, and history of leading the delivery of multi-million-dollar contracts. We reviewed and understand the scope of services outlined in the requirements of 12665-1026 for the water consent order program management and mapping services. Addendum No. 2 for the RFQ is a clear indication of the City's desire to reduce contract time. This is a mapping project, best accomplished as a program, and must be performed in lockstep with the City's ongoing valve exercise reporting activities. **Our foremost obligation is to assist the City in meeting its requirements and deadlines set forth by the Florida Department of Environmental Protection (FDEP) consent order #19-1637**, and to actively lead and deliver the most definitive and dependable mapping of your water infrastructure.

WGI, Inc.

Responsible Office

3230 W. Commercial Boulevard
Suite 300
Fort Lauderdale, FL 33309

2035 Vista Parkway
West Palm Beach, FL 33411
(Corporate Headquarters)

Contacts

Roberto Mantecon, PSM
Project Manager
p. 305.553.0500
Roberto.Mantecon@wginc.com

Brett Oldford, PE
Program Manager
p. 561.687.2220
Brett.Oldford@wginc.com

As we embark, there is little to be considered "routine" regarding this water distribution system mapping project. Typical approaches will jeopardize the City's commitment to meeting the consent order deadline and are unlikely to reduce contract time. A routine approach— relying on proposals loaded with superfluous resumes of personnel residing hundreds of miles from the City, that depend on numerous and complex schemes to show depth or qualifications not available from your lead firm, that propose personnel who will never engage with your project and have no local vested interest—will not lead to success on this critical assignment. WGI eliminates that confusion with a motivated, experienced, and technologically advanced local team that is easily managed and focused on your needs. We aggressively work to achieve desired outcomes, including the reduction of contract time. Our leadership team and technical personnel are fully committed to meeting your objectives.

As you read this letter, we invite you to temporarily bypass the review of our Qualifications and Experience or the Qualifications of our Project Team, and to go directly to our Approach to the Scope of Work (Section 4.2.5). After you appreciate our expedient technical approach supported by time- and cost-saving efficiencies, please revisit our local team's outstanding qualifications. We consider every executable step to safely meet the deadlines set forth by the FDEP consent order.

EXHIBIT E
Exhibit 2

WGI's proposal is comprehensive and detailed. Our proposed approach is achievable. Our approach has the best chance of reducing contract time. From a programmatic approach, we all understand the importance of WGI's responsibility having defined the mapping program's project strategy. Our program and project managers are responsible for guiding and overseeing WGI's implementation and execution of the project, safety for our crews and the public, our interactions with the City, and the timeliness and quality of our deliverables. Our project manager is responsible for the planning, monitoring, and controlling of the overall project, and managing its risks. We look forward to working with the City in coordination of cross-project activities performed by the City itself or its subconsultants.

Throughout the mapping project's duration, we will maintain constant communication with the City. The project's accelerated schedule drives WGI to be inventive, and intelligently deploy technology and other resources to meet deadlines, budgets, and commitments. WGI has already conducted a successful pilot and the verification of our technical approach. We started the collection of sensor-based data weeks ago in anticipation of this contract's award and a quick start. During the contract period we will continuously assess program performance. For example, in our technical approach we discuss our WGI Work Order Tracking System (WOTS)—developed and deployed to successfully deliver geospatial and related activities on the $2 billion Brightline Train expansion project—and our mapping portal for coordinating work. City personnel will be able to view our progress live and daily from their desktops. Our approach also includes reporting dashboards to resolve scope issues, present our work product for online review, monitor our schedule progress, and prepare and rapidly present data and reports. Combined, these proven processes, WOTS and other software, and our experience leading in the delivery of critical infrastructure firmly sets us apart.

WGI has a sizable presence in Fort Lauderdale. We are headquartered in West Palm Beach. No other south Florida firm is as well-equipped and staffed, nor can another local firm demonstrate its role in leading large geospatial infrastructure programs of critical importance. The City's ability to safely, efficiently and timely deliver this water distribution system mapping project for FDEP's order requires a program where specific performance is critical. WGI is known to undertake the largest and most challenging GIS, mapping, and subsurface utility engineering (SUE) projects in Florida, like Brightline (a referenced project including client testimonial). We excel when we confront demanding schedules. When clients confront their most challenging projects and need the most qualified and capable company for support, WGI is often their selected partner. In your travels, look for the WGI vehicles that dominate our local communities. Our team members are deployed to dozens of local towns, cities, villages, and counties daily, just as we have for the last 50 years.

Thank you for your time. We look forward to your favorable response and starting work immediately upon selection.

Sincerely,

Robert Hanson, GISP
Senior Vice President, Geospatial

Roberto Mantecon, PSM
Project Manager

EXHIBIT E
Exhibit 2

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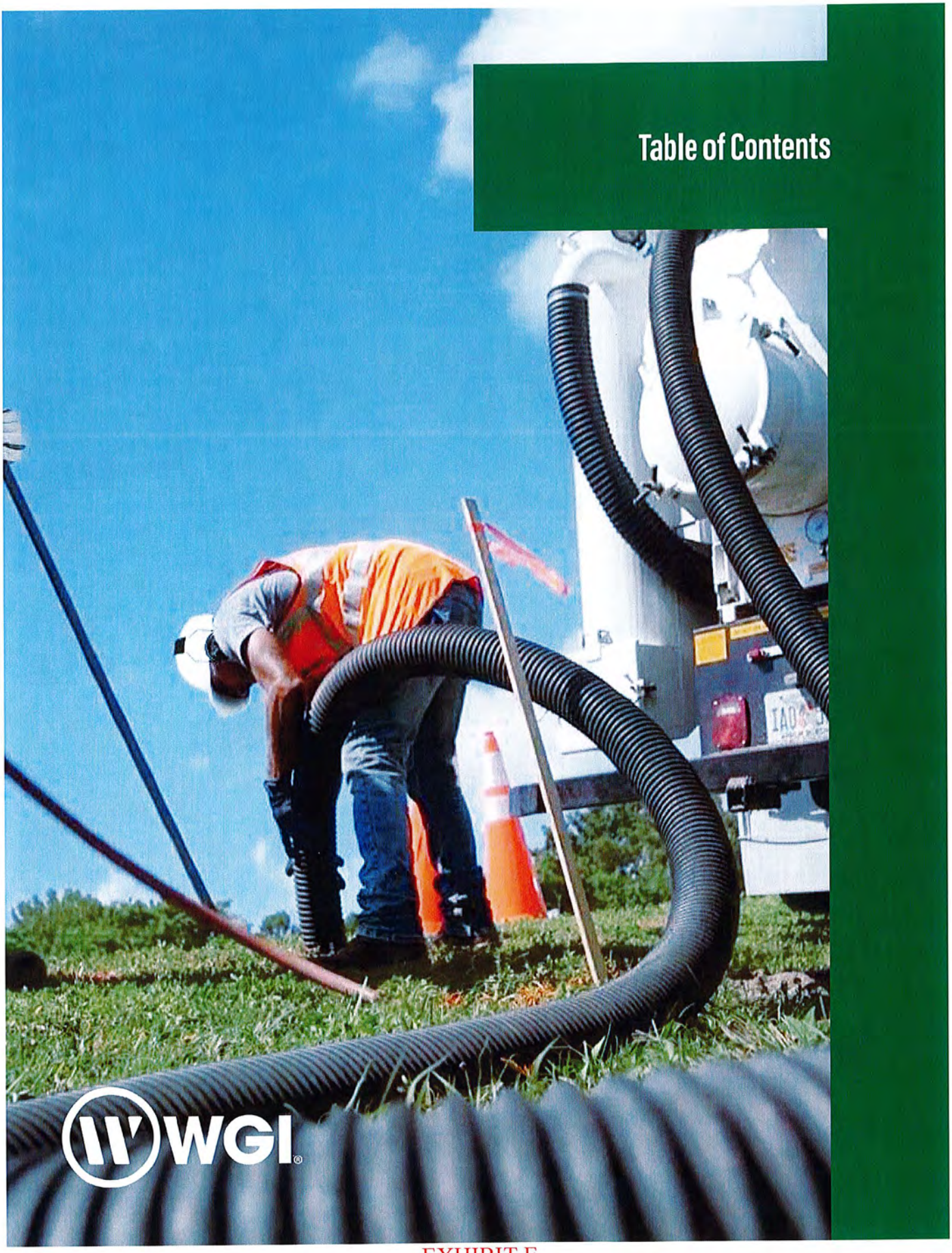

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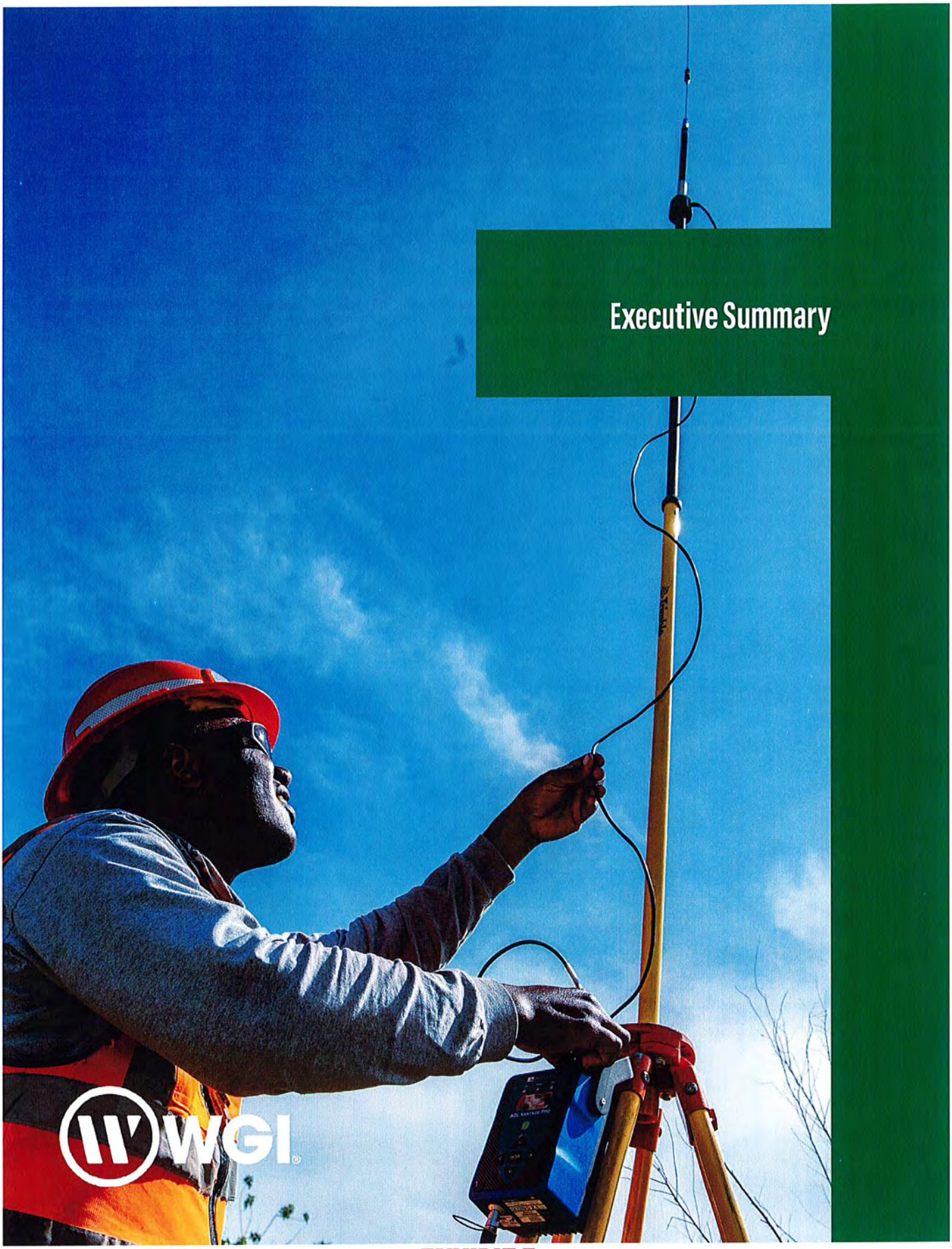


EXHIBIT E
Exhibit 2

EXECUTIVE SUMMARY

At WGI, Inc. we are industry leaders in creating successful and sustainable communities, creatively transforming how our world is envisioned, designed, and experienced. WGI is a national design and professional services firm leading in technology-based solutions for the construction of public and private infrastructure. WGI is an S-Corporation headquartered in West Palm Beach with 23 offices across the country; 11 of those offices are in Florida.

This contract will be managed out of our Fort Lauderdale office, receiving support from our West Palm Beach, Miami, Orlando, and Port St. Lucie offices.

BACKGROUND

WGI was founded in South Florida in 1972 and has continuously expanded its areas of expertise to help clients face global competitiveness, rapid and sustained urbanization, infrastructure investment shortfalls, funding gaps, and climate change. Since our inception in 1972, WGI has a proven record of developing highly innovative solutions for infrastructure improvement projects for governmental clients throughout Florida. Currently, we serve dozens of municipal clients under similar continuing service contracts. By offering a full range of services, including civil engineering; survey; subsurface utility engineering (SUE); planning and urban design; structural engineering; traffic and transportation engineering; mechanical, electrical, and plumbing (MEP) services; landscape architecture; architecture; and environmental services, we exceed the requirements of this contract and successfully deliver projects that meet the high expectations of the City and its residents.

The depth of our WGI team, nearly 600 professionals, provides ample capacity to competently complete all task orders in a timely manner. Commitment, dedication, and teamwork are all qualities that the WGI team brings to the City. This commitment has been clearly demonstrated by WGI's superior service and professionalism over the years with past and current contracts held with the City.

PRINCIPALS, OFFICES, AND ORGANIZATIONAL STRUCTURE

WGI Executive Officers:
CEO | David Wantman, PE [WPB]
President | Greg Sauter, PE [WPB]

Principal in Charge:
SVP, Geospatial | Robert Hanson, GISP [WPB]

Regulatory Specialist:
SVP, Chief Strategy Officer | Michael Davis [WPB]

Program Manager:
VP, Civil Engineering | Brett Oldford, PE [WPB]

Project Manager:
Roberto Mantecon, PSM [FTL]

Technical Advisor:
Leigh Thomas, PE [TX]

Qualifying Staff/Discipline Leads:
Sandor Laszlo, PE [PA]
Jason Alvarez, CST II [WPB]
Jim Sullivan, PSM [WPB]
Jorge Kappa [FTL]
Radek Grabowski [WPB]

EXHIBIT E
Exhibit 2

The City of Fort Lauderdale Public Works Department (the City) issued solicitation 12665-1026 for professional services to address its challenges associated with the accuracy of mapping and records data for the entirety of the water distribution system—primarily associated with a consent order-driven schedule, limited staff resources, budget constraints, and aging infrastructure. WGI proposes helping the City advance its program objectives and goals to address the scope for mapping the water distribution system. It involves data collection, surveying, and mapping of water infrastructure, including all source and distribution mains, control valves, hydrants, air release valves, water meters, inactive mains, and directional flow routes.

The primary focus of the City's solicitation and the intent of our work is the verification and completion of water distribution system mapping. WGI and its team members may be called upon to assist in larger programmatic initiatives conducted by the City and/or its consultants. For example, we could be called upon for:

- Assistance with the water valves exercising program through planning the fieldwork, providing and updating field schedules, preparing field activity reports, and as-needed provision of supplemental resources to exercise the valves
- Review and validate maintenance records, and prepare annual reports showing water line valves were exercised as required
- Physical condition assessments of all water valves and provision of recommendations
- Reporting to FDEP to ensure that all consent agreement mandates are met in a timely fashion

The WGI team, with assistance from Jacobs Engineering Group, Inc. (Jacobs), reviewed the water system valve maintenance plan (WSVMP) for the 19,298 water system valves in the City's water system, and the water distribution mapping plan (WDMP) WGI prepared in 2020. We also reviewed the FDEP consent order #19-1637, with a key requirement that the City is to develop a water network valve preventive maintenance plan and implement an aggressive exercise plan; at a minimum, it exercises 100% of the source water valves within the first year and 20% each year thereafter.

Our team understands the program requirements. The approach's foundation is the extensive utility supporting experience by both WGI and Jacobs in South Florida, and Jacob's recent direct involvement with the City, improving and upgrading water system infrastructure, providing program management, asset management, and planning, design, operations, and construction services.

WGI's team has the necessary experience—both in-house WGI staff expertise, and that of our subconsultants: Jacobs Engineering Group, Inc. (Jacobs); Chen Moore and Associates, Inc. (CMA); Stoner & Associates, Inc. (S&A); McKim & Creed, Inc. (MK&C); T2 Utility Engineers (T2); CTS Engineering, Inc. (CTS); and Florida Technical Consultants, LLC, (FTC). We are prepared to add firm(s) for repair and maintenance services for water infrastructure on an as-needed basis when the City requires and approves them. Team roles are as follows:

- WGI - Prime consultant and team leader, program management, project management, water distribution engineering, engineering advisory assistance, mapping, survey, geospatial information systems (GIS), SUE, 3D high-speed ground-penetrating radar (3DHS-GPR), data deliveries, quality control and quality assurance
- Jacobs – Program management assistance, Cityworks integration, possible valve exercising support
- CMA – Mapping assistance, field QC, possible valve exercising support, and engineering support
- CTS – SUE assistance
- S&A – Mapping, survey/fielding assistance and support
- MK&C - Mapping, survey/fielding assistance
- T2 – 3DHS-GPR, SUE assistance
- FTC – GIS assistance

QUICK START, ON-TIME FINISH

The water system distribution mapping project requires a fast-tracked approach. WGI's proven processes, tools, and staff resources augment the City staff, supporting them in meeting the final schedule for completion dictated by the consent order and maintaining future compliance.

EXHIBIT E
Exhibit 2

WGI's program management delivery approach will help the City manage all project facets by prioritizing implementation, aligning delivery to requirements, and adhering to strict schedule- and budget-management processes.

Our approach uses rapid mobilization, and application of best practices and standard operating procedures (SOPs) gained from implementing similar valve exercising and mapping programs across the United States. The SOPs used by WGI's team are approved by FDEP and guided by American Water Works Association (AWWA) Best Management Practices, as described in its *Manual M44 Distribution Valves: Selection, Installation, Field Testing, and Maintenance*. **Michael Davis (WGI)** and **Mitch Griffin, PE (Jacobs)** are our dedicated compliance and regulatory leads. Both offer decades of experience working directly with regulatory compliance agencies, state and federal, and extensive experience in water systems management. When requested, they will focus on working with the City or to develop a strategy that meets the consent order requirements, and maintains continued communications and transparency. They will identify potential areas of improvement to the program's implementation plan, mitigating any non-compliance issues and avoiding future regulatory enforcement action.

WGI's approach articulates what we will do, but also outlines how we will accomplish the project's scope of work. **We communicate how we will accelerate the schedule, re-prioritize, and expand the zones presented in the WDMP dated on September 22, 2020.** WGI will use innovation and technology, work order management, and sampling to accomplish extensive portions of the program work in a manner that significantly increases safety by reducing the need for extensive fielding efforts or staff. WGI has significant in-house resources to perform this scope of work with an exceptionally qualified team that meets all needs of this project. As a team, we own and operate over 50 survey and 50 SUE crews within Florida, far exceeding any anticipated demands for this project. With the use of our innovative 3D scanning technology, limited field verification is anticipated. With a deep bench of skilled, talented workers and equipment and technology resources, we have every confidence we can hit the ground running on day one to meet the project's scope and schedule.

From our initial analysis, we believe there are nearly 56,000 point features such as valves, hydrants, changes in pipe diameter, etc. that must be considered in the WDMP. Excluding water meters, we estimate over 35,000-point features fall within 20 feet of a paved road centerline. Using the 3DHS-GPR and mobile mapping technology we discuss later in our approach, WGI can accurately locate and verify more than 60% of the system's components without putting field staff in travel lanes, increasing the overall project safety while reducing contract time. Over 600 miles of the approximately 925 miles of water mains (including those abandoned) may fall within the pavement areas as well, based on our understanding of available data. These statistics speak volumes for using the 3DHS-GPR technology we discuss in our approach. **Using 3DHS-GPR, we estimate we may eliminate approximately 50% to 60% of conventionally performed SUE designates. We also estimate we may reduce the number of test holes and MOT/lane closures by a similar percentage. We correlate potential savings in time and labor to potentially a 40% to 50% reduction in the costs for SUE mapping compared to performing this project using conventional equipment and techniques. We have the best chance of reducing contract time.**

3DHS-GPR and Integrated LiDAR and Camera System

Manual fielding is necessary, but can later be combined with the meter locating activity to fill data gaps in the information for mains and appurtenances, verifying locations and attributions. Our accelerated approach will allow the City to show early progress to FDEP throughout the project's progression, including reducing contract time.

EXHIBIT E
Exhibit 2

ACCELERATING THE VALVE EXERCISE MAINTENANCE PROGRAM

We understand the challenges of such an intensive valve exercise program, and are ready to provide trained staff to augment the City's Operations and Maintenance (O&M) staff, supporting the City in accelerating the WSVMP if called upon. This plan will allow work to proceed concurrently with our mapping of the water distribution system. Our mapping schedule is depicted at the end of our discussion of the Methodology and Approach to Scope of Work. While our approach includes early conversations with the City to gain your insights for a modification to the 2020 schedule for mapping the system, **our team has the resources to meet the consent order's requirement to complete the mapping by July 2023.**

To comply with the WDMP, the City and its existing team will be challenged to keep up with their review and assimilation of the mapping data WGI produces. Your staff, and those consultants you already use for other projects, in the interest of achieving compliance, must continually fulfill their requirements for their ongoing current work. The City should consider how its total workforce, including your current consultants, reviews and utilizes the data we produce while also delivering on their current contract requirements for system modeling and Cityworks implementations.

STAKEHOLDER ENGAGEMENT

We understand the City's commitment to neighborhood enhancement, as highlighted in the *Press Play Fort Lauderdale 2024*, including the goal of building "a thriving and inclusive community of neighborhoods." As detailed in the City's WSVMP, activities related to valve exercising may increase or decrease flow velocities in the water mains, which may result in sediment disruption and temporarily discolored water. Releasing pressure by opening the valve (a network node) has a hydraulic impact upon the connected system, and increases turbidity of settled particulate matter because of flow velocity fluctuations. If requested as a program management activity, we will work closely with the City to design and implement a stakeholder engagement and communication plan. By using maps and other data WGI produces for the WDMP, it builds on existing community relationships, following processes developed by the City and meeting the objectives of the WSVMP.

VALUE-ADDED OPTIONS

At the top of our list of value-added features and options is the data we produce from our technological capabilities. The City utility department will use the resulting data, and other planners can leverage this rich geospatial data (LiDAR, imagery, 3DHS-GPR, and GIS) for a myriad of future uses, including resiliency planning; flood inundation modeling; a complete streets program, code, and zoning enforcement; tax assessment; and other many practical purposes. **The 3DHS-GPR data is indiscriminate as it collects underground features like water, stormwater, and sewer pipes, gas lines, and cables, making this data useful for future utility designation efforts.** In the image below, you can clearly see the underground utilities other than the water system. Our byproducts provide useful visualization tools to maintain data quality and possibly streamline your workflows for GIS-optimized data and reporting, and support your asset-management programs.

S. Andrews Avenue - 3DHS-GPR below-ground facilities and depths

We also offer several other value-added options that would benefit the City and contribute to the success of the valve exercise and mapping program. These options include financing strategies, and grantsmanship and alternate funding options to enhance the program's affordability, such as the Lead Copper Rule and the Infrastructure Investment Jobs Act [IIJA] Bill. We have the resources and experience to provide these added services to strengthen the ability to meet the consent order requirements, and prepare the City for the future.

