



RESPONSE TO RFQ TO PROVIDE
SURVEYING AND MAPPING CONSULTING SERVICES
TO THE COMMUNITY REDEVELOPMENT AGENCY (CRA)
**FOR NEIGHBORHOOD LIGHTING &
STREETScape ENHANCEMENT**
DCRA 19-026



BISCAYNE ENGINEERING COMPANY, INC.

449 NW 35 Street, Suite 102, Boca Raton, FL 33431

Phone: (561)609-2329 Fax: (561)609-2317

Contact Person: **MIKE BARTHOLOMEW, PSM**

mikeb@biscayneengineering.com

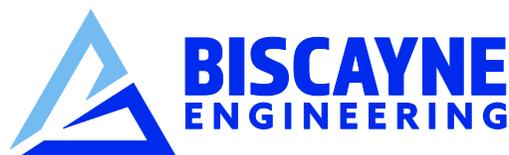
August 27, 2019 – 2:00 pm



**SURVEYING AND MAPPING CONSULTING SERVICES
TO THE CRA FOR
NEIGHBORHOOD LIGHTING & STREETScape
ENHANCEMENT
DCRA 19-206**

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Letter of Transmittal



City of Hollywood
Office of the City Clerk
2600 Hollywood Blvd., Room#221
Hollywwod, FL 33020

August 27, 2019

RE: Request for Qualification to provide Surveying and Mapping Consulting Services to the CRA for Neighborhood Lighting & Streetscape Enhancement.

Dear Selection Committee:

On behalf of BISCAYNE ENGINEERING COMPANY, INC. (BE), we would like to thank The City of Hollywood, Community Redevelopment Agency (CRA) for considering our proposal for the Request for Qualifications to provide Surveying and Mapping Consulting Services to the CRA for Neighborhood Lighting & Streetscape Enhancement.

Biscayne Engineering is a full service Surveying and Engineering Company located in South Florida since its founding more than 120 years ago. BE is extremely well versed in working within the public sector at both the state and municipal level. We are committed to creating innovative solutions for the changing demands of our clients and the environment and as a full service surveying and engineering firm we are continuously and prominently involved in planning and developing the South Florida region. BE is certified as a Small Business Enterprise (SBE) with , the Florida Department of Transportation, South Florida Water Management District, the School Board of Broward County, Miami-Dade County, Palm Beach County, the School District of Palm Beach and the City of West Palm Beach. Biscayne Engineering's current contracts include Florida Department of Transportation (District 4 and District 6), South Florida Water Management District, City of Miami, City of Miami Beach, City of Hialeah, City of Delray Beach and City of Deerfield Beach.

We have read the complete scope of services as detailed within the request of qualifications and we can assure the CRA that we are fully qualified to provide design surveys, construction layouts, boundary surveys, preparation of sketches and legal descriptions, mapping, AutoCAD drafting, calculations and all other surveys as required for the Neighborhood Lighting & Streetscape Enhancement project within the Downtown CRA district from Johnson Street to Washington Street between 21st Avenue and US-1.

Biscayne Engineering, as the oldest surveying company in South Florida, has the required exposure and full understanding of the methodology employed by the City to execute its projects. Aside from its experience working in Hollywood, BE performs surveying and mapping services (design and boundary surveys, construction layouts, preparation of sketches, topographic surveys, etc.) on a daily basis and has since its founding. We have the combination of knowledge, experience and commitment to deliver every project with the highest quality, on time, and under budget.

Our continued presence and commitment to this community has given us the opportunity to gain a vast knowledge of our local conditions including surveying control. Whether it is a matter of property boundaries, section corners, or control monuments, BE has an archive of data that is second to none.



**SURVEYING & MAPPING CONSULTING SERVICES
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DCRA 19-206**



This massive library of resources and documents has proven invaluable and is often referred to by government agencies, private engineering firms, the legal profession, and the public.

Our president, Mike Bartholomew, PSM will be the primary contact under this Agreement. Mr. Bartholomew has over 30 years of experience with public and private sector clients. He has served as Project Manager and Senior Surveyor & Mapper for both small and large scale contracts from beginning to end.