EXHIBIT E
Exhibit 2

STAFFING PLAN

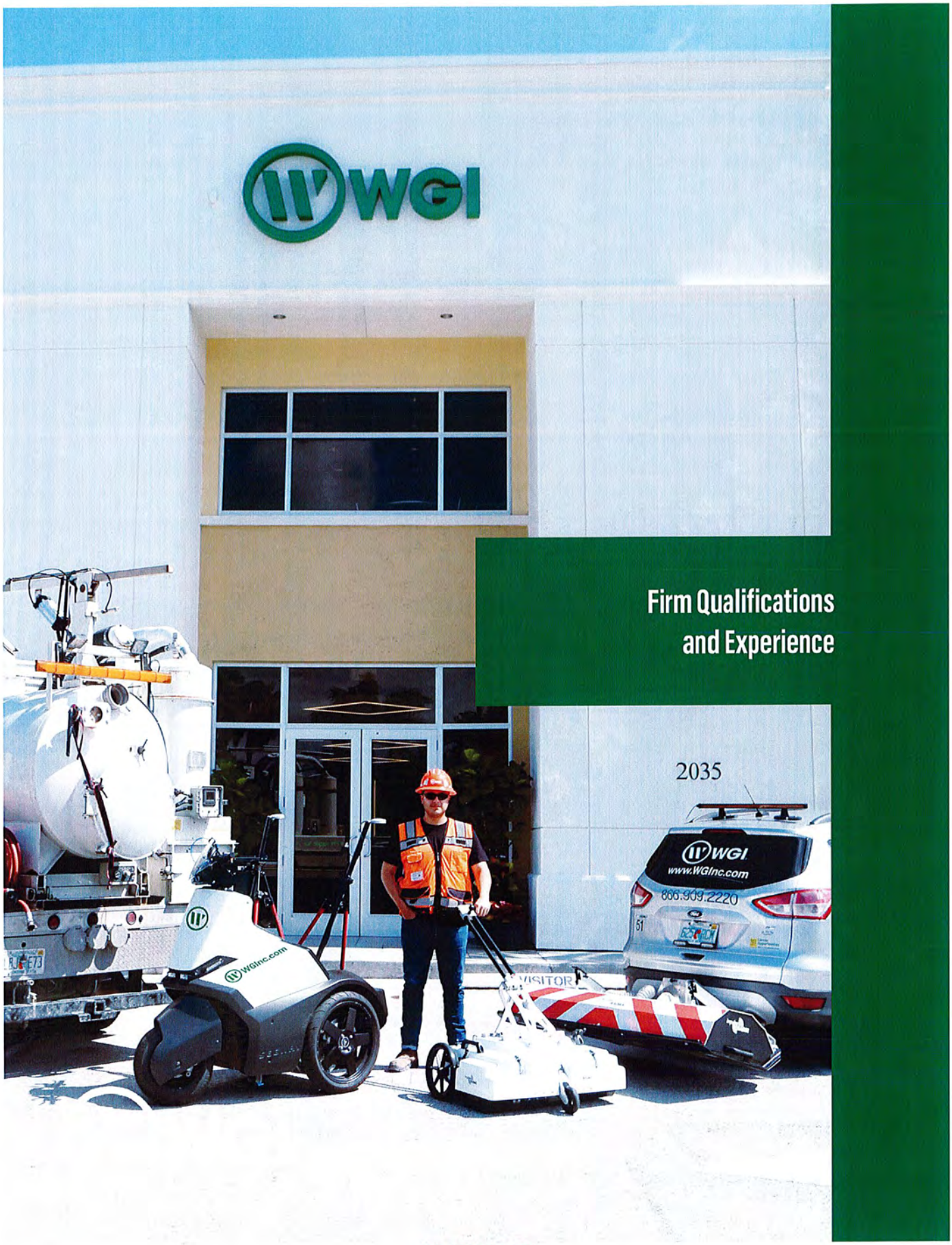
WGI's Fort Lauderdale-based and other local staff and teaming partners have the depth of resources and experience that closely align with your RFQ, enabling us to implement an effective water distribution mapping program that will meet all your objectives, including the consent order mandates. In addition to program management experts, water distribution system engineers, and modelers, we offer regulatory specialists with strong relationships and a proven track record with FDEP. We will engage licensed O&M service providers with expertise in valve mechanics and valve exercising, who have directly applicable experience developing approved valve exercise plans and SOPs. Our GIS, geospatial, surveying and mapping, and SUE professionals provide the innovative equipment and expertise to conduct immediate fieldwork. We have the approach to the scope of work to maintain future compliance, and have financial strategists who will help the City identify funding sources, manage budget, and reduce capital costs.

This dynamic, high-performance team is ready to immediately begin work, leverage the strengths and efficiencies of our combined experience, and successfully partner with the City. WGI's team is organized to meet all tasks identified in the RFQ and provides the resources to accelerate surveying and mapping services within the City's service area. The coordination of our team with the City's project activities for the WSVMP is directed by our program manager, **Brett Oldford, PE**, and the mapping project is led by our project manager, **Roberto Mantecon, PSM**. We include a deputy program manager and water infrastructure specialists as advisors with extensive experience working on content-driven water infrastructure programs. With our experience, we will hit the ground running, strive to reduce contract time, and direct our teams of surveyors, mapping specialists, and engineers from initial fieldwork through the completion of the water distribution mapping project.

In cooperation with Jacobs, we will combine our in-depth knowledge of the City's water infrastructure and water distribution management, planning, design, and operations with specific expertise in program management and mapping services. Jacobs performed work with the City spanning the last three decades, including services as program manager and general engineering consultant. Our team offers proven performance, demonstrating commitment to the City and its goals. Our combined background eliminates any extensive learning curve, enabling a rapid start-up and project delivery on time and within budget—especially for a program with consent order-driven milestones and deadlines.

WGI's team offers a full suite of custom-tailored operations and maintenance support services for water and wastewater utilities. Through applicable experience, innovative technology, protocols, tools, and systems, we will share our best practices with the City that create cost savings and efficiency gained from our team's hands-on experience in water system programs. Our contracts that feature water distribution system scopes have specific deliverable requirements for system maintenance. WGI's team follows the AWWA guidance and developed SOPs for comprehensive valve exercise programs designed to optimize operations and maximize water system performance.

EXHIBIT E
Exhibit 2



Firm Qualifications and Experience

EXHIBIT E
Exhibit 2

ARCHITECT - ENGINEER QUALIFICATIONS

PART I - CONTRACT-SPECIFIC QUALIFICATIONS

A. CONTRACT INFORMATION

1. TITLE AND LOCATION *(City and State)*

Water Consent Order Program Management and Mapping Services | City of Fort Lauderdale

2. PUBLIC NOTICE DATE	3. SOLICITATION OR PROJECT NUMBER
4.22.2021	12665-1026

B. ARCHITECT-ENGINEER POINT OF CONTACT

4. NAME AND TITLE

Roberto Mantecon, PSM | Project Manager

5. NAME OF FIRM

WGI, Inc.

6. TELEPHONE NUMBER	7. FAX NUMBER	8. E-MAIL ADDRESS
305.553.0500	305.553.0501	Roberto.Mantecon@wginc.com

C. PROPOSED TEAM

(Complete this section for the prime contractor and all key subcontractors.)

	(Check) PRIME	(Check) J-V PARTNER	(Check) SUBCON-TRACTOR	9. FIRM NAME	10. ADDRESS	11. ROLE IN THIS CONTRACT
a.	X			**WGI, Inc.** X CHECK IF BRANCH OFFICE	3230 W. Commercial Boulevard Suite 300 Fort Lauderdale, Florida 33309	Project Management ▪ SUE ▪ Survey ▪ GIS
b.	X			**WGI, Inc.** CHECK IF BRANCH OFFICE	2035 Vista Parkway West Palm Beach, Florida 33411	Program Management ▪ Civil Engineering ▪ SUE ▪ Survey ▪ LiDAR
c.	X			**WGI, Inc.** X CHECK IF BRANCH OFFICE	11401 SW 40th Street Suite 455 Miami, Florida 33165	Project Management ▪ SUE ▪ Survey
d.	X			**WGI, Inc.** X CHECK IF BRANCH OFFICE	548 Mercantile Place Port St. Lucie, Florida 34986	Data Management, Integration and QC
f.	X			**WGI, Inc.** X CHECK IF BRANCH OFFICE	2021 East 5th St Suite 200 Austin, Texas 78702	Program Management ▪ Water Asset Management
g.			X	**Chen Moore and Associates, Inc.** CHECK IF BRANCH OFFICE	500 W. Cypress Creek Road Suite 630 Fort Lauderdale, Florida 33309	Engineering ▪ Field Quality Control

EXHIBIT E
Exhibit 2

	(Check)			9. FIRM NAME	10. ADDRESS	11. ROLE IN THIS CONTRACT
	PRIME	J-V PARTNER	SUBCON-TRACTOR			
h.			X	**CTS Engineering, Inc.** CHECK IF BRANCH OFFICE	3230 West Commercial Boulevard, Suite 220 Fort Lauderdale, Florida 33309	SUE
i.			X	**Florida Technical Consultants, LLC** CHECK IF BRANCH OFFICE	533 East Ocean Avenue Suite # 2 Boynton Beach, Florida 33435	GIS
j.			X	**Jacobs Engineering Group, Inc.** X CHECK IF BRANCH OFFICE	550 W. Cypress Creek Road Fort Lauderdale, Florida 33309	Program Management Support ▪ GIS ▪ Quality Control
k.			X	**McKim & Creed** X CHECK IF BRANCH OFFICE	551 North Cattlemen Road Suite 106 Sarasota, Florida 34232	SUE ▪ Survey
l.			X	**Stoner & Associates, Inc.** CHECK IF BRANCH OFFICE	4341 SW 62nd Avenue Davie, Florida 33314	Survey
m.			X	**T2 Utility Engineers** X CHECK IF BRANCH OFFICE	5670 Zip Drive Fort Myers, Florida 33905	SUE ▪ Survey

D. ORGANIZATIONAL CHART OF PROPOSED TEAM **X** *(Attached)*

See Project Team Experience and Qualifications section for Section D and E.

EXHIBIT E
Exhibit 2

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER **1**

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Distribution System Mapping Plan - Task Order 1 **Fort Lauderdale, Florida**	**2020**	**N/A**

23. PROJECT OWNER'S INFORMATION

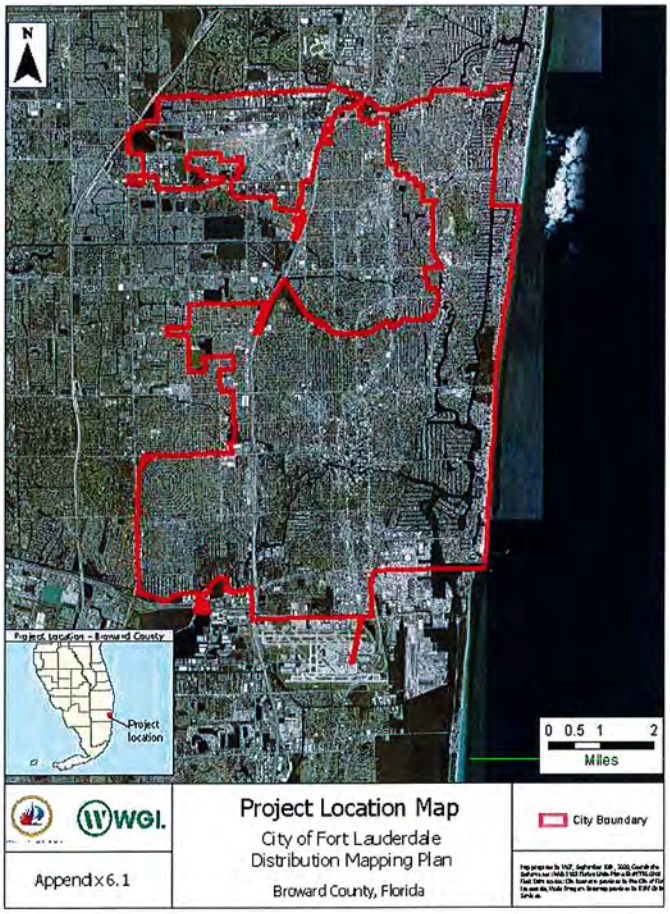
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
City of Fort Lauderdale	**Rick Johnson**	**954.828.7809**

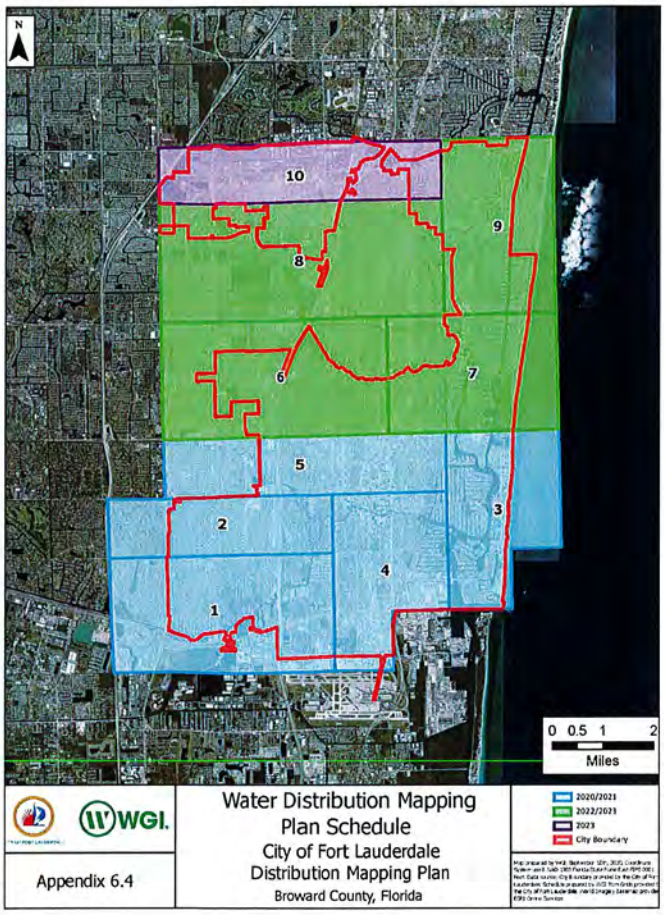
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

The City of Fort Lauderdale requested that WGI develop a mapping plan for a map of the existing water supply network within the City's geographic boundaries to comply with the FDEP water consent order. The mapping plan outlines the development of a complete map of the existing water supply network for the City that includes all raw water and distribution system mains, valves, hydrants, ARVs, water meters, service lines, and directional flow routes (provided by others). The City's next task work order will be to GIS map 780 miles of waterlines with apparatus (6,220 hydrants).

While faced with a limited schedule, environmental mandate, and GIS features to incorporate into FDEP standards, WGI's multi-discipline geospatial division met with FDEP and GIS staff for constructive discussions to formulate a scope and schedule to satisfy all stakeholders.

This project was submitted on time and within budget.





WGI Fee: $14,816

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	WGI, Inc.	Fort Lauderdale, Florida	Prime

EXHIBIT E
Exhibit 2

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER **2**

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Las Olas Boulevard Design Survey **Broward County, Florida**	**2019**	**N/A**

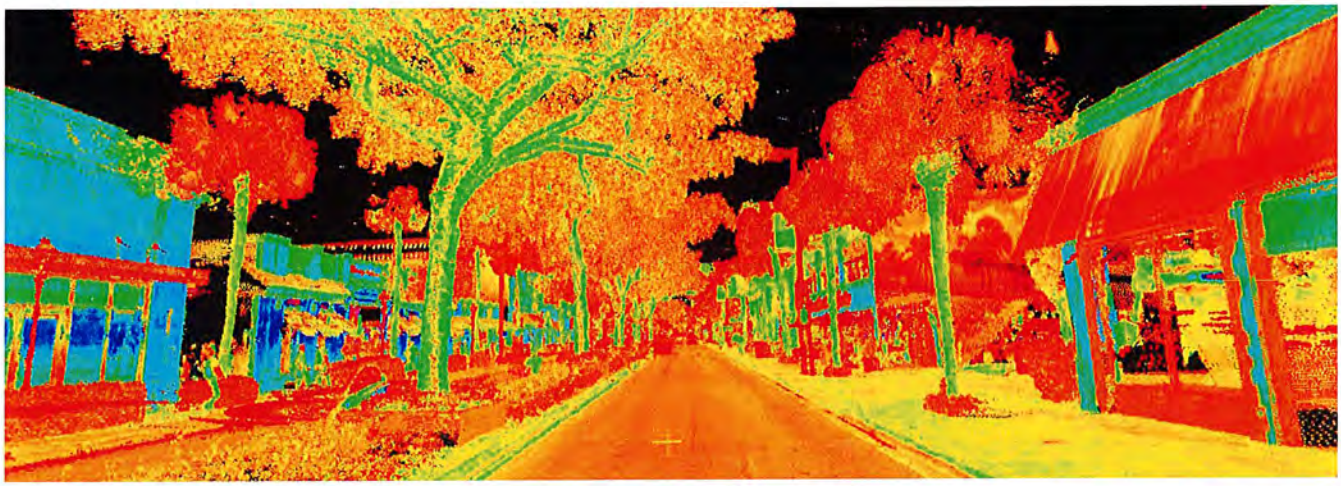
23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
FDOT District 4	**Roberto Chavez, PSM**	**954.777.4597**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

This project was a complete street assignment in downtown Fort Lauderdale, along one mile of a significant portion of Las Olas Boulevard that includes restaurants, mixed-use commercial, hotels, and high-rise residential towers. WGI provided traffic calming, bike lanes, beautification, and intermodal improvements to this one-mile segment. WGI's geospatial services included terrestrial mobile LiDAR, design surveys, utility locating, drainage surveys, right-of-way retracement, cross-sections, and coordination of aerial survey services. WGI's fieldwork included a budgeted 49 days, which we completed in just 30 days due to WGI's dedication to innovation.

This project was submitted on time and within budget.



Survey Fee: $178,000

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	WGI, Inc.	West Palm Beach, Florida	Prime

EXHIBIT E
Exhibit 2

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER **3**

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
All Aboard Florida – Brightline **Fort Lauderdale and West Palm Beach Stations, Florida**	**2019**	**2022**

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Brightline	**Deron Haptonstall**	**505.975.8754**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

WGI serves as the primary surveying firm responsible for all control, construction, and as-built surveying for the Brightline high-speed rail corridor stretching from Brevard County south to Palm Beach County (approximately 130 miles). Under the multi-year contract, WGI provides six survey field crews to the rail site, seven days a week. WGI also provides on-call SUE services. All fieldwork and supporting office technical staff are managed using WGI's proprietary WOTS to manage office and field production, scheduling, and invoicing support.

WGI has been successfully managing the survey services for approximately three years by holding daily production and scheduling team meetings to communicate the day's schedule and "look ahead." Attention to safety has been recognized by HSR Constructors through multiple "Safety Crew of the Month" awards for our surveying field crews – recognition of our commitment to safety at WGI.

As part of the program management support, WGI participates in the client's daily and weekly planning meetings to assist with resource allocation along with the geographically expansive project site. Our team submits daily production and cost reports together with the deliverables of the day. As priorities shift or our client's resources are altered (material or staff availability), WGI works to realign our resources to support the evolving environment.

In addition to the traditional surveying applied for construction, WGI has also performed mobile LiDAR, static scanning, and SUE services to provide the project team with a single resource to meet the exceptional needs of the Brightline program.

This project was submitted on time and within budget.

WGI Fee: $12.3M ▪ **Construction Cost:** $2B

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	WGI, Inc.	West Palm Beach, Florida	Subconsultant

EXHIBIT E
Exhibit 2

HSR CONSTRUCTORS

300 North Drive, Suite 100
Melbourne, Florida 32934

May 19, 2022

Project: Phase II Zone 4, North South Rail Infrastructure, Contract C-204

Subject: WGI, Inc. Letter of Reference and Recommendation

To whom it may concern,

I prepared this letter to recommend the firm of WGI, Inc. (WGI) for your consideration.

WGI is providing ongoing surveying and mapping, on-call SUE services and as-needed technical engineering services for the Herzog, Stacy and Witbeck and RailWorks, Joint Venture (HSR Constructors (HSRC)) responsible portions of Brightline's Phase II intercity commuter rail project throughout its North / South Corridor.

The Brightline Project requires the rehabilitation of Florida East Coast Railroad's existing track and sidings, construction of a new second main track, reconstruction of over 30 existing railroad bridges, construction / rehabilitation of 155 railroad grade crossings, corridor wide fiber optic installation and upgrades, corridor wide upgrades to existing railroad signaling and grade crossing warning systems and various other civil, drainage and track upgrades from West Palm Beach, FL to the Cocoa Beach, FL in the active FEC Railroad Right-of-Way.

In May 2019 HSRC entered a contract employing the services of WGI as the chosen Professional Surveyor and Mapper responsible for establishing project network control, corridor mapping that also utilized WGI's Hi-Rail mobile LiDAR solution, right of way research, boundary survey, all construction surveying, structures settlement monitoring, and on-call subsurface utility engineering to resolve potential utilities conflicts with new construction. WGI also delivers complete as-built surveys for the newly constructed roadway crossings of newly constructed rail.

WGI was the first and the only survey and on-call SUE contractor that HSRC utilizes on this challenging and high-profile project. WGI was chosen by HSRC because of their large number of in-house survey and SUE crews and their vast technical resources. WGI has consistently delivered timely, high-quality surveying and mapping services and products within the prescribed timeframe and acted responsibly in resolving any technical issues while accommodating HSRC's variable scheduling demands and budgetary constraints. WGI has supported HSRC without interruption during the pandemic period and now on an accelerated seven day per week construction schedule.

Their resources, expertise and experience have been instrumental to HSRC in the progression of the project throughout its continued evolution. Their survey crews have been multiple award winners for the prestigious HSR Constructors Safety Crew of the Month award as well as the Quality Crew of the Month award. WGI possesses the requisite commitment and culture of safety necessary to work with HSR Constructors.

I will be pleased to further discuss the qualifications and performance of WGI. Please feel free to contact me at dhaptonstall@hsrcjv.com or (505) 975-8754.

EXHIBIT E
Exhibit 2

HSR CONSTRUCTORS

Sincerely,
HSR Constructors, A Joint Venture

Deron Haptonstall
Project Director

EXHIBIT E
Exhibit 2

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER **4**

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Lake Worth Beach Neighborhood Road Program **Lake Worth Beach, Florida**	**2017**	**2021**

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
City of Lake Worth Beach	**Brian Shields, PE**	**561.586.1675**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Voters in the City of Lake Worth Beach overwhelmingly approved the proposed Neighborhood Road Program in the November 2016 election. Approximately 67% of the voters supported funding the program through a general obligation bond of $40M.

The Neighborhood Road Program is the City's largest capital improvement project to date and dramatically improves not only transportation throughout the City's residential areas but improves water distribution and wastewater collection. WGI oversaw engineering, public outreach, and construction management for this four-year roadway improvement program. WGI services included ensuring the overall success of the program, approving design plans for roadway and utility improvements, maintaining project schedules and budgets, developing and implementing a public involvement plan, public meetings, designing and maintaining a program website, and operating a multilingual hotline. WGI served as the single point of contact and information center for City staff and public inquiries. This role maintained consistency, cohesiveness, and collaboration among City staff and consultants resulting in the most effective program.

This project was submitted on time and within budget.

WGI Fee: $1.86M

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	WGI, Inc.	West Palm Beach, Florida	Prime

EXHIBIT E
Exhibit 2

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER **5**

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Major Sewer Rehabilitation Program **Columbia, South Carolina**	**Ongoing**	**N/A**

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Black & Veatch	**Robert Osborne, PE**	**864.643.9164**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

The City of Columbia's major pipeline rehabilitation project is a multi-year program that includes assessment, rehabilitation method alternatives analysis, preliminary and final design, and construction services support, including document preparation and technical specification development of 108,000 linear feet of 15-inch to 54-inch sanitary sewer infrastructure. The project is part of the City of Columbia's Clean Water 2020 Program in response to a consent decree with the EPA for sanitary sewer overflows. WGI evaluated inspections and investigation information, performed site access and construction feasibility, and analyzed rehabilitation method alternatives to develop recommendations for the design phase. In the design phase, we completed a secondary analysis of method verification, a site survey, and a geotechnical analysis to develop the plan and contract documents. WGI developed technical specifications for identified methods, including cured-in-place-pipe (CIPP), geopolymer lining, pipe bursting, and lateral and manhole rehabilitation methods. We developed a lateral rehabilitation guidance decision process for application during construction. WGI identified easement needs, and coordinated construction and operations and maintenance. We prepared construction documents, project phasing, site access identification, and construction cost estimating.

This project was submitted on time and within budget.

PROJECT HIGHLIGHTS:

- Total pipe length: 108,000 linear feet of sanitary sewer design
- Pipe sizes: 15-inch to 54-inch
- Pipe materials: clay, concrete, RCP, Hobas, ductile, and cast iron
- Pipeline methods: pipe bursting, CIPP, boring, geopolymer lining
- Manhole methods: coating systems and polymer concrete inserts
- Lateral methods: CIPP, pipe bursting, open-cut
- Sewer system condition assessment
- Rehabilitation method selection and risk prioritization planning
- Rehabilitation method specification development
- Lateral rehabilitation method decision process
- Constructability assessment
- Site access and coordination
- Flow bypass planning
- Waterway crossing and wetlands management
- Stakeholder coordination
- U.S. railroad permit coordination
- EPA consent decree compliance program

WGI Fee: $100,000 ▪ **Total Cost:** $40M

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	WGI, Inc.	Austin, Texas	Subconsultant

EXHIBIT E
Exhibit 2

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER **6**

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
FDOT District 4 Districtwide Continuing Services for Surveying, Mapping, and SUE, Various Counties, Florida	**Ongoing**	**N/A**

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
FDOT District 4	**Roberto Chavez, PSM**	**866.336.8435**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

FDOT District 4 contracted with WGI under a five-year, $5M continuing services contract to support FDOT's in-house and consultant work programs with districtwide surveying, mapping, and utility locating assignments. District 4 encompasses Broward, Palm Beach, Martin, St. Lucie, and Indian River counties. Services are provided on an on-call, task work order basis and include SUE, baseline and right-of-way surveys, terrestrial and terrestrial mobile LiDAR, conventional surveys for design, single and multi-beam hydrographic surveys, drainage surveys, cross-sections, and bridge detail surveys. Right-of-way mapping assignments include right-of-way control survey mapping, right-of-way map preparation, Genesis mapping, sketches to accompany legal descriptions, and appraisal sketches. Utility locating assignments include ASCE 38-02 Quality Level B (utility designating) and Quality Level A (utility test holes), records research, overhead utility scans, and coordination with utility agency owners. WGI has completed more than 120 task work orders to date, most containing SUE scope elements across Southeast Florida, including task work orders within the City of Fort Lauderdale limits.

This project was submitted on time and within budget.

Contract Value: $5M

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	WGI, Inc.	West Palm Beach, Florida	Prime

EXHIBIT E
Exhibit 2

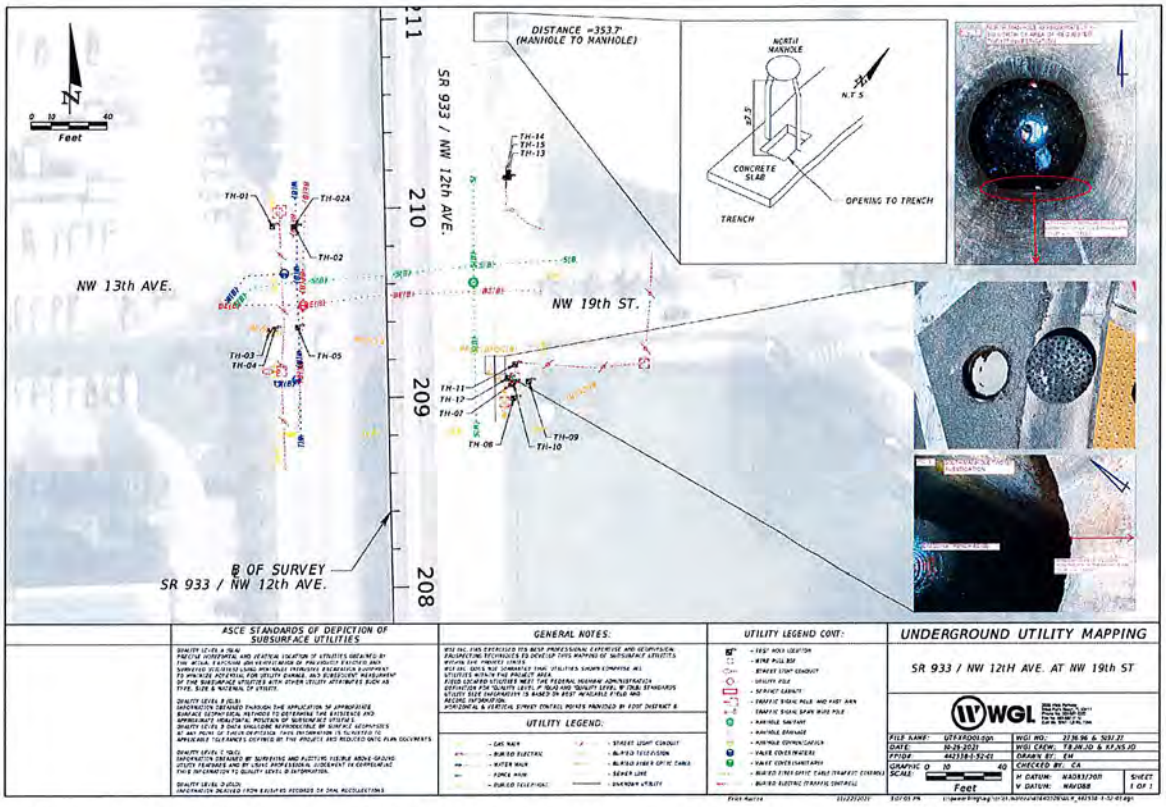
F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER **7**

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
FDOT District 6 Districtwide Utility Locating Services Miami-Dade and Monroe Counties, Florida	**2022**	**N/A**

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
FDOT District 6	**Tony Soto/Xenia Rodriguez**	**305.470.5232**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*



FDOT District 6 contracted with WGI for a five-year, $5M continuing services contract to provide SUE services throughout Miami-Dade and Monroe counties. WGI provided ASCE 38-02 Quality Level B, Quality Level A, GPR investigations, and right-of-way staking, supporting in-house design and consultant management projects. The contract required a team of consultants, which WGI led and managed, to support FDOT's needs. WGI provided all scope-related field and office services and contract management, administration, billing support, and progress reporting. WGI has completed more than 130 task work orders, 4,000 test holes, and hundreds of miles of designating during the course of the contract. One of the challenging aspects of this contract was safe access to existing infrastructure within the right-of-way. Miami-Dade County is a high-volume tourist destination, where exceptionally elevated levels of mobile and pedestrian traffic posed a safety challenge, both to the public and WGI field associates. To minimize the risk exposure, WGI closely coordinated with Miami-Dade County officials on field deployment schedules, specifically during the off-season and extensive MOT efforts. Limiting the duration of the deployments was an additional factor considered by WGI to mitigate safety concerns.

This project was submitted on time and within budget.

Contract Value: $5M

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	WGI, Inc.	West Palm Beach, Florida	Prime

EXHIBIT E
Exhibit 2

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER **8**

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
NPBCID Asset Management Collection **Palm Beach County, Florida**	**2021**	**N/A**

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Northern Palm Beach County Improvement District	**Ken Roundtree**	**561.624.7830**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Northern Palm Beach County Improvement District (NPBCID) requested WGI's assistance with asset mapping to verify data in their existing database. After NPBCID reviewed their inventory, they questioned the reliability of data found on current assets. They discovered multiple inconsistencies in the data collected for assets such as signs, drainage structures, poles, and bridges. NPBCID determined the inconsistencies were due to an issue with collection efforts; handheld collectors incorrectly logged data based on the position of the employee collecting the data versus logging data for the asset itself. To supplement NPBCID's efforts and assist with updating their database, WGI verified existing data utilizing mobile mapping by collecting and comparing data from handheld collectors with that of WGI's terrestrial mobile LiDAR collection methods. Using a vehicle-mounted LiDAR sensor, WGI captured data at highway speeds. Google Earth-style "street view" imagery was collected simultaneously to depict asset components such as type, identification labels/signs, defects, etc. The features, images, and information captured for each location were combined using GIS and cataloged in a geodatabase.

Data collected at highway speeds minimizes field effort associated with this approach, providing significant time savings. WGI mobile mapped over 40 miles of NPBCID maintained rights-of-way within 11 units in a single day, creating a snapshot-in-time of their assets. These features were later extracted with imagery and cataloged per unit on an as-needed basis utilizing the same mobile mapped data. This method reduced costs by avoiding multiple field mobilizations while accurately mapping each asset and correcting the previously published data. Newly collected data allowed NPBCID to update and maintain an accurate inventory of their assets, including detailed information for each feature that can be used for future maintenance, insurance, and budgeting purposes. As quoted by NPBCID's GIS consultant, Kevin Mayo, **"This gives me a lot of confidence moving forward collecting features from LiDAR that we are missing in GIS."** WGI has completed over 11 task work orders to date.

This project was submitted on time and within budget.

Design Fee: $156,460

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	WGI, Inc.	West Palm Beach, Florida	Prime

EXHIBIT E
Exhibit 2

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER **9**

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Clay County Bonding **Green Cove Springs, Florida**	**Ongoing**	**N/A**

23. PROJECT OWNER'S INFORMATION

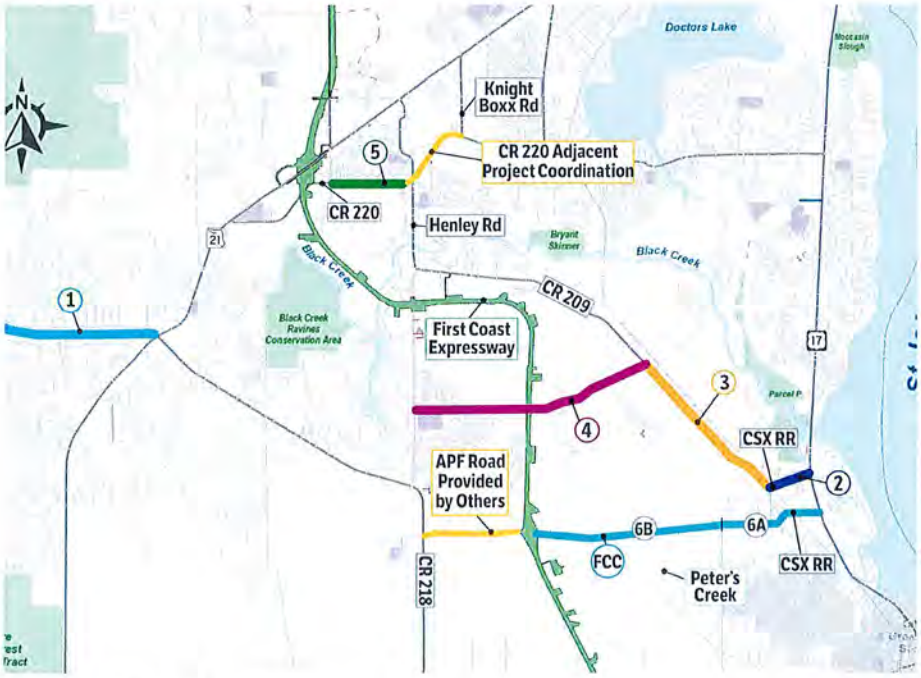
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Clay County Board of County Commissioners	**Dale Smith, PE**	**904.284.6335**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Clay County selected WGI for their owner's representative services contract for the County's $130M Transportation Road Bond Program. This project included detailed topographic surveys, SUE services, and accurate right-of-way determination along a significant portion of the County's roadway. With a compressed schedule, multiple crews were mobilized immediately in conjunction with our Leica Pegasus II mobile scanner to safely and efficiently capture the necessary spatial data for our design team. All above-ground features were captured, and we closely coordinated with Clay County Utility Authority (and other local utility providers) to create a comprehensive 3D model for the design of future roadway improvements.

One of the biggest challenges for this project was the condensed schedule. To comply with bond requirements, the County had a limited amount of time to complete seven roadway projects throughout Clay County. As the owner's representative, our in-house staff was tasked with selecting the design firms for each project. To avoid any delay in the start of design, WGI proposed survey would be completed prior to design firm selection. We coordinated with multiple crews to separate sites or to work cooperatively along the same route. In addition to being able to expedite the survey phase, WGI was able to keep consistency in the survey deliverables that would have been lost had the survey been pieced out to multiple firms. We also had the unique advantage of being able to utilize our Leica Pegasus II mobile scanner. This greatly increased efficiency as well as most importantly, increased safety for our crews. The current roads consist of mostly two-lane county roads with little to no shoulder. With our mobile scanner, we were able to reduce the time our crews spent near the roadway and minimize the impact on traffic.

This project was submitted on time and within budget.



1. County Road 218 from Pine Tree Ln to Cosmos Ave, Increase from 2 to 4 lanes
2. County Road 209 from CR 315B to Highway 17, Increase from 2 to 4 lanes
3. County Road 209 from Sandridge Road to CR 315B, Increase from 2 to 3 lanes
4. Sandridge Road from Henley Road to CR 209, Increase from 2 to 3 lanes
5. County Road 220 from Baxley Rd to Henley Rd, Increase from 2 to 4 lanes
6A. First Coast Connector, CR 315 to Highway 17, Increase from 2 to 4 lanes
6B. From First Coast Expressway to CR 315, New 2 lane construction

Estimated Design Fee: $15M

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	WGI, Inc.	Jacksonville, Florida	Prime

EXHIBIT E
Exhibit 2

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER **10**

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Seacrest Corridor Utility Improvements Design-Build Boynton Beach, Florida	**2018**	**2019**

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
City of Boynton Beach	**Christopher Roschek, PE**	**561.742.6413**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

The City of Boynton Beach selected WGI to design and oversee the construction of a substantial infrastructure improvement project. The neighborhood improvements included 60,000 linear feet of water main replacement, moving rear yard services and meters to front yards, 5,000 linear feet of stormwater system upgrades, pavement reconstruction and overlay, roadside swales, driveway aprons, and sidewalks over a 50-block residential neighborhood covering all 252 acres. A critical sanitary sewer force main connection was also designed and installed to connect the City's sanitary sewer system across the FEC Railroad and Intracoastal Waterway to the barrier island. Installation of the 6-inch to 10-inch diameter water and force main used a combination of open-cut, horizontal directional drill, jack and bore, and pipe bursting construction methods.

Additional services provided by WGI included survey, SUE, landscape architecture, environmental permitting, and public outreach activities. WGI planners created outreach brochures, hosted neighborhood meetings, managed a website, and monitored a trilingual hotline to answer the questions and concerns of residents and ensure an effective process.

This project was submitted on time and within budget.

PROJECT HIGHLIGHTS:

- Total length: 60,000 linear-feet (watermain); 5,000 linear-feet (stormwater)
- Pipe sizes: 6-inch and 10-inch water main; 10-inch force main
- Pipeline design
- Water infrastructure
- Stormwater improvements
- Pavement reconstruction
- Sidewalk improvements
- Sewer force main connection
- Lateral methods: open cut, horizontal directional drilling, jack and bore, and pipe bursting
- Public outreach
- Permitting
- Landscape architecture
- Topographical survey
- SUE

WGI Fee: $1.2M • **Construction Cost:** $13M

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	WGI, Inc.	West Palm Beach, Florida	Prime

EXHIBIT E
Exhibit 2

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER **11**

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
FDOT District 7 Districtwide Subsurface Utility Locate and Coordination Services, Various Counties, Florida	**2021**	**N/A**

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
FDOT District 7	**Jose Vasquez**	**813.975.6453**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

FDOT District 7 contracted with WGI for a five-year districtwide contract including Quality Level B and A, right-of-way staking, and utility coordination assignments throughout Hillsborough, Pasco, and Hernando counties. WGI's responsibilities included reviewing and analyzing the design plans, identifying potential conflict areas, selecting proposed test hole locations, coordinating the SUE/survey field and office support services, reviewing the collected data, and preparing and delivering FDOT-compliant CAD files, UTEXRD, and verified utility locate sheets. WGI also provided utility coordination services, including identifying utility company and local government agency involvement and their existing and proposed utility facilities; all site field and office meetings to help develop, review, and approve utility relocation work schedules; utility relocation agreements; joint project agreements; and the proper documentation and negotiations for securing all legal agreements to clear a project for letting. WGI completed more than 40 task work orders to date. This contract also aided WGI's D7 Districtwide Design-Build Push Button contract, **where WGI was faced with exceptionally aggressive production schedules.**

This project was submitted on time and within budget.

Contract Value: $1.5M

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	WGI, Inc.	Tampa, Florida	Prime

EXHIBIT E
Exhibit 2

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER **12**

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Sunlake Boulevard from Ridge Road to SR 52 Roadway Development Pasco County, Florida	**2020**	**2021**

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Len-Angeline, LLC	**Ted Sanders**	**813.288.8078**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

The extension of Pasco County's utility infrastructure was required to serve the future development of planned communities located east of the Suncoast Parkway. This extension included over 14,000 linear feet of 16-inch high-density polyethylene pipe located within the SR 52 right-of-way and was installed initially in connection with the Angeline Development, a community development district and part of the County's connected city program located south and east of SR 52 and the Suncoast Parkway. The wastewater force main combined horizontal directional drill and open cut installation methods to optimize production and minimize environmental impacts and impacts to utility owners, business owners, and residents.

A unique opportunity that challenged the entire project team was the simultaneous construction of FDOT's SR 52 roadway expansion project during the installation of the wastewater force main. A robust planning and communication plan was implemented to minimize the space constraints of multiple contractors occupying the same space during the construction of both projects. WGI assisted the entire team, including FDOT, Pasco County, contractors, and engineers, by employing a proactive approach to construction scheduling, identifying potential conflicts, and early resolution of disputes to avoid construction delays.

The project was contracted by Len Angeline, LLC, in collaboration with Pasco County and permitted through Pasco County, FDOT, FDEP, and the Southwest Florida Water Management District.

This project was submitted on time and within budget.

PROJECT HIGHLIGHTS:

- Total length: 14,000 linear-feet
- Pipe size: 16-inch sewer force main
- Wastewater pipeline design
- Topographical survey
- Environmental assessment
- SUE
- Horizontal directional drilling
- Open cut
- Highway coordination
- Construction scheduling
- Conflict identification
- Permitting

Survey Fee: $237,200 • **Civil Fee:** $433,000

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	WGI, Inc.	Tampa, Florida	Prime

EXHIBIT E
Exhibit 2

G. KEY PERSONNEL PARTICIPATION IN EXAMPLE PROJECTS

26. NAMES OF KEY PERSONNEL *(From Section E, Block 12)*	27. ROLE IN THIS CONTRACT *(From Section E, Block 13)*	28. EXAMPLE PROJECTS LISTED IN SECTION F *(Fill in "Example Projects Key" section below before completing table. Place "X" under project key number for participation in same or similar role.)*											
		1	2	3	4	5	6	7	8	9	10	11	12
Roberto Mantecon, PSM	Project Manager							X					
Brett Oldford, PE	Program Manager				X						X		X
Leigh Thomas, PE	Technical Advisor | Condition Assessment					X							
Sandor Laszlo, PE	LiDAR Services Lead			X			X						
Radek Grabowski	SUE Services Lead	X	X	X	X		X	X			X	X	X
Jim Sullivan, PSM	Survey Services Lead				X		X	X	X			X	
Jorge Kappa	GIS Services Lead									X			
Jason Alvarez, CST II	Data Management, Integration & QC		X	X	X		X		X	X			

29. EXAMPLE PROJECTS KEY

No.	TITLE OF EXAMPLE PROJECT *(From Section F)*	No.	TITLE OF EXAMPLE PROJECT *(From Section F)*
1.	Distribution System Mapping Plan	7.	District 6 Districtwide Utility Locating Services
2.	Las Olas Boulevard Design Survey	8.	NPBCID Asset Management Collection
3.	All Aboard Florida – Brightline	9.	Clay County Bonding
4.	Lake Worth Beach Neighborhood Road Program	10.	Seacrest Corridor Utility Improvements Design-Build
5.	Major Sewer Rehabilitation Program	11.	District 7 Districtwide Subsurface Utility Locate and Coordination Services
6.	District 4 Districtwide Continuing Services for Surveying, Mapping, and SUE	12.	Sunlake Boulevard from Ridge Road to SR 52

EXHIBIT E
Exhibit 2

PROJECT/PROGRAM MANAGERS

WGI will take full responsibility for all project management, peer review, QC tasks, and overall accountability for this contract. With 44 years of experience, **Roberto Mantecon, PSM** will lead WGI's project team for water distribution system mapping. He will be responsible for scope, schedule, coordination, and project delivery. His project management skills and in-depth knowledge proved successful in working with a variety of municipalities and FDOT, bringing substantial value to meet and exceed the City's project goals. He draws on his field survey and office production experience to direct field crews and office technicians, producing high-quality deliverables under tight schedules. **Brett Oldford, PE** will serve as the program manager for this contract. Brett provided municipal engineering and utility-related services to numerous cities and counties throughout South Florida. He is familiar with working alongside municipal staff to deliver comprehensive and well-thought-out plans, studies, and reports. Brett understands the importance of maintaining project schedules and delivering quality projects on time and within budget. **Godo Canino, PE** will be the deputy program manager. He is a water infrastructure specialist with a history of working on content-driven water infrastructure programs. With 25 years of program management and engineering experience for water infrastructure programs, Godo offers the team experience in achieving regulatory compliance.

Roberto Mantecon, PSM
Project Manager

Roberto has experience simultaneously managing a full department of staff and projects. His responsibilities include project management for abstracting titles, control surveys, construction staking, boundaries, easements, hydrographic surveys, laser scanning, plat/plan review, platting, right-of-way acquisitions, topographic surveys, and GIS services. During his over four-decade career, Roberto served as the survey manager or principal surveyor for multiple cities, and public and federal agencies on similar projects.

RELEVANT EXPERIENCE:

- Pembroke Road Water Line Improvements, Project Manager
- Districtwide Miscellaneous Location Survey Consultant Services, Project Manager

Brett Oldford, PE
Program Manager

Brett has provided municipal infrastructure planning, design, and construction management services, including water distribution system modeling and analysis, for over two decades. His experience with local regulatory requirements and the public contractual process enables him to apply his working knowledge and best practices to demanding projects with expedited schedules.

RELEVANT EXPERIENCE:

- Lake Worth Beach Neighborhood Streets Program Management, Palm Beach County, FL, Contract Manager
- Seacrest Corridor Utility Improvements, Principal

Godofriedo "Godo" Canino, PE, MBA, BCEE, PMP
Deputy Program Manager

As program manager for Puerto Rico Aqueduct and Sewer Authority (PRASA), Godo oversaw the development of hydraulic models for water distribution systems during the project planning phase. During this process, the team focused on developing the model using GIS data, calibrating the model using field data, defining the issues/problems, and then identifying a solution. Godo also oversaw the development of the telemetry system, including the water distribution system (tanks, pumps, valves) and the integration of the water distribution systems into the telemetry system. This included identifying assets, overseeing the installation of controls/communication equipment of the assets, and then integrating them into the telemetry/SCADA platform.

RELEVANT EXPERIENCE:

- PRASA Compliance Program, Program Manager

EXHIBIT E
Exhibit 2

FIRM SUSTAINABILITY

WGI has been an advocate of sustainable business practices and resources for decades. As a multi-disciplinary firm, we utilize all our resources in approaching a project. Our engineering, transportation, architecture, planning, structural, landscape architecture, and parking divisions all employ LEED-accredited professionals.

Our associates routinely participate in water resource summits, rising tide discussions, and environmental cleanups—including participation in the Cypress Creek Natural Area Clean-Up. Additionally, our structural engineers recently donated design services for the Andrew "Red" Harris Foundation's latest artificial reef project. These activities in which our associates participate, many during their spare time, speak to the firm's commitment to improving our communities and the world around us.

Cypress Creek Natural Area Clean-Up

In 2016, an internal WGI Environmental Advisory Board was formed to designate best practices for the firm. They have implemented several initiatives to encourage recycling, consolidate purchasing, and reduce excess waste. In addition, the design of our corporate headquarters integrated landscape and hardscape using sustainable human-centric practices, creating a location that is workable, walkable, and inspiring.

WGI invests in cutting-edge solutions that our forward-thinking clients demand. Our company trademark "Tomorrow's Technology Today" inspires all of us to look ahead to innovation, technology, smart and connected cities, resiliency, and autonomy—a valuable resource to our clients. WGI believes in investing in technology to benefit not only our firm, but our clients as well. WGI staff utilizes cutting-edge technologies for a variety of tasks, from data collection and analysis to graphic presentations to clients. These technologies include vehicle-mounted and personnel-equipped LiDAR, GPR, as well as aerial and aquatic drones for a variety of data collection capabilities. These high-precision systems allow us to create digital 3D scans of project limits within a matter of hours versus weeks of labor-intensive data gathering efforts with traditional survey and SUE methods.

DELIVERING PROJECTS ON TIME AND ON BUDGET

WGI's extensive staff resources and investment in project scheduling and management software allow our team to submit deliverables under budget and ahead of schedule time and time again—evidenced by our consistent award of continuing contracts from numerous repeat municipal clients. At each task inception, WGI works upfront to identify potential schedule and budget impacts and provide solutions to avoid them.

WGI firmly believes that successful task execution with difficult schedules requires experienced human effort and effective utilization of that workforce. Our project manager has a very talented technical and support staff, and a full array of field and office technology necessary to meet those demanding schedules. WGI uses several programs, including Newforma Project Analyzer and Deltek Vision, to assist with keeping projects both organized and updated for budgetary purposes. Each assignment under this contract will be supported by a detailed, precedent-based schedule. These schedules are clear and concise, include all major milestone events, and account for comprehensive quality-control activities. Ensuring all the City's requests are addressed in a timely manner, WGI teamed with subconsultants CMA, CTS, FTC, Jacobs, MK&C, S&A, and T2 to provide field crew support as needed. Regardless of project size, this unique team is fully committed to utilizing local field crews and office staff. WGI anticipates that there will be some urgent or emergency task orders during the life of the contract that require extraordinary effort. With ample firm-wide surveying resources, our staff/crews can be in Fort Lauderdale and on-site within 48 hours (if needed).

EXHIBIT E
Exhibit 2

WGI Licenses

PROFESSIONAL ENGINEERING LICENSE Florida engineering companies used to have a professional license, a CA number. As of October 2019, Florida companies are required to register, but no engineering license will be issued; the CA number has been replaced by a Registry License number.

- WGI's Engineering Registry number is 33574

PROFESSIONAL SURVEY AND MAPPING 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.: LB7055
Expiration Date February 28, 2023

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

WGI, INC
2035 VISTA PARKWAY
WEST PALM BEACH, FL 33411

Nicole Fried

NICOLE "NIKKI" FRIED
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.

State of Florida
Department of State

I certify from the records of this office that WGI, INC. is a corporation organized under the laws of the State of Florida, filed on July 12, 1991.

The document number of this corporation is S66593.