Mike Bartholomew, PSM
449 NW 35th Street, Suite 102, Boca Raton, Florida 33431
Cell Phone: (786)368-6337
Phone No.: (561)609-2329
Fax No.: (305) 324-0809
E-mail.: mikeb@biscayneengineering.com

BE has always maintained a staff level that provides the necessary workload capacity to complete all assigned projects. We are able to respond to spikes in the workload and to urgent projects without disturbing production on other projects that are underway. BE has the experience to work under any type of stressful situation in the field and /or in the office or to conclude any project in the time frame established. While we do not yet know the volume of work to be expected from the CRA (how often surveys would be ordered), we can adequately commit a minimum of two survey crews to exclusively work on the City's projects, and can quickly add more crews if workload requires.

We have evaluated our current workload, as well as trends observed from prior months and affirm that we are in an excellent position to handle this contract. The Community Redevelopment Agency (CRA) can feel confident that BE has the staff and resources to take on any assignments required by this contract, and is ready, willing and able to perform these services immediately. We extend our sincerest gratitude to the CRA for giving us the opportunity to provide Professional Surveying and Mapping Services.

A handwritten signature in blue ink that reads "Melissa Bolton Calabrese".

Melissa Bolton Calabrese
Chief Executive Officer



SURVEYING & MAPPING CONSULTING SERVICES
TO THE CRA FOR
NEIGHBORHOOD LIGHTING & STREETScape ENHANCEMENT
DCRA 19-206

330 Form

ARCHITECT - ENGINEER QUALIFICATIONS

PART I - CONTRACT-SPECIFIC QUALIFICATIONS

A. CONTRACT INFORMATION

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

Surveying & Mapping Consulting Services to the CRA for Neighborhood Lighting & Streetscape Enhancement, Hollywood, FL

2. PUBLIC NOTICE DATE

7/30/2019

3. SOLICITATION OR PROJECT NUMBER

DCRA 19-026

B. ARCHITECT-ENGINEER POINT OF CONTACT

4. NAME AND TITLE

Mike Bartholomew, PSM, Project Manager / President

5. NAME OF FIRM

Biscayne Engineering Company, Inc.

6. TELEPHONE NUMBER

(561)609-2329

7. FAX NUMBER

(561)609-2317

8. E-MAIL ADDRESS

mikeb@biscayneengineering.com

C. PROPOSED TEAM

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

	(Check)			9. FIRM NAME	10. ADDRESS	11. ROLE IN THIS CONTRACT
	PRIME	J-V PARTNER	SUBCONTRACTOR			
a	X			Biscayne Engineering Company, Inc. <input checked="" type="checkbox"/> CHECK IF BRANCH OFFICE	449 NW 35 Street, Suite 102, Boca Raton, FL 33431	Surveying and Mapping Services
b			X	Sea Diversified, Inc. <input type="checkbox"/> CHECK IF BRANCH OFFICE	151 NW 1 st Avenue, Delray Beach, FL 33444	Hydrographic Survey Services
c			X	InfraMap Corporation <input checked="" type="checkbox"/> CHECK IF BRANCH OFFICE	1860 Old Okeechobee Rd, Suite 201 West Palm Beach, FL 33409	Subsurface Utility Engineering Services
d				<input type="checkbox"/> CHECK IF BRANCH OFFICE		
e				<input type="checkbox"/> CHECK IF BRANCH OFFICE		
f				<input type="checkbox"/> CHECK IF BRANCH OFFICE		

D. ORGANIZATIONAL CHART OF PROPOSED TEAM

(Attached)

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

12. NAME Michael Bartholomew, PSM	13. ROLE IN THIS CONTRACT Project Manager	14. YEARS EXPERIENCE	
		a. TOTAL 32	b. WITH CURRENT FIRM 28

15. FIRM NAME AND LOCATION (City and State)
Biscayne Engineering Company, Inc., Miami, FL

16. EDUCATION (DEGREE AND SPECIALIZATION) Associate of Technical Arts, Everett Community College Everett, WA (1987)	17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Florida, Professional Surveyor and Mapper License No. LS5666
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18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)
-Member of Florida Surveying and Mapping Society (FSMS)
-Microsoft Certified Professional

19. RELEVANT PROJECTS

a (1) TITLE AND LOCATION (City and State) Title: City of Hialeah Expert Consultant Location: City of Hialeah, FL	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If Applicable)
	1999 - Present	N/A

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm
In this contract, Mike Bartholomew, PSM functions as the City of Hialeah's surveyor, reviewing all plats submitted to the City for compliance with Chapter 177, Florida State Statutes. In addition to reviewing the plats, Mr. Bartholomew works closely with the City's Legal and Planning & Zoning Departments, providing a wide array of Professional Surveying Services. Cost: Various.