I further certify that said corporation has paid all fees due this office through December 31, 2022, that its most recent annual report/uniform business report was filed on January 3, 2022, 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 Third day of January, 2022

Secretary of State

Tracking Number: 9065464577CC

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

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

EXHIBIT E
Exhibit 2

WGI

FDOT

Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

KEVIN J. THIBAULT, P.E.
SECRETARY

July 1, 2021

Kate Fontaine, VP, Administration
WGI, INC.
2035 Vista Parkway, Suite 100
West Palm Beach, Florida 33411

Dear Ms. Fontaine:

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

Group 2 - Project Development and Environmental (PD&E) Studies

Group 3 - Highway Design - Roadway

- 3.1 - Minor Highway Design
- 3.2 - Major Highway Design
- 3.3 - Complex Highway Design

Group 4 - Highway Design - Bridges

- 4.1.1 - Miscellaneous Structures
- 4.1.2 - Minor Bridge Design
- 4.2.1 - Major Bridge Design - Concrete
- 4.2.2 - Major Bridge Design - Steel

Group 5 - Bridge Inspection

- 5.4 - Bridge Load Rating

Group 6 - Traffic Engineering and Operations Studies

- 6.1 - Traffic Engineering Studies
- 6.2 - Traffic Signal Timing
- 6.3.1 - Intelligent Transportation Systems Analysis and Design
- 6.3.2 - Intelligent Transportation Systems Implementation
- 6.3.3 - Intelligent Transportation Traffic Engineering Systems Communications
- 6.3.4 - Intelligent Transportation Systems Software Development

Group 7 - Traffic Operations Design

- 7.1 - Signing, Pavement Marking and Channelization
- 7.2 - Lighting
- 7.3 - Signalization

Safety, Mobility, Innovation
www.fdot.gov

Group 8 - Survey and Mapping

- 8.1 - Control Surveying
- 8.2 - Design, Right of Way & Construction Surveying
- 8.3 - Photogrammetric Mapping
- 8.4 - Right of Way Mapping

Group 10 - Construction Engineering Inspection

- 10.1 - Roadway Construction Engineering Inspection

Group 11 - Engineering Contract Administration and Management

Group 13 - Planning

- 13.4 - Systems Planning
- 13.5 - Subarea/Corridor Planning
- 13.6 - Land Planning/Engineering
- 13.7 - Transportation Statistics

Group 14 - Architect

Group 15 - Landscape Architect

Your firm is now technically prequalified with the Department for Professional Services in the above referenced work types. The overhead audit has been accepted, and your firm may pursue projects in the referenced work types with fees of any dollar amount. This status shall be valid until June 30, 2022, for contracting purposes.

Approved Rates

Home/ Branch Overhead	Field Overhead	Facilities Capital Cost of Money	Premium Overtime	Reimburse Actual Expenses	Home Direct Expense	Field Direct Expense
197.35%	110.07%	0.204%	Reimbursed	No	4.15%	0.00%*

*Rent and utilities excluded from field office rate. These costs will be directly reimbursed on contracts that require the consultant to provide field office.

Per Title 23, U.S. Code 112, there are restrictions on sharing indirect cost rates. Refer to Code for additional information.

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

Safety, Mobility, Innovation
www.fdot.gov

EXHIBIT E
Exhibit 2

WGI

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.: LS4431
Expiration Date February 28, 2023

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

ROBERTO MANTECON
14011 SW 85TH AVE
PALMETTO BAY, FL 33158-1035

Nicole Fried

NICOLE "NIKKI" FRIED
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

Ron DeSantis, Governor

FBPE
FLORIDA BOARD OF PROFESSIONAL ENGINEERS

STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

OLDFORD, BRETT N.
8374 SE WOODMERE STREET
HOBE SOUND FL 33455

LICENSE NUMBER: PE61795
EXPIRATION DATE: FEBRUARY 28, 2023
Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.
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FBPE
FLORIDA BOARD OF PROFESSIONAL ENGINEERS

STATE OF FLORIDA

PE92962
PROFESSIONAL ENGINEER
THOMAS, LEIGH ALLISON

ISSUED: 12/20/2021

Signature
LICENSED UNDER CHAPTER 471, FLORIDA STATUTES
EXPIRATION DATE: FEBRUARY 28, 2023

DISPLAY THIS CERTIFICATE PROMINENTLY • NOTIFY AGENCY WITHIN 10 DAYS OF ANY CHANGE

Commonwealth of Pennsylvania
Department of State
Bureau of Professional and Occupational Affairs
PO BOX 2649 Harrisburg PA 17105-2649

21 01936

License Type
Professional Engineer

SANDOR LASZLO
7138 RED TOP RD
HUMMELSTOWN, PA 17036

License Status
Active

Initial License Date
12/21/2004

License Number
PE060058

Expiration Date
09/30/2023

Commissioner of Professional and Occupational Affairs

Signature

Detach Here

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.: LS6889
Expiration Date February 28, 2023

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

JIM SULLIVAN
19 VIA VERONA
PALM BEACH GARDENS, FL 33418-3749

Nicole Fried

NICOLE "NIKKI" FRIED
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

SURVEY TECHNICIAN
C E R T I F I C A T I O N

Jason K. Alvarez

through knowledge, experience and testing has met the requirements established by the Survey Technician Certification Board.

NSPS

Level II Field

0407-3004

6/30/2014

CST

EXHIBIT E
Exhibit 2

Jacobs

State of Florida
Department of State

I certify from the records of this office that JACOBS ENGINEERING GROUP INC. is a Delaware corporation authorized to transact business in the State of Florida, qualified on February 12, 1987.

The document number of this corporation is P13217.

I further certify that said corporation has paid all fees due this office through December 31, 2021, that its most recent annual report/uniform business report was filed on January 14, 2021, and that its status is active.

I further certify that said corporation has not filed a Certificate of Withdrawal.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Twentieth day of January, 2021

Secretary of State

Tracking Number: 941131848JCU

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

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

Ron DeSantis, Governor

FBPE

STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

CANINO, GODOFREDO

6651 NW 105TH PL
DORAL FL 33178

LICENSE NUMBER: PE81450

EXPIRATION DATE: FEBRUARY 28, 2023

Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.

This is your license. It is unlawful for anyone other than the licensee to use this document.

PROFESSIONAL LICENSING

GEORGIA SECRETARY OF STATE BRAD RAFFENSPERGER

CORPORATIONS • ELECTIONS • LICENSING • CHARITIES

Licensee Details

Licensee Information

Name: Brian Michael Skeen

Address:

Primary Source License Information

Lic #: PE023458 Profession: Engineers / Land Surveyors Type: Professional Engineer

Secondary: Method: Examination Status: Active

Issued: 1/15/2003 Expires: 12/31/2022 Last Renewal Date:

Associated Licenses

No Prerequisite Information

Public Board Orders

Please see Documents section below for any Public Board Orders

Other Documents

No Other Documents

This website is to be used as a primary source verification for licenses issued by the Professional Licensing Boards. Paper verifications are available for a fee. Please contact the Professional Licensing Boards at 844-753-7825.

cma
chen moore and associates

State of Florida
Department of State

I certify from the records of this office that CHEN MOORE AND ASSOCIATES, INC. is a corporation organized under the laws of the State of Florida, filed on November 7, 1986.

The document number of this corporation is J41454.

I further certify that said corporation has paid all fees due this office through December 31, 2022, that its most recent annual report/uniform business report was filed on January 25, 2022, and that its status is active.

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

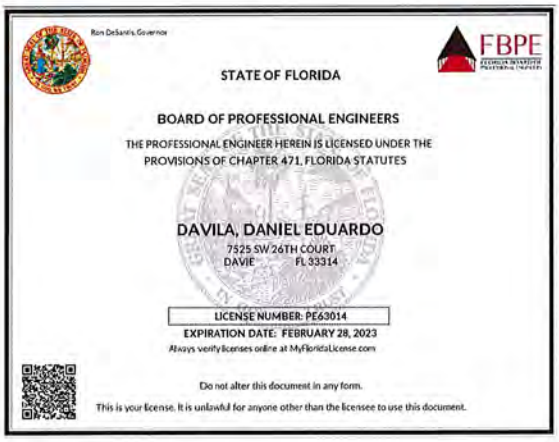
Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Twenty-fifth day of January, 2022

Secretary of State

Tracking Number: 3799915237CC

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

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



Ron DeSantis, Governor

FBPE

STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

DAVILA, DANIEL EDUARDO

7525 SW 26TH COURT
DAVIE FL 33314

LICENSE NUMBER: PE63014

EXPIRATION DATE: FEBRUARY 28, 2023

Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.

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EXHIBIT E
Exhibit 2

CTS Engineering
Committed to Excellence

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, 2022, that its most recent annual report/uniform business report was filed on January 10, 2022, 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, 2022

Secretary of State

Tracking Number: 8684540761CC

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

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

DBPR ONLINE SERVICES

Home

Licensee Details

Licensee Information

Name:	CTS ENGINEERING, INC. (Primary Name)
Main Address:	3230 W COMMERCIAL BLVD SUITE 220 FORT LAUDERDALE Florida 33309
County:	BROWARD
License Mailing:	
LicenseLocation:	

License Information

License Type:	Registry
Rank:	Registry
License Number:	28935
Status:	Current
Licensure Date:	12/28/2009
Expires:	

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.: LB8439
Expiration Date February 28, 2023

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

CTS ENGINEERING, INC.
3230 WEST COMMERCIAL BOULEVARD, SUITE 220
FORT LAUDERDALE, FL 33309

Nicole Fried

NICOLE "NIKKI" FRIED
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 UCP DBE Directory

Number of Records Returned: 1
Selection Criteria:
Vendor CTS ENGINEERING INC

Vendor Name: CTS ENGINEERING INC
DBE Certification: CERTIFIED
DBA:
NBE Certification: Certified
Former Name:
Business Description: TRANSPORTATION PLANNING/TRAFFIC ENGINEERING/AND TRAFFIC DATA COLLECTION
Mailing Address1: 8095 NW 12TH ST STE 315
DORAL, FL 33126-
Contact Name: SHENG YANG
Email: SYANG@CTSENGINC.COM
Phone: (305) 599-9588
Fax: (305) 599-9592
ACDBE Status: N
Statewide Availability: N
Certified NAICS
541330 Engineering Services
541690 Other Scientific and Technical Consulting Services

State of Florida

Minority Business Certification

CTS Engineering, Inc

Is certified under the provisions of
287 and 295.187, Florida Statutes, for a period from:

06/25/2020 06/25/2022

Jonathan R. Satter, Secretary
Florida Department of Management Services

Department of MANAGEMENT SERVICES
Office of Supplier Diversity

Office of Supplier Diversity
4050 Esplanade Way, Suite 380
Tallahassee, FL 32399
850-487-0915
www.dms.myflorida.com/osd

EXHIBIT E
Exhibit 2

FLORIDA TECHNICAL CONSULTANTS

State of Florida
Department of State

I certify from the records of this office that FLORIDA TECHNICAL CONSULTANTS, LLC is a limited liability company organized under the laws of the State of Florida, filed on January 21, 2014.

The document number of this limited liability company is L14000011037.

I further certify that said limited liability company has paid all fees due this office through December 31, 2022, that its most recent annual report was filed on January 6, 2022, and that its status is active.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Sixth day of January, 2022

Secretary of State

Tracking Number: 1864781155CC

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

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

Ron DeSantis, Governor

FBPE

STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

BARTON, JAMES H.
12008 NORTH LAKE DRIVE
BOYNTON BEACH FL 33436

LICENSE NUMBER: PE59257
EXPIRATION DATE: FEBRUARY 28, 2023
Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.
This is your license. It is unlawful for anyone other than the licensee to use this document.

QUALIFIED
STORMWATER MANAGEMENT
INSPECTOR

The undersigned hereby acknowledges that

James Barton

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

June 26, 2008
Inspector Number 19923
8 PDHs—Provider 4049

McKIM&CREED
ENGINEERS SURVEYORS PLANNERS

State of Florida
Department of State

I certify from the records of this office that MCKIM & CREED, INC. is a North Carolina corporation authorized to transact business in the State of Florida, qualified on May 2, 2011.

The document number of this corporation is F11000001885.

I further certify that said corporation has paid all fees due this office through December 31, 2021, that its most recent annual report/uniform business report was filed on January 7, 2021, and that its status is active.

I further certify that said corporation has not filed a Certificate of Withdrawal.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Seventh day of January, 2021

Secretary of State

Tracking Number: 4049127002CC

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

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

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.: LB7917
Expiration Date February 28, 2023

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

MCKIM & CREED INC.
1730 VARSITY DR STE 500
RALEIGH, NC 27606-2689

nicole fried
NICOLE "NIKKI" FRIED
COMMISSIONER OF AGRICULTURE

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.: LS7150
Expiration Date February 28, 2023

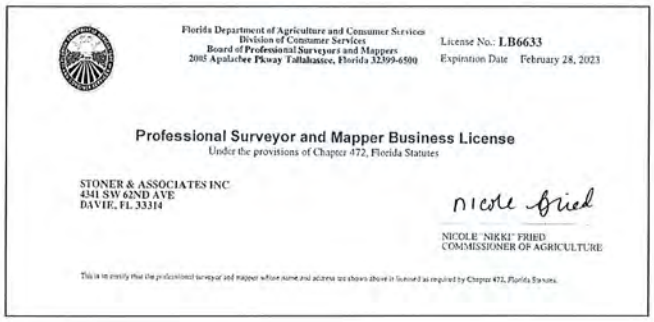
Professional Surveyor and Mapper License
Under the provisions of Chapter 472, Florida Statutes

CHRISTOPHER J BOSSHART
10702 NORTH OREGON AVENUE
TAMPA, FL 33612

nicole fried
NICOLE "NIKKI" FRIED
COMMISSIONER OF AGRICULTURE

EXHIBIT E
Exhibit 2

STONER
SURVEYORS • MAPPERS



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.: LB6633
Expiration Date February 28, 2023

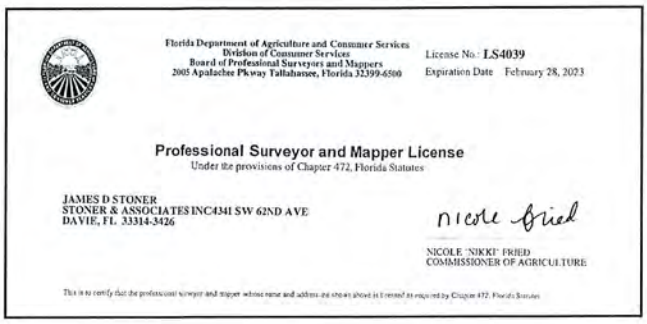
Professional Surveyor and Mapper Business License
Under the provisions of Chapter 472, Florida Statutes

STONER & ASSOCIATES INC
4341 SW 62ND AVE
DAVIE, FL 33314

nicole fried

NICOLE "NIKKI" FRIED
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.: LS4039
Expiration Date February 28, 2023

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

JAMES D STONER
STONER & ASSOCIATES INC4341 SW 62ND AVE
DAVIE, FL 33314-3426

nicole fried

NICOLE "NIKKI" FRIED
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.

T2 utility engineers

dbpr
DBPR ONLINE SERVICES
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View Application Status
Find Exam Information
File a Complaint
MAP Delinquent
Duplicate & Activate
Lost Search

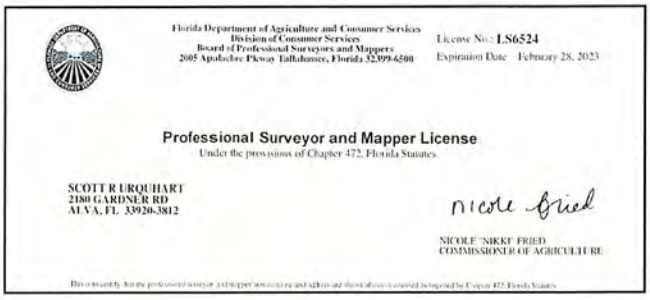
Licensee Details

Licensee Information

Name:	T2 UES, INC. (Primary Name) T2 UTILITY ENGINEERS (DBA Name)
Main Address:	7217 EAST 87TH STREET INDIANAPOLIS Indiana 46256
County:	OUT OF STATE
License Mailing:	
License Location:	

License Information

License Type:	Registry
Rank:	Registry
License Number:	33439
Status:	Current
Licensure Date:	10/01/2019
Expires:	



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.: LS6524
Expiration Date February 28, 2023

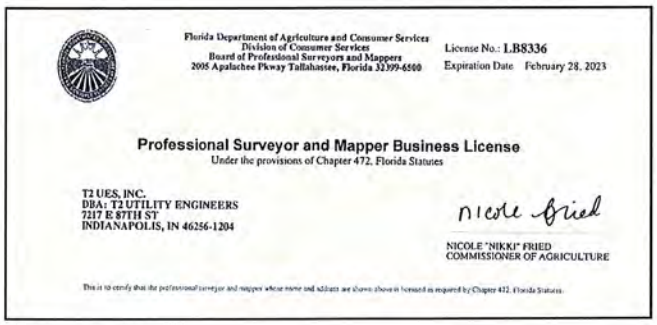
Professional Surveyor and Mapper License
Under the provisions of Chapter 472, Florida Statutes

SCOTT R URQUHART
2180 GARDNER RD
ALVA, FL 33920-3812

nicole fried

NICOLE "NIKKI" FRIED
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.: LB8336
Expiration Date February 28, 2023

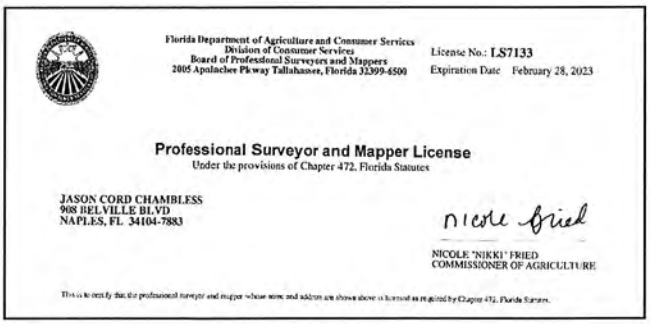
Professional Surveyor and Mapper Business License
Under the provisions of Chapter 472, Florida Statutes

T2 UES, INC.
DBA: T2 UTILITY ENGINEERS
7217 E 87TH ST
INDIANAPOLIS, IN 46256-1204

nicole fried

NICOLE "NIKKI" FRIED
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.: LS7133
Expiration Date February 28, 2023

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

JASON CORD CHAMBLESS
908 BELVILLE BLVD
NAPLES, FL 34104-7883

nicole fried

NICOLE "NIKKI" FRIED
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.

I. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

31. SIGNATURE

32. DATE
May 23, 2022

33. NAME AND TITLE
Robert Hanson, GISP | Principal in Charge

EXHIBIT E
Exhibit 2

ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*: 12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM *(or Branch Office)* NAME: WGI, Inc.		3. YEAR ESTABLISHED: 1991	4. UNIQUE ENTITY IDENTIFIER: Y95WMUD2MGN9
2b. STREET: 3230 W. Commercial Boulevard, Suite 300		**5. OWNERSHIP**	
2c. CITY: Fort Lauderdale	2d. STATE: FL / 2e. ZIP CODE: 33309	a. TYPE: Corporation	
6a. POINT OF CONTACT NAME AND TITLE: Coriann Salas, PE, Project Manager		b. SMALL BUSINESS STATUS:	
6b. TELEPHONE NUMBER: 954.660.1660	6c. E-MAIL ADDRESS: coriann.salas@WGInc.com	7. NAME OF FIRM *(If Block 2a is a Branch Office)*: WGI, Inc.	

8a. FORMER FIRM NAME(S) (If any)	8b. YR. ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER
Wantman Group, Inc.	2016	938414349

9. EMPLOYEES BY DISCIPLINE

a. Function Code	b. Discipline	c. No. of Employees (1) FIRM	c. No. of Employees (2) BRANCH
2	Administrative	99	1
6	Architect	5	0
7	Biologist	2	1
8	CADD Tech	38	0
12	Civil Engineer	74	4
15	Construction Inspector	2	0
21	Electrical Engineer	4	0
24	Environmental Scientist	8	1
29	GIS Specialist	3	1
30	Geologist	2	0
38	Land Surveyor	126	3
39	Landscape Architect	18	4
42	Mechanical Engineer	7	0
46	Photogrammetrist	2	0
47	Planner: Urban/Regional	21	1
57	Structural Engineer	40	4
60	Transportation Engineer	40	1
	Engineer Intern	49	0
	Other Employees	59	1
	Total	**599**	**22**

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
A02	Imagery Collection and Aerial Photograph; Airborne Data and Analysis	3
B02	Bridges	7
C11	Community Facilities	5
C16	Construction Survey	6
G01	Garages; Vehicle Maint. Facilities; Parking Decks	6
H02	Highways; Streets; Airfield Paving; Parking Lots	8
H13	Hydrographic Surveying	5
L02	Land Surveying	8
L03	Landscape Architecture	6
P06	Planning (Site, Installation, and Project)	6
R04	Recreation Facilities (Parks, Marinas, Etc.)	3
R11	Rivers; Canals; Waterways; Flood Control	5
S03	Seismic Designs and Studies	6
S04	Sewage Collection, Treatment, and Disposal	5
S09	Structural Design; Special Structures	6
S10	Surveying; Platting; Mapping; Flood Plain Studies	7
T03	Traffic and Transportation Engineering	6
T04	Topographic Surveying and Mapping	7
W03	Water Supply; Treatment, and Distribution	3

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

a. Federal Work	6
b. Non-Federal Work	10
c. Total Work	10

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000. 6. $2 million to less than $5 million
2. $100,00 to less than $250,000 7. $5 million to less than $10 million
3. $250,000 to less than $500,000 8. $10 million to less than $25 million
4. $500,000 to less than $1 million 9. $25 million to less than $50 million
5. $1 million to less than $2 million 10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE

b. DATE: May 23, 2022

b. NAME AND TITLE: Robert Hanson, GISP | Principal in Charge

STANDARD FORM 330 (REV. 7/2021)

EXHIBIT E
Exhibit 2

ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*: 12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM *(or Branch Office)* NAME: WGI, Inc.	3. YEAR ESTABLISHED: 1991
	4. UNIQUE ENTITY IDENTIFIER: CYNJN6HJAUJ5
2b. STREET: 2035 Vista Parkway	**5. OWNERSHIP**
2c. CITY: West Palm Beach	2d. STATE: FL / 2e. ZIP CODE: 33411
	a. TYPE: Corporation
6a. POINT OF CONTACT NAME AND TITLE: Brian LaMotte, PE, Senior Vice President	b. SMALL BUSINESS STATUS: N/A
6b. TELEPHONE NUMBER: 561.687.2220 / 6c. E-MAIL ADDRESS: brian.lamotte@WGInc.com	7. NAME OF FIRM *(If Block 2a is a Branch Office)*

8a. FORMER FIRM NAME(S) (If any)	8b. YR. ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER
Wantman Group, Inc.	2016	938414349

9. EMPLOYEES BY DISCIPLINE

a. Function Code	b. Discipline	c. No. of Employees (1) FIRM	c. No. of Employees (2) BRANCH
2	Administrative	99	53
6	Architect	5	0
7	Biologist	2	1
8	CADD Tech	38	3
12	Civil Engineer	74	11
15	Construction Inspector	2	0
21	Electrical Engineer	4	0
24	Environmental Scientist	8	4
29	GIS Specialist	3	0
30	Geologist	2	1
38	Land Surveyor	126	37
39	Landscape Architect	18	10
42	Mechanical Engineer	7	0
46	Photogrammetrist	2	0
47	Planner: Urban/Regional	21	13
57	Structural Engineer	40	6
60	Transportation Engineer	40	16
	Engineer Intern	49	11
	Other Employees	59	28
	Total	**599**	**194**

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
A02	Imagery Collection and Aerial Photograph; Airborne Data and Analysis	3
B02	Bridges	7
C11	Community Facilities	5
C16	Construction Survey	6
G01	Garages; Vehicle Maint. Facilities; Parking Decks	6
H02	Highways; Streets; Airfield Paving; Parking Lots	8
H13	Hydrographic Surveying	5
L02	Land Surveying	8
L03	Landscape Architecture	6
P06	Planning (Site, Installation, and Project)	6
R04	Recreation Facilities (Parks, Marinas, Etc.)	3
R11	Rivers; Canals; Waterways; Flood Control	5
S03	Seismic Designs and Studies	6
S04	Sewage Collection, Treatment, and Disposal	5
S09	Structural Design; Special Structures	6
S10	Surveying; Platting; Mapping; Flood Plain Studies	7
T03	Traffic and Transportation Engineering	6
T04	Topographic Surveying and Mapping	7
W03	Water Supply; Treatment, and Distribution	3

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

a. Federal Work	6
b. Non-Federal Work	10
c. Total Work	10

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000. 6. $2 million to less than $5 million
2. $100,00 to less than $250,000 7. $5 million to less than $10 million
3. $250,000 to less than $500,000 8. $10 million to less than $25 million
4. $500,000 to less than $1 million 9. $25 million to less than $50 million
5. $1 million to less than $2 million 10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE

b. DATE: May 23, 2022

b. NAME AND TITLE: Robert Hanson, GISP | Principal in Charge

STANDARD FORM 330 (REV. 7/2021)

EXHIBIT E
Exhibit 2

ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*: 12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM *(or Branch Office)* NAME	3. YEAR ESTABLISHED	4. UNIQUE ENTITY IDENTIFIER
WGI, Inc.	1991	RTW4RV2DLEW4

2b. STREET	2c. CITY	2d. STATE	2e. ZIP CODE
11401 SW 40th Street, Suite 455	Miami	FL	33165

6a. POINT OF CONTACT NAME AND TITLE	6b. TELEPHONE NUMBER	6c. E-MAIL ADDRESS
Andres Garganta, PE, Vice President	305.553.0500	andy.garganta@WGInc.com

5. OWNERSHIP

a. TYPE: Corporation

b. SMALL BUSINESS STATUS: N/A

7. NAME OF FIRM *(If Block 2a is a Branch Office)*: WGI, Inc.

8a. FORMER FIRM NAME(S) (If any)	8b. YR. ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER
Wantman Group, Inc.	2016	938414349

9. EMPLOYEES BY DISCIPLINE

a. Function Code	b. Discipline	c. No. of Employees (1) FIRM	c. No. of Employees (2) BRANCH
2	Administrative	99	1
6	Architect	5	0
7	Biologist	2	0
8	CADD Tech	38	1
12	Civil Engineer	74	0
15	Construction Inspector	2	0
21	Electrical Engineer	4	0
24	Environmental Scientist	8	0
29	GIS Specialist	3	0
30	Geologist	2	0
38	Land Surveyor	126	6
39	Landscape Architect	18	0
42	Mechanical Engineer	7	0
46	Photogrammetrist	2	0
47	Planner: Urban/Regional	21	0
57	Structural Engineer	40	0
60	Transportation Engineer	40	1
	Engineer Intern	49	2
	Other Employees	59	2
	Total	**599**	**13**

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
A02	Imagery Collection and Aerial Photograph; Airborne Data and Analysis	3
B02	Bridges	7
C11	Community Facilities	5
C16	Construction Survey	6
G01	Garages; Vehicle Maint. Facilities; Parking Decks	6
H02	Highways; Streets; Airfield Paving; Parking Lots	8
H13	Hydrographic Surveying	5
L02	Land Surveying	8
L03	Landscape Architecture	6
P06	Planning (Site, Installation, and Project)	6
R04	Recreation Facilities (Parks, Marinas, Etc.)	3
R11	Rivers; Canals; Waterways; Flood Control	5
S03	Seismic Designs and Studies	6
S04	Sewage Collection, Treatment, and Disposal	5
S09	Structural Design; Special Structures	6
S10	Surveying; Platting; Mapping; Flood Plain Studies	7
T03	Traffic and Transportation Engineering	6
T04	Topographic Surveying and Mapping	7
W03	Water Supply; Treatment, and Distribution	3

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

a. Federal Work	6
b. Non-Federal Work	10
c. Total Work	10

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000. 6. $2 million to less than $5 million
2. $100,00 to less than $250,000 7. $5 million to less than $10 million
3. $250,000 to less than $500,000 8. $10 million to less than $25 million
4. $500,000 to less than $1 million 9. $25 million to less than $50 million
5. $1 million to less than $2 million 10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE

b. DATE: May 23, 2022

b. NAME AND TITLE: Robert Hanson, GISP | Principal in Charge

STANDARD FORM 330 (REV. 7/2021)

EXHIBIT E
Exhibit 2

ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*: 12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM *(or Branch Office)* NAME	WGI, Inc.
2b. STREET	548 Northwest Mercantile Place
2c. CITY	Port St. Lucie
2d. STATE	FL
2e. ZIP CODE	34986
3. YEAR ESTABLISHED	1991
4. UNIQUE ENTITY IDENTIFIER	079420847
5. OWNERSHIP a. TYPE	Corporation
b. SMALL BUSINESS STATUS	N/A
6a. POINT OF CONTACT NAME AND TITLE	Adam Schildmeier, PE, Director
6b. TELEPHONE NUMBER	772.408.5258
6c. E-MAIL ADDRESS	adam.schildmeier@WGInc.com
7. NAME OF FIRM *(If Block 2a is a Branch Office)*	WGI, Inc.

8a. FORMER FIRM NAME(S) (If any)	8b. YR. ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER
Wantman Group, Inc.	2016	938414349

9. EMPLOYEES BY DISCIPLINE

a. Function Code	b. Discipline	c. No. of Employees (1) FIRM	c. No. of Employees (2) BRANCH
2	Administrative	99	1
6	Architect	5	0
7	Biologist	2	0
8	CADD Tech	38	1
12	Civil Engineer	74	0
15	Construction Inspector	2	0
21	Electrical Engineer	4	0
24	Environmental Scientist	8	0
29	GIS Specialist	3	0
30	Geologist	2	0
38	Land Surveyor	126	20
39	Landscape Architect	18	0
42	Mechanical Engineer	7	0
46	Photogrammetrist	2	0
47	Planner: Urban/Regional	21	0
57	Structural Engineer	40	0
60	Transportation Engineer	40	0
	Engineer Intern	49	0
	Other Employees	59	2
	Total	**599**	**24**

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
A02	Imagery Collection and Aerial Photograph; Airborne Data and Analysis	3
B02	Bridges	7
C11	Community Facilities	5
C16	Construction Survey	6
G01	Garages; Vehicle Maint. Facilities; Parking Decks	6
H02	Highways; Streets; Airfield Paving; Parking Lots	8
H13	Hydrographic Surveying	5
L02	Land Surveying	8
L03	Landscape Architecture	6
P06	Planning (Site, Installation, and Project)	6
R04	Recreation Facilities (Parks, Marinas, Etc.)	3
R11	Rivers; Canals; Waterways; Flood Control	5
S03	Seismic Designs and Studies	6
S04	Sewage Collection, Treatment, and Disposal	5
S09	Structural Design; Special Structures	6
S10	Surveying; Platting; Mapping; Flood Plain Studies	7
T03	Traffic and Transportation Engineering	6
T04	Topographic Surveying and Mapping	7
W03	Water Supply; Treatment, and Distribution	3

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

a. Federal Work	6
b. Non-Federal Work	10
c. Total Work	10

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000. 6. $2 million to less than $5 million
2. $100,00 to less than $250,000 7. $5 million to less than $10 million
3. $250,000 to less than $500,000 8. $10 million to less than $25 million
4. $500,000 to less than $1 million 9. $25 million to less than $50 million
5. $1 million to less than $2 million 10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE	b. DATE: May 23, 2022
b. NAME AND TITLE	Robert Hanson, GISP | Principal in Charge

STANDARD FORM 330 (REV. 7/2021)

EXHIBIT E
Exhibit 2

ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*: 12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM *(or Branch Office)* NAME: WGI, Inc.	3. YEAR ESTABLISHED: 1991
	4. UNIQUE ENTITY IDENTIFIER: F334VTMMYXS5
2b. STREET: 2021 East 5th Street, Suite 200	**5. OWNERSHIP**
2c. CITY: Austin / 2d. STATE: TX / 2e. ZIP CODE: 78702	a. TYPE: Corporation
	b. SMALL BUSINESS STATUS: N/A
6a. POINT OF CONTACT NAME AND TITLE: Matthew Stewart, PE, Vice President Civil	7. NAME OF FIRM *(If Block 2a is a Branch Office)*: WGI, Inc.
6b. TELEPHONE NUMBER: 512.669.5560 / 6c. E-MAIL ADDRESS: Matthew.Stewart@wginc.com	

8a. FORMER FIRM NAME(S) (If any)	8b. YR. ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER
Wantman Group, Inc.	2016	938414349

9. EMPLOYEES BY DISCIPLINE

a. Function Code	b. Discipline	c. No. of Employees (1) FIRM	c. No. of Employees (2) BRANCH
2	Administrative	99	9
6	Architect	5	0
7	Biologist	2	0
8	CADD Tech	38	9
12	Civil Engineer	74	23
15	Construction Inspector	2	0
21	Electrical Engineer	4	4
24	Environmental Scientist	8	0
29	GIS Specialist	3	0
30	Geologist	2	0
38	Land Surveyor	126	9
39	Landscape Architect	18	2
42	Mechanical Engineer	7	6
46	Photogrammetrist	2	0
47	Planner: Urban/Regional	21	2
57	Structural Engineer	40	2
60	Transportation Engineer	40	1
	Engineer Intern	49	7
	Other Employees	59	10
	Total	**599**	**84**

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
A02	Imagery Collection and Aerial Photograph; Airborne Data and Analysis	3
B02	Bridges	7
C11	Community Facilities	5
C16	Construction Survey	6
G01	Garages; Vehicle Maint. Facilities; Parking Decks	6
H02	Highways; Streets; Airfield Paving; Parking Lots	8
H13	Hydrographic Surveying	5
L02	Land Surveying	8
L03	Landscape Architecture	6
P06	Planning (Site, Installation, and Project)	6
R04	Recreation Facilities (Parks, Marinas, Etc.)	3
R11	Rivers; Canals; Waterways; Flood Control	5
S03	Seismic Designs and Studies	6
S04	Sewage Collection, Treatment, and Disposal	5
S09	Structural Design; Special Structures	6
S10	Surveying; Platting; Mapping; Flood Plain Studies	7
T03	Traffic and Transportation Engineering	6
T04	Topographic Surveying and Mapping	7
W03	Water Supply; Treatment, and Distribution	3

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

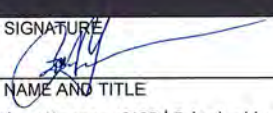
a. Federal Work	6
b. Non-Federal Work	10
c. Total Work	10

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000. 6. $2 million to less than $5 million
2. $100,00 to less than $250,000 7. $5 million to less than $10 million
3. $250,000 to less than $500,000 8. $10 million to less than $25 million
4. $500,000 to less than $1 million 9. $25 million to less than $50 million
5. $1 million to less than $2 million 10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE: 

b. DATE: May 23, 2022

b. NAME AND TITLE: Robert Hanson, GISP | Principal in Charge

STANDARD FORM 330 (REV. 7/2021)

EXHIBIT E
Exhibit 2

ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*: 12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM *(or Branch Office)* NAME: Jacobs Engineering Group, Inc.	3. YEAR ESTABLISHED: 1947 / 4. UNIQUE ENTITY IDENTIFIER: 117258278
2b. STREET: 550 West Cypress Creek Road, Suite 400	**5. OWNERSHIP**
2c. CITY: Fort Lauderdale / 2d. STATE: FL / 2e. ZIP CODE: 33309	a. TYPE: Corporation
6a. POINT OF CONTACT NAME AND TITLE: Ellen Patterson, VP, South Florida & Puerto Rico Operations Leader	b. SMALL BUSINESS STATUS: N/A
6b. TELEPHONE NUMBER: 561.914.0192 / 6c. E-MAIL ADDRESS: ellen.patterson@jacobs.com	7. NAME OF FIRM *(If Block 2a is a Branch Office)*: Jacobs Engineering Group, Inc. Duns #74103508

8a. FORMER FIRM NAME(S) (If any)	8b. YR. ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER

9. EMPLOYEES BY DISCIPLINE

a. Function Code	b. Discipline	c. No. of Employees (1) FIRM	c. No. of Employees (2) BRANCH
002	Administrative	6060	12
012	Civil Engineer	1724	5
918	Construction Engineer	544	1
016	Construction Manager	1305	9
018	Cost Engineer/Estimator	560	3
902	Designer	2620	1
023	Environmental Engineer	452	1
919	Intern	642	2
042	Mechanical Engineer	1752	1
911	Process Engineer	698	1
913	Program Manager	409	1
915	Project Controls	1330	1
	Project Coordinator	377	1
045	Project Manager	4506	14
914	QA/QC Specialist	990	1
939	Technologist	674	2
060	Transportation Engineer	2359	3
062	Water Resources Engineer	883	3
	Other Employees	28326	0
	Total	**56,211**	**62**

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
E09	Environmental Impact Studies, Assessments or Statements	
E13	Environmental Testing and analysis	7
G04	Geographic Information System Services: Development, Analysis, and Data Collection	5
H01	Harbors; Jetties; Piers, Ship Terminal Facilities	6
H07	Highways; Streets; Airfield Paving; Parking Lots	6
P05	Planning (Community, Regional, Areawide and State)	8
P06	Planning (Site, Installation, and Project)	5
S04	Sewage Collection, Treatment and Disposal	8
W02	Water Resources; Hydrology; Ground Water	6
W03	Water Supply; Treatment and Distribution	6

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS
(Insert revenue index number shown at right)

a. Federal Work	10
b. Non-Federal Work	10
c. Total Work	10

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000. 6. $2 million to less than $5 million
2. $100,00 to less than $250,000 7. $5 million to less than $10 million
3. $250,000 to less than $500,000 8. $10 million to less than $25 million
4. $500,000 to less than $1 million 9. $25 million to less than $50 million
5. $1 million to less than $2 million 10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE: Ellen B. Patterson

b. DATE: May 23, 2022

b. NAME AND TITLE: Ellen Patterson | Vice President, Geographic Operations Manager

STANDARD FORM 330 (REV. 7/2021)

EXHIBIT E
Exhibit 2

ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*: 12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM *(or Branch Office)* NAME	Chen Moore and Associates, Inc.
2b. STREET	500 W. Cypress Creek Road, Suite 630
2c. CITY	Fort Lauderdale
2d. STATE	FL
2e. ZIP CODE	33309
3. YEAR ESTABLISHED	1986
4. UNIQUE ENTITY IDENTIFIER	859459547
5. OWNERSHIP a. TYPE	Corporation
b. SMALL BUSINESS STATUS	No (note: CMA is an SBE at the federal level)
6a. POINT OF CONTACT NAME AND TITLE	Peter Moore, PE, LEED AP, F.ASCE, President and CEO
6b. TELEPHONE NUMBER	957.730.0707
6c. E-MAIL ADDRESS	pmoore@chenmoore.com
7. NAME OF FIRM *(If Block 2a is a Branch Office)*	

8a. FORMER FIRM NAME(S) (If any)	8b. YR. ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER
Chen and Associates Consulting Engineers, Inc.	1986	859459547

9. EMPLOYEES BY DISCIPLINE

a. Function Code	b. Discipline	c. No. of Employees (1) FIRM	c. No. of Employees (2) BRANCH
02	Administrative	14	8
08	CADD Technician	10	3
12	Civil Engineer	36	16
15	Construction Inspector	5	4
16	Construction Manager	2	1
39	Landscape Architect	11	0
47	Planners (our planners are also registered landscape architects)	2	0
21	Electrical Engineer	15	1
60	Transportation Engineer	6	0
	Other Employees	59	2
	Total	**101**	**33**

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
C10	Commercial Building; (low rise); Shopping	1
C15	Construction Management	4
C18	Cost Estimating; Cost Engineering and	2
E02	Education Facilities; Classrooms	3
E09	Environmental Impact Studies,	1
G04	GIS development, analysis, data	2
H07	Highways; Streets; Airfield; Parking	3
L03	Landscape Architecture	4
P05	Planning (Community, Regional)	3
P06	Planning (Site, Installation)	4
P13	Public Safety Facilities	5
R04	Recreation Facilities (Parks, etc.)	3
R06	Rehab (Buildings, Structures)	1
R11	Rivers Canals; Waterways; Flood Control	3
S04	Sewage Collection & Treatment	4
S11	Sustainable Design	2
S13	Stormwater Handling & Facilities	5
T02	Testing & Inspection Services	4
W03	Water Supply; Treatment, and Distribution	3

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS
(Insert revenue index number shown at right)

a. Federal Work	2
b. Non-Federal Work	8
c. Total Work	8

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000. 6. $2 million to less than $5 million
2. $100,00 to less than $250,000 7. $5 million to less than $10 million
3. $250,000 to less than $500,000 8. $10 million to less than $25 million
4. $500,000 to less than $1 million 9. $25 million to less than $50 million
5. $1 million to less than $2 million 10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE	b. DATE: May 23, 2022
b. NAME AND TITLE	Peter Moore, PE, LEED AP, F.ASCE | President and CEO

STANDARD FORM 330 (REV. 7/2021)

EXHIBIT E
Exhibit 2

ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*: 12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM *(or Branch Office)* NAME: CTS Engineering, Inc.	3. YEAR ESTABLISHED: 2009
	4. UNIQUE ENTITY IDENTIFIER: 859459547
2b. STREET: 3230 West Commercial Boulevard, Suite 220	**5. OWNERSHIP**
2c. CITY: Fort Lauderdale / 2d. STATE: FL / 2e. ZIP CODE: 33309	a. TYPE: S-Corporation
6a. POINT OF CONTACT NAME AND TITLE: Sheng Yang, PE, PTOE, President	b. SMALL BUSINESS STATUS: No (note: CMA is an SBE at the federal level)
6b. TELEPHONE NUMBER: 954.637.1608 / 6c. E-MAIL ADDRESS: syang@ctseinc.com	7. NAME OF FIRM *(If Block 2a is a Branch Office)*

8a. FORMER FIRM NAME(S) (If any)	8b. YR. ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER

9. EMPLOYEES BY DISCIPLINE

a. Function Code	b. Discipline	c. No. of Employees (1) FIRM	c. No. of Employees (2) BRANCH
02	Administrative	4	
12	Civil Engineer	22	
38	Land Surveyor	2	
47	Planner: Urban/Regional	12	
58	Technician Analyst	18	
	Other Employees	15	
	Total	**63**	

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
S10	Surveying; Platting; Mapping; Floor Plain Studies	8
T03	Traffic & Transportation Engineering	8
G04	Geographic Information System Services: Development, Analysis, and Data Collection	8

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

a. Federal Work	
b. Non-Federal Work	8
c. Total Work	8

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000. 6. $2 million to less than $5 million
2. $100,00 to less than $250,000 7. $5 million to less than $10 million
3. $250,000 to less than $500,000 8. $10 million to less than $25 million
4. $500,000 to less than $1 million 9. $25 million to less than $50 million
5. $1 million to less than $2 million 10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE

b. DATE: May 23, 2022

b. NAME AND TITLE: Sheng Yang, PE, PTOE | President

STANDARD FORM 330 (REV. 7/2021)

EXHIBIT E
Exhibit 2

ARCHITECT-ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*: 12665-1026

PART II - GENERAL QUALIFICATIONS
(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (OR BRANCH OFFICE) NAME: Florida Technical Consultants, LLC (Headquarters)	3. YEAR ESTABLISHED: 2014 / 4. DUNS NUMBER: 064237293
2b. STREET: 533 East Ocean Avenue, Suite # 2	5. OWNERSHIP
2c. CITY: Boynton Beach / 2d. STATE: FL / 2e. ZIP CODE: 33435	a. TYPE: C. Corporation
6a. POINT OF CONTACT NAME AND TITLE: James Barton, P.E., LEED AP, President	b. SMALL BUSINESS STATUS: Palm Beach County Small Business Enterprise
6b. TELEPHONE NUMBER: 954.914.8488 / 6c. E-MAIL ADDRESS: jbarton@fltechinc.com	7. NAME OF FIRM *(If block 2a is a branch office)*
8a. FORMER FIRM NAME(S) *(If any)*	8b. YR. ESTABLISHED / 8c. DUNS NUMBER

9. EMPLOYEES BY DISCIPLINE

a. Function Code	b. Discipline	c. No. of Employees (1) FIRM	c. No. of Employees (2) BRANCH
12	Civil Engineer	3	
16	Construction Manager	1	
29	Geographic Information System Specialist	1	
	Other Employees		
	Total	5	

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
A02	Aerial Photography; Airborne Data and Imagery Collection and Analysis	1
C01	Cartography	1
C15	Construction Management	1
C18	Cost Estimating; Cost Engineering and Analysis; Parametric Costing; Forecasting	1
D05	Digital Elevation and Terrain Model Development	1
E10	Environmental and Natural Resource Mapping	1
G04	Geographic Information System Services: Development, Analysis, and Data Collection	1
G05	Geospatial Data Conversion: Scanning, Digitizing, Compilation, Attributing	1
H07	Highways; Streets; Airfield Paving; Parking	1
I06	Irrigation; Drainage	1
M01	Mapping Location/Addressing	1
P05	Planning (Community, Regional, Area wide	1
R04	Recreation Facilities (Parks and Marinas)	1
S04	Sewer Collection, Treatment and Disposal	1
S07	Solid Wastes; Incineration; Landfill	1
S10	Surveying; Platting; Mapping; Flood Plain Studies	1
S13	Storm Water Handling & Facilities	1
U02	Urban Renewals; Community Development	1
W02	Water Resources; Hydrology; Ground Water	1
W03	Water Supply; Treatment and Distribution	1
Z01	Zoning; Land Use Studies	

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS
(Insert revenue index number shown at right)

a. Federal Work	1
b. Non-Federal Work	4
c. Total Work	5

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000
2. $100,00 to less than $250,000
3. $250,000 to less than $500,000
4. $500,000 to less than $1 million
5. $1 million to less than $2 million
6. $2 million to less than $5 million
7. $5 million to less than $10 million
8. $10 million to less than $25 million
9. $25 million to less than $50 million
10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE
The foregoing is a statement of facts.

a. SIGNATURE

b. DATE: May 23, 2022

c. NAME AND TITLE: James Barton, P.E., LEED AP | President

AUTHORIZED FOR LOCAL REPRODUCTION

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EXHIBIT E
Exhibit 2

ARCHITECT – ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*: **12665-1026**

PART II- GENERAL QUALIFICATIONS
(If a firm has branch offices, complete for each specific branch office seeking)

2a. FIRM (OR BRANCH OFFICE) NAME: **McKim & Creed, Inc.**	3. YEAR ESTABLISHED: 1994
	4. Unique Entity Identifier: 04-693-9948
2b. STREET: 551 North Cattlemen Road, Suite 106	5. OWNERSHIP
2c. CITY: Sarasota	12d. STATE: FL 12e. ZIP CODE: 34232
	a. TYPE: Professional Corporation
6a. POINT OF CONTACT NAME AND TITLE: Robert Garland, PE | Vice President/Regional Manager	b. SMALL BUSINESS STATUS: No
6b. TELEPHONE NUMBER: (941) 379-3404	16c. E-MAIL ADDRESS: rgarland@mckimcreed.com
	7. NAME OF FIRM *(If block 2a is a branch office)*: McKim & Creed, Inc.

8a. FORMER FIRM NAME(S) *(If any)*	8b. YR. ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER
McKim & Creed, P.A. | McKim & Creed Engineers, P.A.	1978	04-693-9948

9. EMPLOYEES BY DISCIPLINE

a. Function Code	b. Discipline	c. No. of Employees (1) FIRM	c. No. of Employees (2) BRANCH
02	Administrative	101	3
08	CADD Technicians	48	1
12	Civil Engineers	65	2
15	Construction Inspectors	5	1
16	Construction Manager	6	0
21	Electrical Engineers	18	0
29	Geographic Information System Specialist	4	0
38	Land Surveyors	33	3
39	Landscape Architects	5	0
42	Mechanical Engineers	20	0
46	Photogrammetrists	1	0
57	Structural Engineers	5	0
33	Hydrographic Surveyors	11	0
23	Environmental Engineers	0	0
49	Remote Sensing Specialists	9	1
	Fire Protection Designers	2	0
	Electrical Designers	21	0
	Mechanical Designers	22	0
	Survey Crew Members	242	52
	Instrumentation & Controls Designers	13	0
	Engineer Intern	51	1
	Other Employees	48	2
	Total	**731**	**66**

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
E03	Electrical Studies and Design	7
F03	Fire Protection	1
H04	Heating; Ventilating; Air Conditioning	6
A12	Automation; Controls; Instrumentation	6
P06	Planning (Site, Installation, Project)	7
P07	Plumbing & Piping Design	5
S09	Structural Design; Special Structures	4
P12	Power Generation; Transmission; Distribution	1
G04	Geographic Information System Services: Development, Analysis, and Data Collection	3
H13	Hydrographic Surveying	5
S13	Storm Water Handling and Facilities	1
U03	Utilities	8
S10	Surveying; Platting; Mapping; Flood Plain Studies	8
R07	Remote Sensing	4
L02	Land Surveying	8
I03	Industrial Waste Treatment	8
W03	Water Supply; Treatment; Distribution	8

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS
(Insert revenue index number shown at right)

a. Federal Work	4
b. Non-Federal Work	10
c. Total Work	10

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000
2. $100,000 to less than $250,000
3. $250,000 to less than $500,000
4. $500,000 to less than $1 million
5. $1 million to less than $2 million
6. $2 million to less than $5 million
7. $5 million to less than $10 million
8. $10 million to less than $25 million
9. $25 million to less than $50 million
10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE
The foregoing is a statement of facts.

a. SIGNATURE

b. DATE: 02/22/2022

c. NAME AND TITLE: Robert Garland, PE | Vice President/Regional Manager

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STANDARD FORM 330 (REV. 7/2021) **PAGE 6**

EXHIBIT E
Exhibit 2

ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*: 12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM *(or Branch Office)* NAME: Stoner & Associates, Inc.	3. YEAR ESTABLISHED: 1988
	4. UNIQUE ENTITY IDENTIFIER: 195500624
2b. STREET: 4341 SW 62nd Avenue	**5. OWNERSHIP**
2c. CITY: Davie / 2d. STATE: FL / 2e. ZIP CODE: 33314	a. TYPE: S-Corporation
	b. SMALL BUSINESS STATUS: 541370-Survey and Mapping Services
6a. POINT OF CONTACT NAME AND TITLE: James D. Stoner, PSM, President	7. NAME OF FIRM *(If Block 2a is a Branch Office)*
6b. TELEPHONE NUMBER: 954.585.0997 / 6c. E-MAIL ADDRESS: jstoner@stonersurveyors.com	

8a. FORMER FIRM NAME(S) (If any)	8b. YR. ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER

9. EMPLOYEES BY DISCIPLINE

a. Function Code	b. Discipline	c. No. of Employees (1) FIRM	c. No. of Employees (2) BRANCH
38	Land Surveyor	1	
48	Project Manager	2	
08	CADD Technician	1	
02	Administrative	1	
	Other Employees	9	
	Total	**14**	

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
L02	Land Surveying	5

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

a. Federal Work	0
b. Non-Federal Work	5
c. Total Work	5

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000. 6. $2 million to less than $5 million
2. $100,00 to less than $250,000 7. $5 million to less than $10 million
3. $250,000 to less than $500,000 8. $10 million to less than $25 million
4. $500,000 to less than $1 million 9. $25 million to less than $50 million
5. $1 million to less than $2 million 10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE

b. DATE: May 23, 2022

c. NAME AND TITLE: James D. Stoner, PSM | President

STANDARD FORM 330 (REV. 7/2021)

EXHIBIT E
Exhibit 2

ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*: 12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM *(or Branch Office)* NAME	T2 UES, Inc. d/b/a T2 Utility Engineers
2b. STREET	5670 Zip Drive
2c. CITY	Fort Myers
2d. STATE	FL
2e. ZIP CODE	33905-5028
3. YEAR ESTABLISHED	2019
4. UNIQUE ENTITY IDENTIFIER	84-2356040
5. OWNERSHIP a. TYPE	Corporation
b. SMALL BUSINESS STATUS	N/A
6a. POINT OF CONTACT NAME AND TITLE	Scott Urquhart, PSM, Branch Manager
6b. TELEPHONE NUMBER	239.277.0722
6c. E-MAIL ADDRESS	scott.urquhart@t2ue.com
7. NAME OF FIRM *(If Block 2a is a Branch Office)*	T2 UES, Inc.