b (1) TITLE AND LOCATION (City and State) Title: FDOT District 6 Project Manager Location: Various State Roads for FDOT District 6, Miami, FL	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If Applicable)
	Ongoing	N/A

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm
This contract consists of several work orders/projects. Services provide by Biscayne Engineering include: recon and locate R/W monuments and section corners, performing GPS surveys, horizontal traverse and analyze survey R/W monumentation in conjunction with record data. Cost: ±\$1.5M

c (1) TITLE AND LOCATION (City and State) Title: City of Miami Beach HD Scan & Utility Location Survey Location: City of Miami Beach, FL	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If Applicable)
	Ongoing	N/A

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm
This project consists of establishing horizontal & vertical control, determining existing R/W lines & establishing a baseline of survey, performing a full topographic survey for design, obtaining drainage & sanitary sewer information, surveying the designated utilities, performing a high definition laser scanning within the projects limits. Cost: ±\$111K

d (1) TITLE AND LOCATION (City and State) Title: Lincoln Road District Phase1 Location: City of Miami Beach, FL	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If Applicable)
	07/2016 - 08/2017	N/A

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm
This project consisted of preparation of a Topographic Survey and high density 3D survey model of Lincoln Road Mall for architectural and engineering design purposes with reference to state plane coordinates and a known vertical datum. The scope of work was developed as two phases. Cost: ±\$116K

e (1) TITLE AND LOCATION (City and State) Title: City of Miami Community Redevelopment Agency-Lyric Subdi. Location: Miami, FL	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If Applicable)
	11/2013 - 01/2016	N/A

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm
This project consisted of initial boundary survey, topographic survey, tentative plat, and final plat preparation for City of Miami & Miami-Dade County review and approval. Site Located: Between NW 1 Avenue & NE 2 Ave. and NW 8 St. & NW 9 St. Cost: ±\$50K.



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

12. NAME Selvin Bruce, PSM	13. ROLE IN THIS CONTRACT Production Manager	14. YEARS EXPERIENCE	
		a. TOTAL 32	b. WITH CURRENT FIRM 20
15. FIRM NAME AND LOCATION (City and State) Biscayne Engineering Company, Inc.			
16. EDUCATION (DEGREE AND SPECIALIZATION) -General Certificate Education, The Associated Examining Board, UK- Mathematics, Physics, Engineering Science, Engineering Drawing, Engineering Workshop Theory and Practice, Chemistry (1975). -University of Technology formally College of Arts Science and Technology, Jamaica, WI. Construction Studies (1977), Structural Engineering (1978).		17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Professional Surveyor and Mapper, Florida License No. LS5290	
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)			

19. RELEVANT PROJECTS

a	(1) TITLE AND LOCATION (City and State) Title: FDOT District VI, SR 5 (US 1) From North of Card Sound Road to SW 336. Location: Miami-Dade County, Florida	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2019	CONSTRUCTION (If Applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Establish Primary Control Points. Perform Static GPS survey, Horizontal traverse and establish elevations. Perform full DTM design survey within the project limits. Establish NAVD-88 elevations. Role in Project: Project Manager. (Approximately 1.32 miles)	<input checked="" type="checkbox"/> Check if project performed with current firm	
b	(1) TITLE AND LOCATION (City and State) Title: FDOT District VI, SR A1A (Collins Ave) / Haulover Park Location: Miami-Dade County, Florida	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2018	CONSTRUCTION (If Applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Establish Primary Control Points. Perform Static GPS survey, Horizontal traverse and establish elevations. Recon and locate property corners and Right of Way lines determination. Perform full DTM design survey within the project limits. (Approximately 2.0 miles)	<input checked="" type="checkbox"/> Check if project performed with current firm	
c	(1) TITLE AND LOCATION (City and State) Title: FDOT District VI, SR 5, Davis Parkway to SW 304 Street Location: Miami-Dade County, Florida	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2018	CONSTRUCTION (If Applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Establish Primary Control Points. Perform Static GPS survey, Horizontal traverse and establish elevations. Recon and Locate property corners. R/W lines determination. Perform full DTM design survey within the project limits. (Approximately 2.33 miles)	<input checked="" type="checkbox"/> Check if project performed with current firm	
d	(1) TITLE AND LOCATION (City and State) Title: FDOT District VI, SR 924 (NW 119 St) from SR 9 (NW 27 Ave) Location: Miami-Dade-Florida	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2018	CONSTRUCTION (If Applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Biscayne Engineering prepares Route Survey along State Road 924 between NW 27th Avenue and State Road 7 and Right of Way determination. (Approximately 2 miles)	<input checked="" type="checkbox"/> Check if project performed with current firm	
e	(1) TITLE AND LOCATION (City and State) Title: CRA Stadium Ph. 1 & 2 Location: Miami-Dade, Florida	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES On-going	CONSTRUCTION (If Applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE This project consisted of an update to a Boundary Survey to include a Topographic Survey in accordance to Florida Standards of Practice for Surveys as set forth by the Florida Board of Professional Surveyors and Mappers pursuant to Chapter 5J-17 Florida Administrative Code Section 472.027 Florida Statutes. Prepare a Sketch to Accompany Legal Description.	<input checked="" type="checkbox"/> Check if project performed with current firm	