8a. FORMER FIRM NAME(S) (If any)	8b. YR. ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER
TBE Group, Inc.	1983	118667930
Cardno, Inc.	2011	078391683

9. EMPLOYEES BY DISCIPLINE

a. Function Code	b. Discipline	c. No. of Employees (1) FIRM	c. No. of Employees (2) BRANCH
02	Administrative	28	1
08	CADD Technician	8	1
12	Civil Engineer	15	0
58	Technician/Analyst	126	9
48	Project Manager	47	1
38	Land Surveyor	11	3
	Other Employees	0	
	Total	**235**	**15**

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
T03	Traffic & Transportation	9
S10	Survey: plats, maps	7

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

a. Federal Work	2
b. Non-Federal Work	9
c. Total Work	9

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000. 6. $2 million to less than $5 million
2. $100,00 to less than $250,000 7. $5 million to less than $10 million
3. $250,000 to less than $500,000 8. $10 million to less than $25 million
4. $500,000 to less than $1 million 9. $25 million to less than $50 million
5. $1 million to less than $2 million 10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE: Scott R Urquhart

b. DATE: May 23, 2022

b. NAME AND TITLE: Scott Urquhart, PSM | Branch Manager, Fort Myers

STANDARD FORM 330 (REV. 7/2021)

EXHIBIT E
Exhibit 2

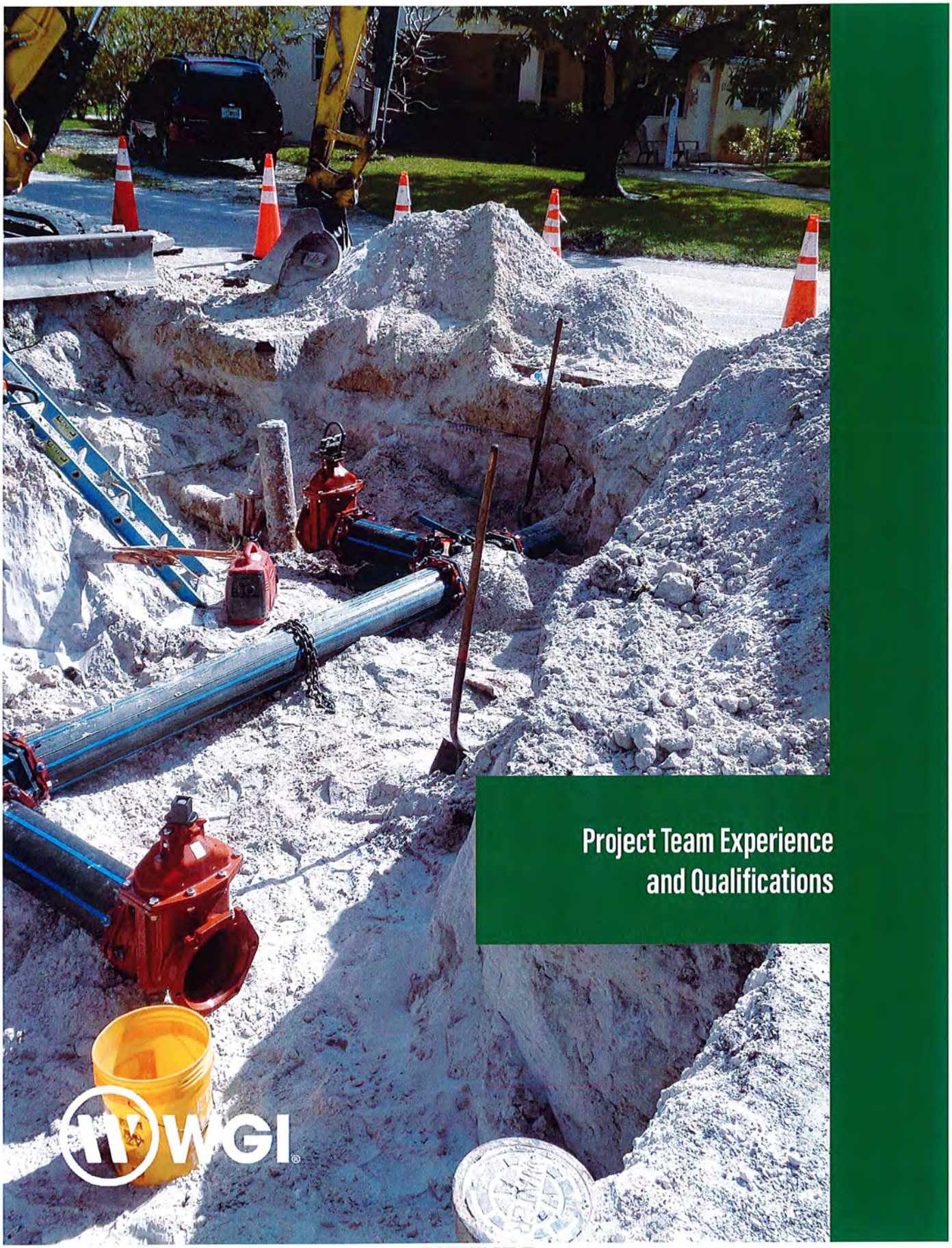


EXHIBIT E
Exhibit 2

PROJECT TEAM EXPERIENCE AND QUALIFICATIONS

CITY OF FORT LAUDERDALE

PRINCIPAL IN CHARGE
- **WGI** ▪ Robert Hanson, GISP

REGULATORY SPECIALISTS
- **WGI** ▪ Michael Davis
- **Jacobs** ▪ Mitch Griffin, PhD, PE

PROJECT MANAGEMENT
- **WGI** ▪ Roberto Mantecon, PSM ★

PROGRAM MANAGEMENT
- **WGI** ▪ Brett Oldford, PE - *Program Manager* ★
- **Jacobs** ▪ Godofriedo Canino, PE - *Deputy* ★

TECHNICAL ADVISORS
- **WGI** ▪ Leigh Thomas, PE ★
- **Jacobs** ▪ Jennifer Baldwin, PhD, PE

LIDAR SERVICES
- **WGI** ▪ Sandor Laszlo, PE - *Lead* ★
- **WGI** ▪ Christian Stewart - *LiDAR Analyst*
- **WGI** ▪ Seth Adams - *LiDAR Analyst*
- **WGI** ▪ Matthew Del Valle - *LiDAR Technician*
- **WGI** ▪ Omar Herrera - *LiDAR Collection*

SUE SERVICES
- **WGI** ▪ Radek Grabowski - *Lead* ★
- **WGI** ▪ Wes Kaisershot, PE - *Supervisor*
- **WGI** ▪ Erik Brueningsen, PE - *Utility Coordination*
- **WGI** ▪ Shannon Wright - *Field Supervisor*
- **WGI** ▪ Cameron Watts - *Crew Chief*
- **WGI** ▪ Antonio "AJ" Mullikin - *Crew Chief*

SUE SUPPORT
- **CTS** ▪ Dennis Stanton ★
- **CTS** ▪ Paul Capewell
- **MK&C** ▪ Neil Eppig, RLS ★
- **T2** ▪ Roger Pawlowski ★

COMBINED SUE RESOURCES
51 SUE Field Crews

SURVEY SERVICES
- **WGI** ▪ Jim Sullivan, PSM - *Lead* ★
- **WGI** ▪ Randy Ortega, PSM - *Surveyor*
- **WGI** ▪ Jose Mendoza, CST I - *Field Supervisor*
- **Jacobs** ▪ Mathew O'Rouke - *MOT Specialist*

SURVEY SUPPORT
- **MK&C** ▪ Christopher Bosshart, PSM ★
- **S&A** ▪ James Stone, PSM ★
- **T2** ▪ Scott Urquhart, PSM ★
- **T2** ▪ Jason Chambless, PSM

COMBINED SURVEY RESOURCES
52 Survey Crews

GIS SERVICES
- **WGI** ▪ Jorge Kappa - *Lead* ★
- **WGI** ▪ Albert Hill, GISP - *Support*
- **WGI** ▪ Stephen Clancy, PSM, GISP - *Support*
- **Jacobs** ▪ Jennifer Jacobs, GISP - *Support*
- **FTC** ▪ James Barton, PE, LEED AP - *Support* ★
- **FTC** ▪ Teresa Chapman - *Support*
- **FTC** ▪ Marcus Austin - *Support*

CIVIL ENGINEERING
- **WGI** ▪ Brett Oldford, PE ★

ENVIRONMENTAL ENGINEERING
- **WGI** ▪ Greg Griffith

CONDITION ASSESSMENT/ GEOTECHNICAL ENGINEERING AND TESTING
- **Jacobs** ▪ Mario Loaiza, PE, F.ASCE ★
- **Jacobs** ▪ Brian Skeens, PE ★

DATA MANAGEMENT, INTEGRATION & QC
- **WGI** ▪ Jason Alvarez, CST II ★
- **Jacobs** ▪ Kristopher Anderson ★
- **WGI** ▪ Albert Hill, GISP
- **WGI** ▪ Andy Valentine

ENGINEERING & FIELD QC
- **CMA** ▪ Daniel Davilla, PE ★
- **CMA** ▪ Jessica Diaz, PE
- **WGI** ▪ Jermaine Hamm
- **WGI** ▪ Chelsey Corneille

LEGEND
- **WGI** ▪ WGI, Inc.
- **CMA** ▪ Chen Moore and Associates, Inc.
- ● ◆ **CTS** ▪ CTS Engineering, Inc.
- **FTC** ▪ Florida Technical Consultants, LLC
- **Jacobs** ▪ Jacobs Engineering Group, Inc.
- **MK&C** ▪ McKim & Creed, Inc.
- **S&A** ▪ Stoner & Associates, Inc.
- **T2** ▪ T2 Utility Engineers
- ● DBE ◆ MBE ■ SBE
- ★ Resume Included

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Roberto Mantecon, PSM	Project Manager	44	<1

15. FIRM NAME AND LOCATION *(City and State)*

WGI, Inc. - Miami, Florida

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Land Surveying Program - Miami-Dade Community	Professional Surveyor and Mapper: Florida #LS4431, 1987

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Publications: Mantecon, Roberto D., and Thomas J. Schweitzer, "Shoring Up Levees," Professional Surveyor Magazine, Vol. 29, No. 10, October 2009, pp.14-16.

Roberto is a senior project manager for all phases of geospatial services offered by WGI. He is experienced in managing a full department of staff and projects simultaneously, and his responsibilities include project management of abstracting for title, control surveys, construction staking, boundaries, easements, hydrographic surveys, laser scanning, plat/plan review, platting, right-of-way acquisitions, topographic surveys, and GIS services. With 44 years of experience in his career, Roberto has served as the survey manager or principal surveyor for multiple cities, public, and federal agencies on similar projects.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
FDOT District 6 Districtwide Miscellaneous Location Survey Consultant Services, Various Counties, FL	2022	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Project Manager. Roberto led what initially began as a five-year miscellaneous survey services contract for 15 years. His team completed hundreds of miles of route surveys, and the associated geodetic control, data collection, boundary surveys, topographic surveys, corridor maps, hydrographic surveys, and parcel mapping. Roberto has served as an extension of District 6 staff as a trusted advisor in complex technical matters. He updated the District's vertical control network to the North American Vertical Datum of 1988 (NAVD88) and has completed GIS databases for Monroe and Miami-Dade counties to assist the District's survey staff in maintaining their project control information. **Survey Fee:** $1.5M

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Pembroke Road Water Line Improvements Hollywood, FL	2014	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Project Manager. Roberto managed 11 miles of topographic survey for water infrastructure improvements. The project required geodetic control and mobile LiDAR to acquire field data in record time, expediting the project delivery. **Survey Fee:** $182,391

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Norris Cut Tunnel, Replacement of Existing 54-Inch Force Main from CDWWTP to Fisher Island under Norris Cut Channel, Miami, FL	2014	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☐ Check if project performed with current firm

Principal Surveyor. As a subconsultant, Roberto's team provided main control, as-built surveys, and tunnel boring machine (TBM) alignment for a one-mile-long WASD tunnel under Norris Cut from Virginia Key to Fisher Island. Services included creating an accurate network with GPS at the surface level, then descending 100 feet below the surface to formulate precise horizontal and vertical control, and continuing with set control along the tunnel. This effort included multiple gyro measurements to correct alignment while TBM alignment was conducted an as-built survey of the tunnel as well was performed. Upon breaking through, the error in a mile was 0.08 feet for both the horizontal and vertical aspects. Upon completion of this engagement, an as-built survey map and report were provided to the client. **Survey Fee:** $186,000

d.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Taft and Sheridan Street Water Main Improvements Hollywood, FL	2018	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Principal Surveyor. As part of the water main improvement program for the City of Hollywood between Taft Street and Sheridan Street west of the Florida Turnpike, Roberto performed an eight-mile survey of the public right-of-way in the area. He employed an integrated approach to this engagement, using state-of-the-art GPS and high-definition scanning survey techniques. This survey effort provided the City with a thorough survey depicting all visible surface improvements and detailed digital terrain models (DTM) of the project right-of-way, including the underground designation of existing utilities. **Survey Fee:** $258,000

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Brett Oldford, PE	Program Manager	28	7

15. FIRM NAME AND LOCATION *(City and State)*

WGI, Inc. - West Palm Beach, Florida

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Bachelor of Science, Civil Engineering - Florida State University, 2000	Professional Engineer: Florida #61795, 2004

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Affiliations: American Public Works Association • Florida Engineering Society

Brett has extensive planning, design, permitting, value engineering, and construction management experience covering municipal infrastructure, civil/site design, and land development projects. His experience includes providing professional consulting services for private and municipal sector clients. Serving as project manager, Brett's projects include large-scale residential, commercial, and mixed-use developments; petroleum facilities; marinas; dredge and fill projects; water resources; stormwater management systems; utility improvements; roadway projects; municipal parks; and infrastructure design.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Lake Worth Beach Neighborhood Streets Program Management Lake Worth Beach, Florida	2017	2021

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Contract Manager. Brett was responsible for assisting with communication, budgeting, scheduling, and civil engineering components. WGI provided program management services and supported the administration for the five-year, $40M neighborhood streets program. The objective of the neighborhood streets program was to improve the City's aging infrastructure. WGI's role included managing and coordinating with several consultants and contractors through planning, public outreach and involvement, design, bidding, and construction. WGI functioned as a liaison between the City of Lake Worth Beach, consultants, contractors, residents, and other stakeholders. The program management responsibilities included oversight of all scheduling activities, project and program costs, and the technical performance of consultants and contractors to ensure the neighborhood streets program met the goals and objectives of the City. Oversight was provided through all project phases, including preparing construction plans, contract bidding documents, construction, and overall contract compliance. The public outreach and involvement responsibilities included developing and maintaining the program website that provided City officials, emergency services, and the community a place to review all upcoming work, track progress, and celebrate successes. Coordination of social media activities, aerial photography and inspection using WGI drones or unmanned aerial vehicles (UAVs), was also provided. **Estimated Fee:** $1.860M

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Seacrest Corridor Utility Improvements Phase II Design-Build Boynton Beach, Florida	2018	2020

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Principal. Brett was responsible for the project's overall delivery. The extensive improvements included 30,000 linear feet of water main, 39,000 linear feet of streets, 700 water services, 3,200 linear feet of storm sewer, permitting and construction of 7,000 linear feet of wastewater force main, and 5,000 linear feet of stormwater system upgrades. The key components of the water main scope included removing existing mains, relocating services from backyards to right-of-way lines, and placing rear-yard mains out of service. WGI's services consisted of public outreach, survey, geotechnical, environmental, landscape architecture, utility coordination, and engineering to construct the neighborhood improvements and design, permitting, and construction of the 7,000-linear-foot wastewater force main. The team also designed 5,000 linear feet of stormwater system upgrades, pavement reconstruction and overlay, roadside swales, driveway aprons, and sidewalks over a 50-block residential neighborhood covering 252 acres. **Design Fee:** $842,700 • **Construction Fee:** $13M

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
N. Sunlake Boulevard from Ridge Road to SR 52 Roadway Development, Pasco County, Florida	2020	2021

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Project Manager. Brett was responsible for assisting with communication, budgeting, scheduling, and civil engineering components. N. Sunlake Boulevard is the main north and south road through the Angeline development. Water, reclaimed water, and wastewater main lines in the N. Sunlake Boulevard right-of-way provide services for the overall development and access to Phase 2A from N. Sunlake Boulevard. This project will include design and permitting for approximately four miles of the road from SR 52 to the future Collector Road south of the future Ridge Road alignment. The roadway section will include a four-lane divided urban curb and gutter (expandable to six lanes), with five-foot bike lanes, a five-foot sidewalk (along one side), a 12-foot multi-use path (along the opposite side), and a 15-foot communications easement adjacent to the multi-use path and sidewalk. The drainage system will consist of curb inlets conveying the stormwater through pipes or swales to stormwater management facilities adjacent to the roadway. **Design Fee:** $4.2M • **Construction Fee:** $26.4M

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Leigh Thomas, PE	Technical Advisor	29	1

15. FIRM NAME AND LOCATION *(City and State)*

WGI, Inc. - Austin, Texas

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Bachelor of Science, Civil Engineering - University of Texas, 1994 Project Management Program - University of Texas, 2006	Professional Engineer: Florida #92962, 2021

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Certifications: NASSCO PACP/LACP/MACP Certified ▪ OSHA 10-Hour Safety Certification; Confined Space Certified

Affiliations: American Water Works Association, Texas ▪ Water Environment Association of Texas (WEAT), Board ▪ WEAT Collection Systems & Stormwater Committees ▪ Water Environment Federation, Water Environment Federation (WEF) House of Delegates ▪ WEF Water Communications Workgroup ▪ WEF Federal Advocacy Workgroup ▪ WEF Financial Diversification Workgroup

Leigh's nearly three decades of experience includes working on water and wastewater systems for infrastructure inspection and condition assessments, monitoring, asset management, modeling, master planning, rehabilitation method selection, prioritization, method specifications and testing, CIP development and planning, utility design, construction cost estimating and management, regulatory compliance assistance, and expert witness services. She has developed technical specifications specific to infrastructure monitoring, assessment, and rehabilitation methods is a published author in American Society of Civil Engineers and WEF publications, and has presented regionally and nationwide. She is currently a WEF delegate for WEAT.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Major Sewer Pipe Rehabilitation Columbia, South Carolina	2022	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Principal/Project Manager. Leigh served as the rehabilitation design technical lead for all phases of the project including assessment, rehabilitation method alternatives analysis and recommendations, preliminary and final design, and construction and bid services support including documentation preparation, technical specifications development, and final acceptance. **Fee:** $90,410

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Water Distribution Maintenance and Management Program Manhattan, Kansas	2021	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☐ Check if project performed with current firm

Task Leader/Technical Lead. Leigh managed the development of a maintenance and management program for the water distribution system in response to a state of Kansas order. She researched and applied industry best practices for water system management and maintenance. Leigh reviewed maintenance records, field assessment data and water model hydraulic analysis, and documented infrastructure attribute data. The program focus on valve locating, documenting, and assessing to develop an annual prioritized valve operations protocol. **Fee:** $1.21M

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Water Distribution System Modeling, Mapping, and Infrastructure Planning, Kyle, Texas	2019	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☐ Check if project performed with current firm

Project Manager/Engineer. Leigh managed the mapping, model development, calibration, and planning model analysis for the water distribution system serving the City. Inventory of water system infrastructure performed with GIS mapping updates. Field testing of fire hydrants coordinated with City staff, with distribution and well pump testing and pump curve research and verification. Test data and pump curve information applied in hydraulic model calibration. Model analysis for water age, node pressure and velocity, and fire flow. Future population projections scenarios model runs performed, and infrastructure planning and water supply need evaluation. Recommendations for system and infrastructure improvements, cost estimating, and CIP phasing. **Fee:** $425,000

d.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Pasadena 42-inch Waterline Rehabilitation Mesa, Arizona	2015	2016

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☐ Check if project performed with current firm

Technical Lead/Engineering Design. Leigh engineered the condition assessment of the 42-inch prestressed concrete cylinder pipe transmission main to determine infrastructure condition needs. Methods of remediation were evaluated considering pipe type, size, degree of deterioration, life cycle costs, and access for construction. Due to limited access, through a construction manager at risk, internal rehabilitation methods were prioritized, with slip lining with a modified compressive fit application selected. **Fee:** $1.2M

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Sandor Laszlo, PE	LiDAR Services - Lead	23	2

15. FIRM NAME AND LOCATION *(City and State)*

WGI, Inc. - West Palm Beach, Florida

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Master of Engineering, Civil Engineering - Carnegie Mellon, 2004 Bachelor of Engineering, Civil Engineering - Pennsylvania State University, 1998	Professional Engineer: Pennsylvania #060058, 2004

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Certifications: OSHA 10-Hour Construction

Sandor's professional experience includes consulting, strategic and creative communications, and project management. He is a well-known subject matter expert, managing short-term and private projects. His range of experience in preparing proposals, schedules, budgets, and estimates makes him a well-rounded professional able to apply critical thinking, agility, and focus to the teams he manages. Sandor has directed all project lifecycle phases, including quality control, risk management, and relationship management with stakeholders, staff, and clients. He produces quality results by focusing on the small details while still envisioning the big picture. His process for improvement requires experience in evaluating current methods to help create new processes—yielding measurable performance improvements. Sandor is technically skilled in developing and executing solutions, algorithms, and methodologies to facilitate new capabilities.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
LiDAR, Imagery Collection, and Pole Extraction, Various States	2021	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Sandor was responsible for project delivery and coordination. Pearce Services contacted WGI to collect mobile LIDAR and imagery for 550 miles of routing in Belvidere, Illinois, Chesterton, Indiana, Muskegon, Michigan, and Richmond, Indiana. WGI performed an attribute extraction from the LiDAR point cloud in support of make-ready engineering for the placement of new fiber on the poles and relevant feature extraction in support of underground fiber placement. We provided all LiDAR and imagery to our client in the Bentley Orbit GT environment, providing them a "fielding from the office" experience. **Design Fee**: $235,000

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
LiDAR, Imagery Collection, Scaled Basemap Production, and Pole Extraction, Calcasieu, Parish County, Louisiana	2021	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Sandor was responsible for project delivery and coordination. Pearce Services contacted WGI to collect mobile LiDAR and imagery for 154 miles of routing in the Lake Charles, Louisiana area and various sites within Mississippi. WGI developed scaled base map drawings based on the LiDAR and imagery collected. WGI performed an attribute extraction from the LiDAR point cloud in support of make-ready engineering for the placement of new fiber on the poles. WGI provided all LiDAR and imagery to our client in the Bentley Orbit GT environment, providing them a "fielding from the office" experience. **Design Fee**: $106,000

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
FDOT District 3, SR 296 from SR 291 to East of Baisden Road Mobile LiDAR Survey Services, Escambia County, Florida	2022	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Sandor was responsible for coordinating data processing. This resurfacing, restoration, and rehabilitation (RRR) project, performed under WGI's districtwide surveying and mapping contract with FDOT District 3, consists of 2.70 miles of six-lane urban and four-lane urban and two-lane suburban sections of SR 296 in Escambia County, Florida. Terrestrial mobile LiDAR was used for safety reasons and to create an accurate digital DTM of the pavement. WGI located right-of-way monuments and previous alignment monuments to adjust historic alignments and complete existing alignments to found monuments. Right-of-way lines were depicted based on the adjusted alignment. Coordination was done with the UAOs to determine locations and obtain survey information on their underground utilities. **Design Fee**: $120,000

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Radek Grabowski	SUE Services - Lead	26	11

15. FIRM NAME AND LOCATION *(City and State)*

WGI, Inc. - West Palm Beach, Florida

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Associate of Arts - Palm Beach State College, 2012	

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Radek's project experience includes work on major highway projects, bridges, and urban and local roadways. He is responsible for a wide variety of surveying and SUE assignments, including plans preparation, design surveys, survey calculations related to route surveys, location of aerial, underground, and subaqueous utilities. Radek is also responsible for utility coordination and preparing utility location surveys using LiDAR, including 3D modeling of existing utilities and conflict analysis. He is proficient in using computer-automated drafting (MicroStation, AutoCAD) and global positioning systems, as well as GIS data management.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Lake Worth Beach Neighborhood Streets Program Management Lake Worth Beach, Florida	2017	2021