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	
Alberto Rabionet, PSM		Production Manager		a. TOTAL 7	b. WITH CURRENT FIRM 7
15. FIRM NAME AND LOCATION (City and State)					
Biscayne Engineering Company, Inc., Miami, FL					
16. EDUCATION (DEGREE AND SPECIALIZATION)			17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
B.S. Geomatics, University of Florida, Gainesville, FL (2003-2008, 2011-2013)			Florida, Professional Surveyor and Mapper License No. LS7218		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Member of Florida Surveying and Mapping Society (FSMS) University of Florida Geomatics Program Advisory Committee					

19. RELEVANT PROJECTS

a	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	Title: Brightline / Florida East Coast Industries (MiamiCentral) Location: Miami, FL	PROFESSIONAL SERVICES 2015 - 2019	CONSTRUCTION (If Applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm
	This project consisted of numerous phases including establishing boundaries and construction layout control via conventional survey methods, preparing legal descriptions for 3D airspace parcels and easements in a mixed use development, and preparing ALTA/NSPS Surveys for complex transactions. (Size: over 400,000 SF / Cost: ±\$250K)		
b	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	Title: SR A1A, Collins Ave. (Haulover Inlet to Bayview Dr.) Location: Miami Beach, FL	PROFESSIONAL SERVICES 2018	CONSTRUCTION (If Applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm
	This project consisted of setting primary & secondary control points via conventional survey methods, performing level runs through the primary & secondary control points, preparing a DTM survey, locating visible and topographic features, preparing cross sections, and performing a survey for MOT purposes. (Size: 1.5 miles / Cost: ±\$84K)		
c	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	Title: R/Ws South of 5th St. (1st St./Alton Rd./Washington Ave./+) Location: Miami Beach, FL	PROFESSIONAL SERVICES 2017	CONSTRUCTION (If Applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm
	This project consisted of preparing a Topographic Survey & high density 3D model of the limits for architectural and engineering design with reference to state plane coordinates and a vertical datum. Survey included depicting R/W lines, topography, improvements, utility structures, and underground utilities. (Size: ±7,500 LF / Cost: ±\$00K)		
d	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	Title: Palmetto Park Road Location: Palm Beach County, FL	PROFESSIONAL SERVICES 2017	CONSTRUCTION (If Applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm
	This project consisted of Baseline of Survey and Right of Way determination for Palmetto Park Road from SR-7 to Boca Raton Boulevard, including Lake Worth Drainage District Canal L-48. (Size: 7 miles / Cost: ±\$145,500)		
e	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	Title: Lincoln Road Mall Location: Miami Beach, FL	PROFESSIONAL SERVICES 2016	CONSTRUCTION (If Applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm
	This project consisted of preparing a Topographic Survey & high density 3D model of the limits for architectural and engineering design with reference to state plane coordinates and a vertical datum. Survey included depicting R/W lines, topography, improvements, utility structures, and underground utilities. (Size: ±7,500 LF / Cost: ±\$192,800)		

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

12. NAME Warren Rolle	13. ROLE IN THIS CONTRACT Assistant Project Manager	14. YEARS EXPERIENCE	
		a. TOTAL 21	b. WITH CURRENT FIRM 3
15. FIRM NAME AND LOCATION (City and State) Biscayne Engineering Company, Inc., Miami, FL			
16. EDUCATION (DEGREE AND SPECIALIZATION) Palm Beach State College, Palm Beach, FL Keiser College, Fort Lauderdale, FL		17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)	
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Member Florida Surveying and Mapping Society (FSMS)			

19. RELEVANT PROJECTS

a	(1) TITLE AND LOCATION (City and State) Title: Hazen & Sawyer - Edgewood Neighborhood Location: Miami Beach, FL	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2018	CONSTRUCTION (If Applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE The project was a Right of Way and Topographic Survey with Drainage and Sanitary sewer investigation for drainage analysis and pavement restoration. The project was approximately 26,000 linear feet for Phase 1 & 7,000 linear feet for Phase 2 of neighborhood roads and thoroughfare. Cost: ±\$160K		<input checked="" type="checkbox"/> Check if project performed with current firm
b	(1) TITLE AND LOCATION (City and State) Title: The Lakes at Deerfield Apartments ALTA / ACSM survey Location: Deerfield, FL	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2017	CONSTRUCTION (If Applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE A 13 unit multi-story apartment complex, ALTA/NSPS Land Title Survey update that required title document reviews and Thirteen (13) Elevation Certificates. Also, this proposal included coordination with the client, lender and other parties involved in this project. Cost: ±\$19,747 Size:		<input checked="" type="checkbox"/> Check if project performed with current firm
c	(1) TITLE AND LOCATION (City and State) Title: Palmetto Park Road Location: Palm Beach County, FL	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2017	CONSTRUCTION (If Applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Supervised all of the project survey activities, which included Baseline of Survey and Right of Way determination for Palmetto Park Road from SR-7 to Boca Raton Boulevard, including Lake Worth Drainage District Canal L-48. Cost: ±\$145,500; Size: 7 miles		<input checked="" type="checkbox"/> Check if project performed with current firm
d	(1) TITLE AND LOCATION (City and State) Title: N. 14 Avenue, from Atlantic Shores Blvd. to Sheridan Street Location: Hollywood, FL	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2017	CONSTRUCTION (If Applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE This project consisted of Topographic, DTM, Drainage Survey, Underground Utilities Investigation and, Baseline and R/W determination for the design of a pedestrian pathway. PNC sheets were also prepared. Cost: ±\$200,500; Size: 4 miles.		<input checked="" type="checkbox"/> Check if project performed with current firm
e	(1) TITLE AND LOCATION (City and State) Title: Southern Glades, South Florida Water Management District Location: Southern Glades, FL	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2016	CONSTRUCTION (If Applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE A multi sectional Boundary Survey located in the Southern Glades of Florida. Location and setting of section corners in the Glades utilizing boats and creative surveying methods. Project Roles: Assisted with the project research and setup, CAD production and final plan submittals. Cost:±\$76,600 Size:		<input checked="" type="checkbox"/> Check if project performed with current firm



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

12. NAME Jesse Muckerman	13. ROLE IN THIS CONTRACT Field Crew Supervisor	14. YEARS EXPERIENCE	
		a. TOTAL 16	b. WITH CURRENT FIRM 2
15. FIRM NAME AND LOCATION (City and State) Biscayne Engineering Company, Inc.			
16. EDUCATION (DEGREE AND SPECIALIZATION) Civil Engineering Associates, Horry Georgetown Tech, Conway, South Carolina (2009)		17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) South Carolina Land Surveyor, License No. LS 30767	
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) -Maintenance of Traffic (MOT) Intermediate -CPR Course -OSHA 30 -CXS -Roadway Worker Protection Contractor Safety (09/2017)			

19. RELEVANT PROJECTS

a	(1) TITLE AND LOCATION (City and State) South Beach Construction, Miami Beach, FL	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2017	CONSTRUCTION (If Applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Project consists of Boundary Verification, Field Lay-out of up to 220 Piles, As-Built measurements of up to 220 piles, Topographic Survey and Boundary. Site Located 419 Michigan Avenue.		
b	(1) TITLE AND LOCATION (City and State) Miami Beach Convention Center Renovation, Miami Beach, FL	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2018	CONSTRUCTION (If Applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Services include engineering support to the General Contractor during construction including plans for the construction support compound, multiples maintenance of traffic plan projects and permitting. Project also includes Construction Layout Surveying and As-Built.		
c	(1) TITLE AND LOCATION (City and State) Met Square, Miami, FL	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2017	CONSTRUCTION (If Applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Project consisted of Miscellaneous Construction Services including but not limited to Initial Gridlines, Sheet Pile, Foundation, Control Lines, Layout Drainage Well Boxes, FPL Duct, Final FEMA Certification, Final Survey, Layout Drainage Wells, and Piles Layout.		
d	(1) TITLE AND LOCATION (City and State) FDOT District VI, SR 7 NW 7th Ave. NW 84 Terrace St. to Golden Glades Interchange Ramp	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2017	CONSTRUCTION (If Applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Coordinated and Prepared the on-going Right-of-Way Control Survey; which includes Right-of-Way recon, location, analysis, Project Network Control, Static GPS survey, and Right-of-Way Control Survey drawing preparation. (Approximately 4.64 miles)		
e	(1) TITLE AND LOCATION (City and State) FDOT District VI, SR A1A (Collins Avenue), Miami, FL	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2018	CONSTRUCTION (If Applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Supervised preparation of Right-of-Way Control Survey and Right-of-Way Map and DTM Survey. (Approximately 2.5 miles)		