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

SUE Services Manager. Radek was responsible for managing all subsurface utility engineering phases. WGI provided program management services and supported the administration for the five-year, $40M neighborhood streets program. The objective of the neighborhood streets program was to improve the City's aging infrastructure. WGI's role included managing and coordinating with several consultants and contractors through planning, public outreach and involvement, design, bidding, and construction. WGI functioned as a liaison between the City of Lake Worth Beach, consultants, contractors, residents, and other stakeholders. The program management responsibilities included oversight of all scheduling activities, project and program costs, and the technical performance of consultants and contractors to ensure the neighborhood streets program met the goals and objectives of the City. Oversight was provided through all project phases, including preparing construction plans, contract bidding documents, construction, and overall contract compliance. The public outreach and involvement responsibilities included developing and maintaining the program website that provided City officials, emergency services, and the community a place to review all upcoming work, track progress, and celebrate successes. Coordination of social media activities, and aerial photography and inspection using WGI drones or UAVs, was also provided. **Estimated Fee:** $1.860M

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
FDOT District 6 Districtwide Utility Locating Services Various Counties, Florida	2022	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Contract Manager. Radek oversaw this districtwide SUE contract with over 120 issued task work orders totaling over 3,750 test holes, starting from the proposal phase through the production cycle and project invoicing. This five-year, $5M continuing services contract includes subsurface utility locating services throughout Miami-Dade and Monroe counties. ASCE Quality Level B, Quality Level A, GPR investigations, and right-of-way staking to support in-house design and consultant management projects. This contract required a team of consultants to meet FDOT's needs, and WGI provided all scope-related field and office services as well as contract management, administration, billing support, and progress reporting. **Contract Value:** $5M

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Las Olas Boulevard Design Survey Broward County, Florida	2019	2021

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

SUE Project Manager. Radek was the SUE project manager. This project was a complete street assignment in downtown Fort Lauderdale, along a signature portion of Las Olas Boulevard that includes restaurants, mixed-use commercial, hotels, and high-rise residential towers. WGI provided traffic calming, bike lanes, beautification, and intermodal improvements to this one-mile segment of roadway. WGI's geospatial services included terrestrial mobile LiDAR, design surveys, utility locating, drainage surveys, right-of-way retracement, cross-sections, and coordination of aerial survey services. **Fee:** $178,000

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Jim Sullivan, PSM	Survey Services - Lead	25	4

15. FIRM NAME AND LOCATION *(City and State)*

WGI, Inc. - West Palm Beach, Florida

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Bachelor of Science, Surveying and Mapping - East Tennessee State University, 2002	Professional Surveyor/Mapper: Florida #LS6889, 2012

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Certifications: OSHA 10-Hour Construction

Affiliations: Florida Atlantic University Program Advisory Council ▪ Florida Surveying and Mapping Society ▪ Leadership Palm Beach County ▪ MAPPS ▪ National Society of Professional Surveyors ▪ Palm Beach County Zoning Division Land Development Regulation Advisory Board ▪ Society of American Military Engineers

Jim is a senior project manager for all phases of geospatial services offered by WGI. He is experienced in managing a full department of staff and projects simultaneously, and his responsibilities include project management of abstracting for title, control surveys, construction staking, boundaries, easements, hydrographic surveys, laser scanning, plat/plan review, platting, right-of-way acquisitions, topographic surveys, and GIS services.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Lake Worth Beach Neighborhood Streets Program Management Lake Worth Beach, Florida	2017	2021

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Survey Project Manager. Jim served as senior survey project manager. He was responsible for managing all phases of the project. WGI provided program management services and supported the administration for the five-year, $40M neighborhood streets program. The objective of the neighborhood streets program was to improve the City's aging infrastructure. WGI's role included managing and coordinating with several consultants and contractors through planning, public outreach and involvement, design, bidding, and construction. WGI functioned as a liaison between the City of Lake Worth Beach, consultants, contractors, residents, and other stakeholders. The program management responsibilities included oversight of all scheduling activities, project and program costs, and the technical performance of consultants and contractors to ensure the neighborhood streets program met the goals and objectives of the City. Oversight was provided through all project phases, including preparing construction plans, contract bidding documents, construction, and overall contract compliance. The public outreach and involvement responsibilities included developing and maintaining the program website that provided City officials, emergency services, and the community a place to review all upcoming work, track progress, and celebrate successes. Coordination of social media activities, and aerial photography and inspection using WGI drones or UAVs, was also provided. **Estimated Fee:** $1.860M

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
FDOT District 4 Districtwide Continuing Services for Surveying, Mapping and SUE, Various Counties, Florida	Ongoing	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Survey Project Manager. Jim served as senior survey project manager. District 4 contracted with WGI under a five-year, $5M continuing services contract to support FDOT's in-house and consultant work programs with districtwide surveying, mapping, and utility locating assignments. Services are provided on an on-call, task work order basis, including SUE, baseline and right-of-way surveys, terrestrial and terrestrial mobile LiDAR, conventional surveys for design, single and multi-beam hydrographic surveys, drainage surveys, cross-sections, and bridge detail surveys. Right-of-way mapping assignments include right-of-way control survey mapping, right-of-way map preparation, Genesis mapping, sketches to accompany legal descriptions, and appraisal sketches. Utility locating assignments include ASCE 38-02 Quality Level B and Quality Level A, records research, overhead utility scans, and coordination with utility agency owners. WGI has completed more than 120 task work orders to date. **Estimated Fee:** $5M

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
NPBCID Asset Management Collection Palm Beach County, Florida	2021	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Phase Manager. Jim served as the phase manager. NPBCID requested WGI's assistance with asset mapping to verify data in their existing database. WGI verified existing data utilizing mobile mapping by collecting and comparing data from handheld collectors with that of WGI's terrestrial mobile LiDAR collection methods. Using a vehicle-mounted LiDAR sensor, WGI captured data at highway speeds. Google Earth-style "street view" imagery was collected simultaneously to depict asset components such as type, identification labels/signs, defects, etc. The features, images, and information captured for each location were combined using GIS and cataloged in a geodatabase. **Design Fee:** $156,460

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Jorge Kappa	GIS Services - Lead	23	<1

15. FIRM NAME AND LOCATION *(City and State)*

WGI, Inc. - Fort Lauderdale, Florida

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Master of Science, Geographic Information Science - Florida State University, 2009	

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Jorge is a seasoned GIS and CADD professional with broad experience in civil engineering and geographic information systems environments in the private and public sectors. His GIS experience includes supporting state and local government divisions processing geographic-related data in engineering, utilities, environmental, planning, and scientific disciplines performing analyses and producing database, visualization, and cartographic products. He has worked in site development, producing construction plan sets, and participating in all design phases, including horizontal control, grading, drainage, and utilities. He interacts with consultants, field personnel, and government agencies for planning, coordination, and permitting.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
GIS Services Palm Springs, Florida	Ongoing	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

GIS Specialist. Jorge developed the GIS field collection and analysis applications. This work authorization of the continuing services contract provides the Village of Palm Springs with GIS services, including an in-house GIS technician, mapping, management of data repository, creation of web applications, and training for the planning, zoning and building, public works, utilities, parks and recreation, police, and library departments and divisions. **Transportation Fee:** $92,000

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Delray Beach Parking/Mobility Study Delray Beach, Florida	2021	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

GIS Specialist. Jorge supported field data collection and building, zoning, and future land use analyses. WGI provided a proposal for professional services for a parking and curbside management master plan. The work included analysis, public engagement, and planning exercises that created the master plan, which updates the existing 2010 parking master plan and includes a new curbside management element. The plan updated data elements, provided context to technological advances in transportation and their impacts locally, determined feasible alternatives for the City to consider, and identified policies and projects to implement the plan. **Fee:** $192,195

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Keys Energy Hurricane Irma Aftermath Key West, Florida	2017	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☐ Check if project performed with current firm

GIS/CAD Operator. Jorge maintained and improved the Keys Energy electric network model, 12 substations drawing archives, and took part in damage assessment and restoration efforts by supporting mapping and data needs of more than 200 contractors in the aftermath of Hurricane Irma. **Fee:** Unavailable

d.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
South Florida Water Management District (SFWMD) GIS Projects West Palm Beach, Florida	2015	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☐ Check if project performed with current firm

Geographer. Jorge worked with the SFWMD on several significant projects that included land use and land cover map updates, population projections to support permitting decisions concerning aquifer drawdown quotas in saltwater intrusion prevention, and aquifer hydraulic modeling data preprocessing. **Fee:** Unavailable

e.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Pasco County Post-Disaster Redevelopment Plan Pasco County, Florida	2013	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☐ Check if project performed with current firm

GIS Analyst. In cooperation with Pasco County planners, Jorge provided GIS data analysis and mapping for a post-disaster redevelopment plan and vulnerability analysis section reports required for the County to obtain FEMA grants. **Fee:** Unavailable

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Jason Alvarez, CST II	Data Management, Integration & QC Lead	22	19

15. FIRM NAME AND LOCATION *(City and State)*

WGI, Inc. - Port St. Lucie, Florida

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
High School Diploma - Lake Wales Community High School, 2000	

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Certifications: CST II, CSX Safety, Intermediate Maintenance of Traffic

Affiliations: MAPPS

Jason's project experience includes working on major highway projects and urban and local roads. Jason is responsible for various surveying assignments, including plans preparation and survey calculations related to route surveys, boundary surveys, topographic surveys, as-built surveys, platting, and right-of-way maps. He is proficient in using all CAD platforms and Global Navigation Satellite Systems (GNSS) equipment. Jason's experience includes construction layout, route surveying, boundary surveys, subdivision surveys, sectional surveys, and global positioning surveys.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
All Aboard Florida, Brightline Various Counties, Florida	Ongoing	2022

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Data Management. WGI serves as the primary surveying firm responsible for all control, construction, and as-built surveying for the Brightline high-speed rail corridor stretching from Brevard County south to Palm Beach County (approximately 130 miles). Under the multi-year, multi-million-dollar contract, WGI provides six survey field crews to the rail site, seven days a week. All fieldwork and supporting office technical staff are managed using WGI's proprietary work order tracking system to manage office and field production, scheduling, and invoicing support. WGI has been successfully managing the survey services for approximately three years by holding daily production and scheduling team meetings to communicate the day's schedule and "look ahead." Attention to safety has been recognized by HSR Constructors through multiple "Safety Crew of the Month" awards for our surveying field crews – recognition of our commitment to safety at WGI. In addition to the traditional surveying applied for construction, WGI has also performed Mobile LiDAR, Static Scanning, and SUE services to provide the project team with a single resource to meet the exceptional needs of the Brightline program. **Fees:** $9M

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Las Olas Boulevard Design Survey Broward County, Florida	2019	2021

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Project Manager. Jason was the project manager. This project was a complete street assignment in downtown Fort Lauderdale, along a signature portion of Las Olas Boulevard that includes restaurants, mixed-use commercial, hotels, and high-rise residential towers. WGI provided traffic calming, bike lanes, beautification, and intermodal improvements to this one-mile segment of roadway. WGI's geospatial services included terrestrial mobile LiDAR, design surveys, utility locating, drainage surveys, right-of-way retracement, cross-sections, and coordination of aerial survey services. **Fees:** $178,000

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
FDOT District 4, Districtwide Subsurface Utility Excavation Various Counties, Florida	Ongoing	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Survey Technician. Jason performed drafting duties, scheduled crews, and provided technical expertise to support this contract. This contract included utility mapping services for aerial and underground targets on a state roadway, bridge, signal and drainage projects throughout District 4. Responsibilities include a review and analysis of the design plans, the identification of potential conflict areas, the selection of proposed test hole locations, coordination of the SUE/survey field and office support services, a review of the collected data, and the preparation and delivery of the GIS/CADD files, plan and verified utility sheets. Services may include utility contacts, utility records research, field meetings with the utility owners, the accurate identification and location of all underground and aerial facilities, preparation and delivery of the utility map, appropriate reports, and digital photo documentation. Non-destructive locating techniques are employed, including electromagnetic induction, ground-penetrating radar, and vacuum excavation. In addition to the utility mapping services, this contract also includes miscellaneous engineering design surveys including laser scanning for aerial targets, GPS control, bench level and right-of-way surveys. **Fees:** $1.4M

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

Jacobs	12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
			a. TOTAL	b. WITH CURRENT FIRM
	Godofriedo (Godo) Canino, PE, MBA, BCEE, PMP	Project Management-Deputy	25	1

15. FIRM NAME AND LOCATION *(City and State)*

Jacobs Engineering Group, Inc. - Miami, Florida

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Master of Business Administration, Inter American University of Puerto Rico Master of Science and Bachelor, Science Civil Engineering - University of Puerto Rico, Mayaguez	Professional Engineer: Florida #81450

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Godo is a senior program manager with a solid technical and business acumen with more than 25 years of hands-on experience in planning and implementing large-scale programs and projects. Key practice areas include program and project management, construction management, risk management, capital programs, and team management/development. Godo has an extensive experience helping clients in solving their most pressing problems and meeting tight schedules using large geographically dispersed virtual teams, that includes multiple contractors, and subconsultants.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Owner Representative for the Improvements to the Riviera Beach Water Treatment Plant; Riviera Beach Utility District, FL	2021	Ongoing

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Project Manager. Served as owner representative for the implementation of multiple improvements to the existing Riviera Beach Water Treatment Plant. The project included the development of a design criteria package for the procurement of two design-build entities to complete the work, technical oversight, construction oversight, stakeholder management, and communications with regulatory agencies.

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Design Services for the Improvements to Wastewater Treatment Plants (WWTP) OOL Projects; WASD; Miami-Dade County, FL	2019	Ongoing

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Project Director. Responsible for the design services contract that included multiple projects under the OOL Program. As part of this work, Godo led the design consultant team providing design services for multiple major upgrades to the three major WASD WWTPs. This effort required the mobilization of numerous technical resources to accelerate design production and to significantly enhance quality assurance/quality control procedures to keep errors/rework to a minimum. The design deadlines were successfully met, and most of the projects are now in the procurement or construction phase.

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Design Services for WWTP Consent Decree Program; WASD Miami-Dade County, FL	2018	2021

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ heck if project performed with current firm

Project Director. Responsible for the oversight of the design of multiple upgrades required by the U.S. Environmental Protection Agency and FDEP to three WASD WWTPs. The design phase for these projects required to be completed on an extremely accelerated schedule to meet a challenging deadline required by the consent decree. This effort required the mobilization of numerous technical resources to accelerate design production and to significantly enhance quality assurance/quality control procedures to keep errors/rework to a minimum. The design deadlines were successfully met, and most of the projects are now completed or in construction. Led the design services contract for multiple consent decree projects.

d.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Design Services for Oxygen Production Facilities for Central District WWTP; WASD; Miami, FL	2017	2021

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Project Manager. Responsible for the management and oversight of the planning and development of a new, 90-ton-per-day oxygen production facility for the 143-million-gallon-per-day Central District Wastewater Treatment Plant (CDWWTP). The objective of this consent decree project was to replace the existing oxygen production facilities. This design was completed in an extremely accelerated schedule to meet a challenging deadline required by the consent decree, which required producing a design criteria package for design-build set in approximately four months, as opposed to the nine to 12 months that are typically required for a project of this nature.

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

Jacobs	12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
			a. TOTAL	b. WITH CURRENT FIRM
	Mario Loaiza, PE, F.ASCE	Condition Assessment	25	3
	15. FIRM NAME AND LOCATION *(City and State)*			
	Jacobs Engineering Group, Inc. - Palm Beach Gardens, Florida			

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Bachelor of Science, Civil Engineering - University of Alabama	Professional Engineer: Florida #59396 FEMA NIMS Certified, 100 200 300 700 800

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Mario has 25 years of experience in client account management, water and wastewater utility program management, and engineering design. His experience includes directing capital improvement projects, overseeing the development of engineering master plans, engineering design, and operations of water and wastewater treatment facilities and project management. In addition, Mario has extensive knowledge of long-range planning, budgeting, and developing capital plans; regulatory compliance; inter-government relations; emergency response; and hurricane preparedness.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Asset Management Continuing Services Fort Lauderdale, FL	Ongoing	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Principal in Charge. Mario oversees client satisfaction and ensures that this Citywide asset management program is delivered on time and within budget. As schedules and budgets change, Mario is available to the client to access resources from our local Florida operations and our global solutions and technology personnel. From project visioning to delivery, Mario is available to the client and can address challenges as they emerge.

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Water Treatment Plant Facilities, Town of Jupiter Island/South Martin Regional Utility, Hobe Sound, FL	2019	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☐ Check if project performed with current firm

Utility Director South Martin Regional Utility. As utility director, Mario managed two water treatment plant facilities (Reverse Osmosis and Nanofiltration – 8.145 MGPD) and a wastewater treatment plant (Contact Stabilization - 1.44 MGPD), capital planning, resource management, and overseeing all aspects of the utility business managing all five divisions of South Martin Regional Utility. He was the program manager for the entire system, including 17 raw water wells, a finished water distribution system serving a diverse and seasonal customer base, a sewer collection system, 110 lift stations, and a reclaimed water system.

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Hobe Sound/Jupiter Island, FL	2014	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☐ Check if project performed with current firm

Utility Direction and Representative Projects. Mario directed all aspects of the WWTP safety improvement design-build project, septic to sewer conversion study, established backflow prevention program, creation of comprehensive policies and procedures manual, managed a $12M annual budget, capital planning, GIS map system creation, instrumentation and controls conversion, and South Martin Regional Utility history document for newly elected commissioners.

d.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Utility District of Riviera Beach Riviera Beach, FL	2013	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☐ Check if project performed with current firm

Assistant Executive Director. Mario oversaw 54 Utility District staff. He was responsible for managing personnel, technical plan reviews, construction inspection, and program management of all water and sewer projects within the Utility District limits. Mario assisted in preparing a capital improvement plan and budget and reported to the executive director of utilities. He was the engineering manager for 14.5MGD water treatment plants, 27 deep raw water wells and pipe system, 65-mile finished water distribution system serving a 40,000-person customer base, four 1M gallon re-pump stations, 75-mile sewer collection system, and 52 lift stations.

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

Jacobs	12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
			a. TOTAL	b. WITH CURRENT FIRM
	Brian Skeens, PE	Condition Assessment	24	17
	15. FIRM NAME AND LOCATION *(City and State)*			
	Jacobs Engineering Group, Inc. - Miami, Florida			

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Master of Science, Environmental Engineering - Georgia Institute of Technology Bachelor of Science, Civil Engineering - Georgia Institute of Technology	Professional Engineer: Georgia #28468

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Brian has 24 years of experience in water and wastewater system planning and is Jacob's global technology leader for water distribution. Brian serves as project manager, technical and task leader, and subject matter expert on projects ranging from water distribution and wastewater collection hydraulic model updates to a full model construction from scratch. He is also involved in projects involving water distribution systems, and water quality and energy optimization for water providers, as well as government entities to help make the most efficient use of water, and plan appropriately to extend the life of current water supplies and infrastructure. Brian has also led the development and implementation of water loss audits and non-revenue water reduction programs.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Singapore PUB, AMI Demonstration Project Singapore	Ongoing	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Technical Expert. Served as the data analytics and AMI usage expert for the development of the RFP section focused on data insights studies. The project is to procure and install AMI meters in 20% of the PUB customers, approximately 300,000. The data insights studies are meant to evaluate the AMI data collected and determine insights that can be made useful for water system operations.

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Water Distribution Modeling and Master Plan Update Miami, FL	2021	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Senior Reviewer and Subject Matter Expert. Provided senior guidance and review to the technical team tasked with updating the calibration for the water distribution system model, performing deficiency analysis, and updating the 20-year master plan of system improvements to meet current and future water demands.

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Water Program, Jacksonville Electric Authority Jacksonville, FL	2017	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Senior Technical Consultant. Led the technical team in reviewing the water distribution system model, updating it from a planning model to an operational model for use in optimizing operations to meet CUP (withdrawal) requirements as well as distribution pressure and water quality needs.

d.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Digital Transformation and Smart H20 Utility Assessment Atlanta, GA	2015	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Project Manager. Performed a smart water utility maturity assessment according to the Water Research Foundation standard to assess current standing and identified projects and actions needed to progress forward towards digital transformation or the water utility. An action plan was developed with projects and activities needed and prioritized over the upcoming five years.

e.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Pasco County Potable Water System Master Plan Pasco County, FL	2013	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Senior Technical Lead. Provided technical guidance and leadership in the development of an immediate action plan to improve water quality in the distribution system and during the development of a water distribution system model for the entire County. There was an extensive field data collection effort undertaken to calibrate the model and understand water age issues.

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

Jacobs	12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
			a. TOTAL	b. WITH CURRENT FIRM
	Kristopher (Kris) Andersen	Lead Data Management, Integration & Quality Control	24	7
	15. FIRM NAME AND LOCATION *(City and State)*			
	Jacobs Engineering Group, Inc. - Miami, Florida			

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Master of Arts, Geography - University of Connecticut Bachelor of Science, Geography - James Madison University	Project Management Institute (PMI) American Society for Photogrammetry and Remote Sensing (ASPRS)

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Kris oversees Jacobs' North American remote sensing practice and brings more than 20 years of best practices related to high-speed geospatial data, collection, integration, and maintenance to the team. His expertise in major geospatial project management, GIS data development, remote sensing solutions, and project controls is well known throughout the industry. Over the course of his career, he has overseen diverse complex geospatial data collection programs for state and federal government, private and academic sectors, where he has helped provide clients with effective data solutions.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Detailed Utility Mapping and GIS Creation for Cityworks Integration The Villages, FL	2024	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Program manager. Managed the collection of utility assets for the District's utilities for integration into a Cityworks asset management application. The current scope of work includes mapping all water (potable and non-potable), stormwater, and sanitary sewer transmission lines using a combination of aerial LiDAR, mobile LiDAR, aerial photogrammetry, and field survey for location and existing record drawings, GIS layers, and CAD files for attribution in Cityworks.

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Cityworks Implementation Roadmap Wildwood, FL	2022	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Program manager. Worked closely with TSG to identify and define an asset management implementation plan for the City of Wildwood and Sumter County, Florida. Jacobs met with stakeholders, identified data and end-user requirements, and developed a detailed scope, schedule, and fee to implement a full migration from an aging asset management system, to Cityworks.

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
High-Speed LiDAR Scanning N. Metro Denver, CO	2021	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Program manager. Managed the collection, processing, and delivery of detailed mapping data derived from the high-speed mobile scan and aerial photogrammetry. Using a multi-sensor LiDAR Scanner on a Hi-Rail vehicle, Jacobs drove the entire length of the North Metro from Thornton to Denver Union Station, a length of 16 miles. From the LiDAR point cloud, top of rail, positive train control, platform clearances, switches, and catenary features are being compiled. The additional compilation is ongoing as needed by Regional Transportation District.

d.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
I-270 Corridor Survey and Mobile LiDAR Collection Denver, CO	2023	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Program manager. Managed the collection, processing, and delivery of detailed mapping data derived from conventional field surveys, high-speed mobile LiDAR scanning, and aerial photogrammetry. Jacobs recovered existing survey monuments along the corridor and built a robust control network with new monuments, 400+ mobile LiDAR targets, and 140 aerial mapping targets. The driver of this program is to redesign the eight-mile corridor in the future. The data captured for this project will enable designers to immediately begin 30% design layouts and alternatives analysis. Deliverables: MicroStation format. Project Size: eight miles plus arterial street.

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Daniel Davila, PE	Engineer and Field QC	22	10

15. FIRM NAME AND LOCATION *(City and State)*

Chen Moore and Associates-Fort Lauderdale, Florida

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Bachelor of Science, Civil Engineering	Professional Engineer: Florida

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Daniel has experience with numerous private and public clients that range from residential developers, industrial developers, municipalities, federal agencies, hospitals, universities, and educational institutions. His experience includes planning and design of stormwater systems, water and wastewater facilities, facilities planning, utilities master planning, infrastructure renewal, roadway design, and construction management. He has been the contract manager for small projects and large complex projects managing millions of dollars in design fees and several subconsultants.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Broward County UAZ 110/111 and 113 Water Sewer Improvements 113B Lauderdale Lakes, FL	2021	2021

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Engineer. The water and sanitary sewer improvements for the UAZ 110/111 and 113 project includes the improvements to the existing water distribution system, sanitary sewer system, and transmission systems within the project area along with the restoration of surface areas disturbed for the construction of said improvements. All projects combined a total area of over 1,000 acres within multiple cities.

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
TO-02 Bayshore Drive Intracoastal Crossing Forcemain Ft Lauderdale, FL	2021	2021

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Project Manager. CMA prepared a design criteria package for the City of Fort Lauderdale. The City owns and operates 4,420 linear feet of 20-inch diameter wastewater force main which includes 650 feet of subaqueous crossing under the Intracoastal Waterway. The forcemain conveys flow from Pumping Station D-40 and the surrounding area east to the intersection of Middle River Drive and NE 9th Street where it connects to a 48 inch diameter force main.