E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Michael Goodman, MPM, CIPM	13. ROLE IN THIS CONTRACT Primary Project Manager – Subsurface Utility Engineering	14. YEARS EXPERIENCE	
		a. TOTAL 22	b. WITH CURRENT FIRM 9
15. FIRM NAME AND LOCATION (City and State) InfraMap Corp., Glen Allen, Virginia			
16. EDUCATION (DEGREE AND SPECIALIZATION)		17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)	
Bluefield State College 2001			
General Studies; John A. Logan College 1992			
Certificate of Completion; US Army PLDC 1989			
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)			

Mr. Goodman is the Vice President and oversees operations of InfraMap’s Southeastern regional office in Glen Allen, VA. His current duties include scheduling, proposal preparation and pricing. He also oversees the coordination of all designation, test hole and survey crews in Virginia, North Carolina, South Carolina and Georgia. Other duties include QA/QC review on all client submittals, and supervision of CADD Department.

Training: Mala (GPR) Certified, International Project Manager Certification; American Academy of Project Management, Mater Project Manager Certification; American Academy of Project Management, Certified MOT Instructor, Project Management Professional/Certified in Project Management, Certificate of Completion; US Army PLD.

19. RELEVANT PROJECTS

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If Applicable)
a United States Navy, NAVFAC Utility Locating and Survey Contract, Norfolk, VA.	On Call Through 2020	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE X Check if project performed with current firm Mr. Goodman is the Project Manager, Project Coordinator and primary contact for the Navy Utility Locating contract that started in April 2008. InfraMap is tasked with locating all utilities for seven Navy facilities in the Hampton Roads Region of NAVFAC and all Navy facilities within a fifty-mile radius of Norfolk. This Contract also supports Engineering Design and GPS surveys. InfraMap established an additional office on Virginia Beach Boulevard in Norfolk, staffing the office with a combination of InfraMap veterans and local new hires with extensive industry experience. Contract Cost: \$20,000,000.		
b (1) TITLE AND LOCATION (City and State) Georgia Department of Transportation Statewide SUE Open-End Contract Subsurface Utility Designating and Locating (Test Hole) Service.	Through 2019	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE X Check if project performed with current firm Mr. Goodman serves as Project Manager of Subsurface Utility Engineering Services including: Utility Designating, Air/Vacuum Test Holes, Survey and MicroStation CADD on Highway projects throughout the state of Georgia in support of the GDOT’s pre-design and in-house design program. Mr. Goodman’s duties include initial QA/QC check on all submissions to the GDOT, coordination with our field crews, maintaining the project schedule, coordination with sub-consultants, client contact, and supervision of all Subsurface Utility Engineering disciplines. Contract Cost: \$6,000,000.		
c (1) TITLE AND LOCATION (City and State) South Carolina Department of Transportation Subsurface Utility Designating and Locating (Test Hole) Service Contract, Statewide in South Carolina	Through 2019	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE X Check if project performed with current firm Mr. Goodman serves as Project Manager of Subsurface Utility Engineering Services including: Utility Designating, Air/Vacuum Test Holes, Survey and MicroStation CADD on highway projects through the state of South Carolina in support of the SCDOT’s pre-design and in-house design program. Mr. Goodman’s duties include initial QA/QC check on all submissions to the SCDOT, coordination with our field crews, maintaining the project schedule, coordination with sub-consultants, client contact, and supervision of all Subsurface Utility Engineering disciplines. Contract Cost: \$3,000,000.		

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Robert W. Richmond, P.S.M.	13. ROLE IN THIS CONTRACT Survey Manager – Subsurface Utility Engineering	14. YEARS EXPERIENCE	
		a. TOTAL 30	b. WITH CURRENT FIRM 1
15. FIRM NAME AND LOCATION (City and State) InfraMap Corp., West Palm Beach, Florida			
16. EDUCATION (DEGREE AND SPECIALIZATION) West Virginia University 1987 Glennville State College, AS Land Surveying 1989		17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Florida Professional Surveyor & Mapper #6616 West Virginia Professional Surveyor (1992-2003) West Virginia Professional Underground Surveyor (1995-2003) New York Professional Surveyor (1993)	
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Mr. Richmond has experience in Land Surveying of varying depths from lot surveys to 3d laser scanning. Mr. Richmond produced right-of-way mapping using CADD and/or C3D software to reduce and analyze field collected data via conventional, GPS and drone. His experience includes the research of title documents for multiple public and private projects. During his career, he has become proficient with processing survey data and computer drafting. He is a Professional Surveyor and Mapper Project Manager, a former Professional Surveyor in WV and NY.			

19. RELEVANT PROJECTS

(1) TITLE AND LOCATION <i>(City and State)</i> Becker Road Improvements Original Ground Survey, Port St. Lucie, FL.	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION <i>(If Applicable)</i>
a (3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Check if project performed with current firm Mr. Richmond served as Project Surveyor in charge of all aspects of conventional and GPS locations for engineering design. Mr. Richmond was in direct charge of establishing horizontal survey control using closed loop traverse, also RTK GPS. Vertical survey control was established from closed loop leveling. Calculating location of right-of-way, structure locations. Delivering original data information for the developer and delivering surveys during various stages of construction. Final surveys were delivered to the clients and their respective buyers. This project was prior to coming to InfraMap.		
(1) TITLE AND LOCATION <i>(City and State)</i> Crosstown Parkway Original Ground Data for Interstate Exit and Road Improvements.	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION <i>(If Applicable)</i>
b (3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Check if project performed with current firm As Professional Surveyor and Mapper Mr. Richmond's tasks included survey control calculations, ROW depiction, station recording data, reviewing key maps, incorporating information supplied by the client. His survey crews set the horizontal and vertical control for Right of Way Mapping Detail Sheets which included general notes and certifications. His Quality Assurance and Quality Control is essential in every task completed. Writing legal descriptions for utility easements, abandonments. Production of sketch and legal. Mr. Richmond worked establishing horizontal survey control using closed loop traverse, also RTK GPS. Vertical survey control was established from closed loop leveling. Calculating location of right-of-way, all structure locations. Delivering As-builts to the developer and delivering surveys during various stages of construction. Final surveys were delivered to the clients and their respective buyers. This project was prior to coming to InfraMap.		
(1) TITLE AND LOCATION <i>(City and State)</i> SR A1A, FDOT #438042-1-52-01, Vero Beach, FL	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION <i>(If Applicable)</i>
c (3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE X Check if project performed with current firm Mr. Richmond served as SUR Principal Surveyor on this project. InfraMap provided the client with up to 49 Air/Vacuum Test Holes, completed Survey and delivered the final product to the client in MicroStation CADD format, as requested for the design services for SR A1A from Tides Road MP 8.66 to Coco Plum Lane MP 15.4. Mr. Richmond's duties included initial QA/QC check on all submissions to the client, coordination with our field crews, maintaining the project schedule, client contact, and final review of all deliverables to the client for this project.		

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Andres Garcia, SULM	13. ROLE IN THIS CONTRACT Senior Utility Location Manager- Subsurface Utility Engineering	14. YEARS EXPERIENCE	
		a. TOTAL 22	b. WITH CURRENT FIRM 21
15. FIRM NAME AND LOCATION (City and State) InfraMap Corp., West Palm Beach, Florida			
16. EDUCATION (DEGREE AND SPECIALIZATION) Palm Beach State College InfraMap Training Program for Utility Locating & Designating Certification/Instructor ATSSA, Traffic Control Supervisor Certification, August 2000 Confined Space Entry Training Program Certification (OSHA 1910.146)		17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)	

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

Mr. Garcia has performed utility locating assignments for InfraMap Corp in Florida, Virginia, Maryland, Georgia and Alabama since 1998. He currently is a Senior Utility Location Manager and is proficient with utility designating, performing test holes and utility CADD. Mr. Garcia's responsibilities include utility designation and test hole project management, attending utility scoping meetings, obtaining permits, records research, traffic control supervision, field data collection, quality control of the field work and FDOT Standards Compliance for each delivered submittal. His duties also include vacuum excavation equipment maintenance. Mr. Garcia has excelled as a survey party chief with experience in Total Station survey and data collector knowledge (electronic field book, TDS functions, and three wire bench runs and GPS/RTK on several designating and utility locating projects). His assistance in the survey EFB data collection compliance further adds to InfraMap's knowledge and experience. His role as Senior Utility Location Manager is obtaining utility records and ROW permits, QA/QC, supervisory of field crews, meeting with utility company personnel and Maintenance of Traffic (MOT) set up.