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Emergency Bypass 48-inch Forcemain Fort Lauderdale, FL	2021	2021

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Project Manager. CMA was responsible for the design, permitting, and construction observation of the replacement of the City of Fort Lauderdale's main transmission line going into the wastewater treatment plant. The new line consists of more than 22,000 linear feet of new pipe which will be installed via 12 horizontal directional drills (HDD) that range between 1,700 and 3,000 linear feet each to a depth of up to 70 feet. The new force main is mostly 48-inch HDPE pipe with ductile iron pipe sections. The project route includes sensitive ecosystems, including the crossing of the South Middle River, which require Benthic surveys for the subaqueous crossing, dewatering calculations, and permitting for construction within a quarter-mile of contaminated areas with a high-water table being close to the coastline.

d.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
TO-01 South River Forcemain Crossing Ft Lauderdale, FL	2019	2020

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Supervisor. CMA prepared the design criteria package for the South Middle River Force Main Crossing for the City of Fort Lauderdale, located along NE 19th Street/NE 21st Street between NE 22nd Avenue and Bayview Drive. The scope of work included preliminary design and permitting of approximately 2,200 linear feet of 16 inch HDPE sanitary sewer force main to replace the existing 12 inch cast iron pipe force main which is currently out of service. This project included approximately 1,410 linear feet of a HDD of the 16 inch force main under the Middle River. CMA prepared the design criteria package and has permitted the HDD with Broward County, SFWMD, U.S. Army Corps of Engineers (ACOE), and FDEP. CMA also provided bidding assistance for this project.

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Dennis Stanton	SUE Support	30	1

15. FIRM NAME AND LOCATION *(City and State)*

CTS Engineering, Inc.- Fort Lauderdale, Florida

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Bachelor of Arts, Liberal Arts - Old Westbury	

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Certifications: Florida Intermediate Training - ATSSA ▪ Red Vector's Understanding Subsurface Utility Engineering ▪ Work Zone Traffic Control Intermediate Level ▪ Confined Space Entry Training Program

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Continuing Services for Surveying, Mapping, and SUE Various Counties, FL	N/A	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

SUE Manager. Provided as-needed surveying, mapping, and SUE support to the FDOT District 4 on this five-year, $5 million districtwide contract. Services provided included static and mobile LiDAR, historical baseline and existing right-of-way determination, GPS surveys, topographic surveys and DTM, general land and aerial photography survey, monumentation surveys, bathymetric surveys, utility designation and excavation, including GIS files, tree surveys, right-of-way control survey maps, right-of-way maps, maintenance maps, right-of-way monumentation maps, boundary surveys, and quality assurance reviews.

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Districtwide Utility Location Services Various Counties, FL	N/A	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Project Manager. Provided all the necessary management services to designate, locate by excavating, survey, and map the existing surface and subsurface utilities to support the design of construction plans on projects selected by the Department. SUE provides exact horizontal and vertical locations of the existing underground utilities by way of electromagnetic and other geophysical location techniques including vacuum excavation. The client benefits by receiving SUE data which enables them to identify, address and remedy potential utility conflicts during the project's design phase.

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Districtwide Utility Location Services and Districtwide Underground Utility Services Contract, Various Counties, FL	N/A	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Project Manager. Provided all the necessary services to designate, locate by excavation, survey, and map existing surface and subsurface utilities to support the design of construction plans on projects selected by the Department. Exact horizontal and vertical locations of existing underground utilities were provided by way of electromagnetic, sonic, and other geophysical location techniques including vacuum excavation.

d.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
I-595 Corridor Roadway Improvements, Design-Build Various Counties, FL	N/A	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

SUE Project Manager. This project won the People's Choice Award in the 2015 America's Transportation Awards competition. This $1.2B project relieved traffic congestion and created a multimodal transportation network along I-595 in South Florida. The area of this project extended from the I-75/Sawgrass Expressway interchange to the I-595/I-95 interchange in central Broward County, for a total project length of 10.5 miles. The project consisted of the reconstruction, addition of auxiliary lanes and resurfacing of the I-595 mainline (including associated improvements to frontage roads and ramps), and a new reversible express lanes system in the I-595 median.

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
James Barton, PE	GIS Services- Support	22	8

15. FIRM NAME AND LOCATION *(City and State)*

Florida Technical Consultants, LLC - Boynton Beach, Florida

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Bachelor of Science, Civil Engineering - Queens University, Canada	Professional Engineer: Florida #59257

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

James has over 20 years of engineering experience, both internationally and domestically. His domestic experience includes environmental engineering, utilities, road construction, water and sanitation programs including water resources infrastructure rehabilitation, and GIS implementation. He is working with ESRI developing software tools for implementing GIS/GPS for construction field inspections and work order management.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Village of Tequesta – GIS Tequesta, FL	Ongoing	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Project Manager. FTC converted the Village utilities CAD Atlas to GIS. Systems included water and drainage. Coordination was done with Marin County and Loxahatchee River District to collect their facilities and input them into GIS. Water meters were mapped by geocoding. ArcGIS Online mobile apps were created for maintenance crews to validate the information from the field. All data was loaded into an asset management system. **Fee:** $38,892

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Cooper City – GIS Cooper City, FL	Ongoing	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Project Manager. FTC converted the City CAD Atlas to GIS. Systems included water, sewer, and drainage. Geometric networks were set up and run for valve isolation and capacity analysis. Coordinated label hydrants with fire department. Tracked progress of valve turning contractor. ArcGIS online applications were developed, and the staff was trained to inventory and field verify features. **Fee:** $155,125

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
South Martin Regional Utility – GIS Hobe Sound, FL	Ongoing	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Project Manager. FTC converted the utility atlas to GIS, including water and sewer. The process was complicated by the existing CAD parcel data being geographically incorrect in some cases necessitating field verification. Mobile apps were created in ArcGIS online to validate data from the field. **Fee:** $94,820

d.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
City of Marathon – GIS Marathon, FL	Ongoing	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Project Manager. FTC converted City CAD Atlas to GIS. A systems geodatabase had to be created to handle the vacuum sewer system. CAD text data was used to populate geodatabases. ArcGIS online applications were developed, and the staff was trained to inventory and field verify features. **Fee:** $291,669

e.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Town of Palm Beach – GIS Palm Beach, FL	Ongoing	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Project Manager. FTC converted the CAD Atlas to GIS. Systems included sewer and drainage. CAD text data was used to populate Senior GIS Analyst geodatabases. FTC converted the CAD Atlas to GIS. Systems included sewer and drainage. CAD text data was used to populate geodatabases. Geodatabases were built to create system profiles and perform sewer capacity analysis. ArcGIS online applications were developed and the staff was trained to inventory and field verify features. **Fee:** $135,000

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Neil Eppig	SUE Support	47	3

15. FIRM NAME AND LOCATION *(City and State)*

McKim & Creed - Sarasota, Florida

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Neil is a SUE project manager located in McKim & Creed's Sarasota office. With more than 44 years of professional experience, he brings exceptional client and project management skills along with technical expertise in land surveying and SUE and is a recent addition to the McKim & Creed team.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Pea Ridge Connector WM Upgrades Pace, FL	2022	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

SUE project manager. McKim & Creed provided engineering, surveying, permitting, bidding, construction, and utility coordination services to upgrade existing water mains impacted by the construction of the new Pea Ridge Connector, Santa Rosa County's new arterial roadway of 1.7+ miles designed to connect Highway 90 and Hamilton Bridge Road. This water main upgrades project preceded the construction of the new Pea Ridge Connector, and consisted of replacing six-inch AC pipelines with 10- or 12-inch HDPE. The project included utility surveying, right-of-way mapping, and subsurface utility investigations.

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Hurricane Hermine Sanitary Sewer Collection System Engineering Evaluations, Largo, FL	2021	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

SUE project manager. McKim & Creed performed assessments of the City of Largo's sanitary sewer system to evaluate the impact on the system of Hurricane Hermine and establish and implement a plan to prevent sanitary system overflows (SSOs) from occurring during future wet seasons. Tasks included hydraulic modeling, flow and rainfall monitoring, smoke testing, manhole inspections, CCTV inspections, I&I quantification and abatement, dry and wet weather calibration of the City's InfoWorks model, alternative software evaluation, and identification of system defects and hydraulic deficiencies with recommendations for improvements.

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
GIS Mapping of Storm and Sanitary Sewers Tampa, FL	2022	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

SUE project manager. McKim & Creed is mapping the existing private water mains and fire service mains using GPR and SUE, GPS and traditional surveys to locate the piping and appurtenances (valves, hydrants, etc.) and to document piping sizes, materials and depths. Physical inspection of the existing onsite stormwater and sanitary structures is being conducted to document piping connectivity, size, material, and depths. The team also documented construction materials utilized and condition assessment of each structure's primary components. The primary goals of the inspections are to identify the structures which require some form of repair/rehabilitation and potentially additional inspection efforts.

d.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
McCall Road from SR 776 to Dearborn Street Englewood, FL	Ongoing	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

SUE project manager. McKim & Creed completed a 1.25-mile roadway drainage improvement along S McCall Road, completed in two phases. Phase 1 included Level B SUE designations, utilizing multi-frequency electromagnetic (EM) and GPR equipment and techniques, in conjunction with the as-built information. Utility designation was surveyed and delivered in MicroStation format, utilizing FDOT standards. Phase 2 included 32 Level A SUE locates using non-destructive vacuum excavation equipment to expose the underground utilities. Once the underground utilities were exposed, we documented the findings on test hole forms which were tied to the construction baseline

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Chris Bosshart, PSM	Survey Support	18	17

15. FIRM NAME AND LOCATION *(City and State)*

McKim & Creed- Sarasota, Florida

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Bachelor of Science, Business Management - Florida Gulf Coast University Certificate in Geomatics - University of Florida	Professional Surveyor/Mapper: Florida #7150

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Chris offers more than 18 years of experience in surveying and mapping, working extensively on FDOT roadway design surveys. His experience includes project participation as survey project manager, survey CAD technician, survey party chief, and SUE project coordinator. He is responsible for project planning, field crew dispatch, EFB and CAiCE training, the supervision of the collection of field survey data, including GPS survey data, and its transition to the finished project, including final calculations and CAiCE/ MicroStation CAD deliverables.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Cypress Creek Post Node Analyzer Building Tampa, FL	2021	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Survey manager. This project is located at the Cypress Creek Pump Station and includes a new 360 square foot (18 feet by 20 feet) pre-fabricated concrete building, sir conditioning, concrete slab, and demolition and disposal of the existing fiberglass building.

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
31st Street S. 12-inch Water Main Improvement St. Petersburg, FL	2018	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Surveyor. Chris provided design and permitting services for the installation of 3,800 linear feet of 12-inch water main to replace parallel eight-inch and 20-inch water mains, thus reducing in-pipe water storage and increasing water quality. The project design included open- cut construction within the center lane of 31st Street South and reconnection of the existing water distribution piping, services, and fire hydrants.

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Peace River Manasota Regional Water Supply Sarasota, FL	2015	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

SUE project coordinator. Chris served as SUE project coordinator. Scope included an overlay upon graphics of the proposed easements for review, adjustments and approval, the generation of sketches and description for each PID number, field surveys of the boundary of each PID number, partial limited water treatment facility plant topo, and field surveys to support the generation of two ingress/egress access easements.

d.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Northwest Regional Water Reclamation Facility Expansion Hillsborough County, FL	2020	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Survey CAD technician. Chris served as a survey CAD technician for the expansion of the Northwest Regional Water Reclamation Facility (NWRWRF). A site master plan was developed related to the Northwest Wastewater Consolidation program and a design criteria package for the NWRWRF expansion. The scope of services were comprised of three tasks: site planning, design criteria package/procurement, and design/ construction and implementation support.

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
James D. Stoner, PSM	Survey Support	50	30

15. FIRM NAME AND LOCATION *(City and State)*

Stoner & Associates, Inc. - Davie, Florida

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Associates of Science, Land College Surveying - Palm Associates Community College	Surveyor License and Mapper: Florida #LS4039

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Affiliations: Florida Surveying and Mapping Society ▪ American Congress on Surveying and Mapping

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
City of Sunrise Municipal Complex Sunrise, FL	2017	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Principal Complex. Prepared boundary, topographic, tree, and utility survey of 39.36 acre City of Sunrise Municipal Complex.

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
City of Sunrise Athletic Complex Sunrise, FL	2017	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Principal Surveyor. Prepared boundary, topographic, tree, and utility survey of 26.57 acre Sunrise Athletic Complex.

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Lift Station 132 Sunrise, FL	2016	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Principal Surveyor. Prepared a sketch and legal description of utility easement for Lift Station No. 132 located at Springtree Drive and N.E. 97th Terrace.

d.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Cypress Bay Annex Sunrise, FL	2017	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Principal Surveyor. Prepared boundary survey of 10.37 acre former school site now known as Cypress Bay Annex located at North New River Circle and Sanctuary Parkway.

e.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
City Limits Sunrise, FL	2017	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Principal Surveyor. Stake the City limit boundary line between City of Weston and City of Sunrise.

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Roger Pawlowski	Lead SUE Support	20	8

15. FIRM NAME AND LOCATION *(City and State)*

T2 Utility Engineers- Fort Myers, Florida

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Certifications: American Red Cross First Aid/CPR

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Bayshore Drive, Intracoastal Force Main Crossing Design-Build Fort Lauderdale, FL	2021	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Field Crew Chief. T2ue was contracted to provide multi-channel ground-penetrating radar (MCGPR), utility designating, and test holes in support of the City of Fort Lauderdale's force main replacement along NE 9th Street between Middle River Drive and Intracoastal Drive. The project was approximately 3,300 feet in length and passes beneath the Intracoastal Waterway. **Fee:** $54,185

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Reclaimed Water Transmission Main – Caloosahatchee River Crossing Project, Cape Coral, FL	2020	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

SUE Supervisor. T2ue provided route surveying, topographical data, and SUE services. Horizontal and vertical control was established along the project corridor spanning the Caloosahatchee River tying to both Cape Coral and Fort Myers control. Record information was researched and constructed in CAD format for a project base map assisting design. A bathymetric survey was also performed on a portion of the river. T2ue also provided a SUE investigation along the project corridor in general accordance with ASCE Standard 38-02: Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data. **Fee:** $257,504

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Estero Boulevard Improvements Design Survey/LASER Scan Fort Myers Beach, FL	2022	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

SUE Supervisor. A phased reconstruction of a County roadway within the Town of Fort Myers Beach. Project components include adding trolley stops, bike lanes, and sidewalks on both sides of the corridor and replacement of City water lines and County sewer lines. Professional surveying consultant responsibilities include: recover or re-establish project alignment; setting aerial targets; locating all above-ground features and improvements; collecting required data for the purpose of creating a DTM; obtain roadway cross-sections/profiles and side street surveys (up to 75 feet down each intersecting street). **Fee:** $1.16M

d.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Fruit Streets Water Main Replacement St. James City, FL	2020	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

SUE Supervisor. T2ue was contracted to perform survey work in support of the design for a water main replacement in St. James City. The task included assembling record information along the project corridor (20,000 feet in length and extended 10 feet outside right-of-way) and compiling into an AutoCAD base map. Vertical control was set throughout utilizing digital leveling procedures. All data was collected using multiple survey grade laser scanners. Information was obtained in obscured areas and canals by conventional survey methods. The final deliverable was a unified topographic survey. **Fee:** $82,545

EXHIBIT E
Exhibit 2

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Scott Urquhart, PSM	Survey Support	28	14

15. FIRM NAME AND LOCATION *(City and State)*

T2 Utility Engineers- Fort Myers, Florida

16. EDUCATION *(Degree and Specializing)*	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Bachelor of Science, Geomatics - University of Florida, 1999	Professional Surveyor/Mapper: Florida #6524, 2004

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Affiliations: Florida Surveying and Mapping Society ▪ American Congress of Surveying and Mapping

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Bayshore Drive, Intracoastal Force Main Crossing Design-Build Fort Lauderdale, FL	2021	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Senior Project Manager. T2ue was contracted to provide MCGPR, utility designating and test holes in support of the City of Fort Lauderdale's force main replacement along NE 9th Street between Middle River Drive and Intracoastal Drive. The project was approximately 3,300 feet in length and passes beneath the Intracoastal Waterway. **Fee:** $54,185

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Reclaimed Water Transmission Main – Caloosahatchee River Crossing Project, Cape Coral, FL	2020	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Senior Project Manager. T2ue provided route surveying, topographical data, and SUE services. Horizontal and vertical control was established along the project corridor spanning the Caloosahatchee River tying to both Cape Coral and Fort Myers control. Record information was researched and constructed in CAD format for a project base map assisting design. A bathymetric survey was also performed on a portion of the river. T2ue also provided a SUE investigation along the project corridor in general accordance with ASCE Standard 38-02: Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data. **Fee:** $257,504

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Estero Boulevard Improvements Design Survey/LASER Scan Fort Myers Beach, FL	2022	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Senior Project Manager. A phased reconstruction of a County roadway within the Town of Fort Myers Beach. Project components include adding trolley stops, bike lanes, and sidewalks on both sides of the corridor and replacement of City water lines and County sewer lines. Professional surveying consultant responsibilities include: recover or re-establish project alignment; setting aerial targets; locating all above-ground features and improvements; collecting required data for the purpose of creating a DTM; obtain roadway cross-sections/profiles and side street surveys (up to 75 feet down each intersecting street). **Fee:** $1.16M

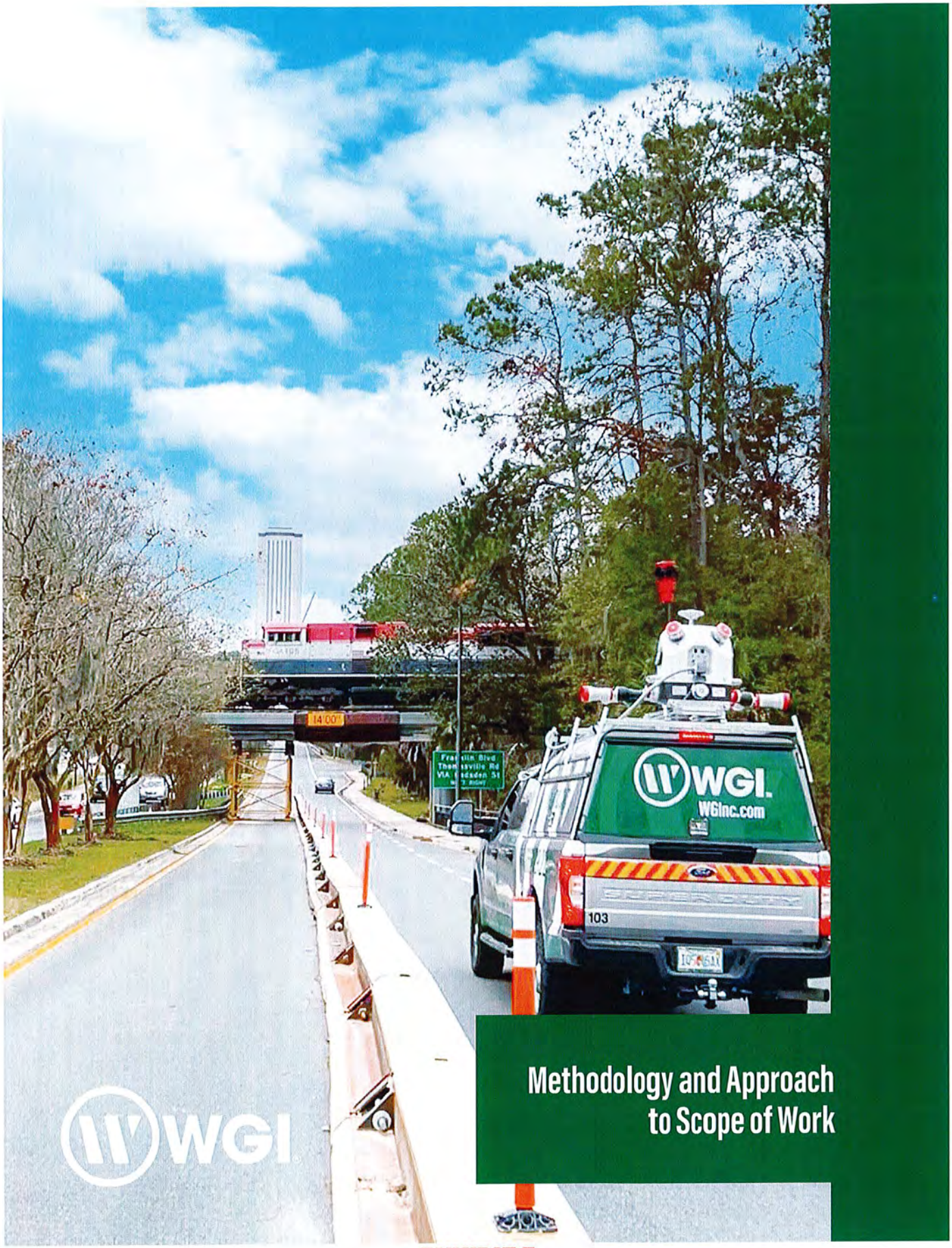
d.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Fruit Streets Water Main Replacement, St. James City, FL	2020	N/A

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE ☒ Check if project performed with current firm

Senior Project Manager. T2ue was contracted to perform survey work in support of the design for a water main replacement in St. James City. The task included assembling record information along the project corridor (20,000 feet in length and extended 10 feet outside right-of-way) and compiling into an AutoCAD base map. Vertical control was set throughout utilizing digital leveling procedures. All data was collected using multiple survey-grade laser scanners. Information was obtained in obscured areas and canals by conventional survey methods. The final deliverable was a unified topographic survey. **Fee:** $82,545

EXHIBIT E
Exhibit 2



Methodology and Approach to Scope of Work

EXHIBIT E
Exhibit 2

METHODOLOGY AND APPROACH TO SCOPE OF WORK


City of Fort Lauderdale - Tarpon River Neighborhood

Nearly two years ago, WGI had initial involvement in developing the WDMP for the City. WGI acquired a basic familiarity with the mapping program's needs and generally outlined the WDMP to satisfy the FDEP consent order requirements. Accurate mapping of the water distribution system provides confidence in knowing the locations and properties of assets for operating and maintaining the City's drinking water supply. The original objectives of the mapping plan are applicable today. However, the established schedule by the zones and grids in the mapping plan of September 22, 2020, is outdated. Since no mapping tasks for Zones 1 to 8 (inclusive) have ever started, according to the WDMP schedule, it necessitates a change based upon our approach and the rescheduling of zones and grids for all areas as identified in this proposal.

The City may consider filing an amendment with FDEP to replace the September 22, 2020 schedule. **A revised mapping schedule is not a request for an extension**. Providing an updated schedule to FDEP is a logical first step. Our team is uniquely positioned to help the City with the plan's update and will complete the mapping by the consent order's required date. WGI is not requesting an extension to the WDMP.

WGI's current workload allows us to complete this project in, or before, the scheduled timeframe. As this water distribution mapping project progresses, we will be winding down our multi-year work with Brightline (a reference project). WGI'S ongoing project work includes regular survey and SUE work for FDOT, SFWMD, and numerous counties, including Miami-Dade, Broward, Palm Beach, Lee, Charlotte, Sarasota, Pinellas, Clay, and many other municipalities across Florida. **WGI is a South Florida-based firm, having the most in-house survey and SUE resources based within Florida to meet the City's needs.** We have subconsultants on our team that are trusted partners, and intend to use their capabilities as discussed in the Executive Summary. We will prioritize the City's tasks within our firm and subconsultants. WGI's team has the availability to complete the work the program requires and is committed to its timely success. Our approach, combined with the SF 330 and other qualification information in this proposal, describes our teams' available facilities, technological capabilities, and resources for the project.

WGI provides a proposed, realistic schedule from notice to proceed until the water distribution system mapping is completed and submitted to FDEP. We will expeditiously complete this project and understand the City reserves the right to adjust our proposed schedule as necessary.

EXHIBIT E
Exhibit 2

PROGRAM REPORTING, DATA COLLECTION, AND VALVE EXERCISING APPROACH

Our team will begin our program planning with a thorough understanding of the City's guiding principles.

Fort Lauderdale Guiding Principles	Our Plan to Achieve
Utility Division will operate based on master planning. The master plans are in alignment with Vision 2035.	Collaborate with staff and program consultants in all work performed as guided by City's master planning, valve maintenance plan, and the FDEP consent order.
Utility Division should operate as an effective, modern utility.	Use advanced technologies to analyze existing data and conditions, identify, locate, survey, georeference, document, assess, and map water valves, mains, and appurtenances of the water distribution system.
Utility Division will embark on an aggressive schedule to maintain, harden, and secure infrastructure, including distribution system valves and pipelines.	Apply collected data, field-collected and historical records, and WSVMP using analytical software and prioritization criteria to advance field schedules by infrastructure needs.
Utility Division will evaluate distribution and collection infrastructure for planned development, population growth, and future capacity to ensure the City delivers the highest-level quality services to our neighbors and visitors.	Provide an accurate representation of all collected and applied data in geospatial and database format for use in support of planning efforts.
Utility Division is fully committed to training, development, and continuous improvement of its human resources.	Implement dashboard for staff that results in an accurate, efficient, and user-friendly interface for operations and maintenance.
Utility Division is committed to full compliance with all local, state, and federal regulatory agencies and provides safe, quality drinking water to our neighbors.	Produce quality verified data on valve infrastructure operations and automated reporting outputs to facilitate the Utility Division's need to document and achieve regulatory compliance for drinking water distribution to stakeholders.

The City's purpose and goals of the WSVMP include:

- Maximizing regulatory compliance – identify deficient valves and repair or replace them
- Maintain and exercise 100% of the source water transmission valves annually
- Maintain and exercise 100% of the large water transmission mains annually
- Maintain and exercise 20% of water distribution system mains annually or 100% every five years
- Reporting to FDEP; data collection, survey, and georeferenced mapping of the water infrastructure; and assistance with the water line valves exercise program

EXHIBIT E
Exhibit 2