19. RELEVANT PROJECTS

(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION <i>(If Applicable)</i>
a (3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Mr. Garcia served as InfraMap's Utility Location Manager on projects under the FDOT District 4 Contract. InfraMap has provided utility designating, air/vacuum test holes, survey and EFB/CAiCE/MicroStation CADD on highway projects in District 4 in support of the District's pre-design program through private consultants and in-house design program. InfraMap has had district-wide utility locating contracts since 1996.	Through 2018	
b (3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Mr. Garcia served as InfraMap's Utility Location Manager on projects under the FDOT District 6 Contract. InfraMap has provided utility designating, air/vacuum test holes, survey and EFB/CAiCE/MicroStation CADD on highway projects in District 6 in support of the District's pre-design program through private consultants and in-house design program. InfraMap has had district-wide utility locating contracts since 1997.	Through 2018	
c (3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Mr. Garcia served as SUR Field Supervisor on this project. InfraMap provided the client with up to 49 Air/Vacuum Test Holes, completed Survey and delivered the final product to the client in MicroStation CADD format, as requested for the design services for SR A1A from Tides Road MP 8.66 to Coco Plum Lane MP 15.4. Mr. Garcia's duties included planning, field review, supervision and coordination with our field crews, maintaining the project schedule, client contact, and QA/QC for this project.	2019	

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME William T. Sadler, Jr, PE, PSM	13. ROLE IN THIS CONTRACT Hydrographic Professional Surveyor & Mapper	14. YEARS EXPERIENCE	
		a. TOTAL 35	b. WITH CURRENT FIRM 15

15. FIRM NAME AND LOCATION <i>(City and State)</i> Sea Diversified, Inc. (Delray Beach, Florida)	
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16. EDUCATION <i>(DEGREE AND SPECIALIZATION)</i> Florida Atlantic University B.S.: Ocean Engineering 1984	17. CURRENT PROFESSIONAL REGISTRATION <i>(STATE AND DISCIPLINE)</i> Professional Surveyor, Florida – 1998 (#LS5859) Professional Engineer, Florida – 1989 (#41184) Building Contractor, Florida - 1987
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18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*
Professional Affiliations: American Society of Civil Engineers, Florida Surveyors & Mappers Society,
Florida Shores & Beaches Preservation Association

19. RELEVANT PROJECTS

(1) TITLE AND LOCATION <i>(City and State)</i> FDOT District 4 PED Multi-beam Bathymetric & Side Scan Sonar Survey at New River (SE 3rd Avenue) Bridge, Fort Lauderdale, Broward County, FL	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES 2018	CONSTRUCTION <i>(If Applicable)</i>

a. (3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE Check if project performed with current firm
Project Manager responsible for: ~Planning, engineering and design multibeam bathymetric survey and side scan sonar investigation at a portion of the New River waterway east of the SE 3rd Avenue Bridge in Fort Lauderdale, Florida. ~Multi-beam bathymetric surveys extended approximately 250-feet east of the SE 3rd Avenue Bridge over New River ~Scan sonar survey conducted to assist in the identification of bottom anomalies, including but not limited to old foundations, riprap/debris abandoned submarine cables and exposed utility locations. ~Topographic data collected using Real-Time Kinematic (RTK) GPS to locate edge-of-water, docks and structures within the project limits. ~Conducted with Stantec for FDOT D4

(1) TITLE AND LOCATION <i>(City and State)</i> Hydrographic/Topographic Survey Fender System Replacement at Seven-Mile Bridge - FDOT District 6 Monroe County, FL	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES 2015	CONSTRUCTION <i>(If Applicable)</i>

b. (3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE Check if project performed with current firm
Project Manager responsible for: ~Multibeam bathymetric survey of the bridge fender system at the Seven-Mile Bridge to support the design of a new fender system to replace the existing fenders. ~Also included a topographic survey of the fender pilings at the water-surface and seafloor. ~Conducted with CSA Group for FDOT District 6

(1) TITLE AND LOCATION <i>(City and State)</i> Hydrographic Survey & Remote Sensing of North Causeway SR A1A North Bridge - FDOT District 4 St. Lucie County, FL	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES 2014 - 2018	CONSTRUCTION <i>(If Applicable)</i>

c. (3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE Check if project performed with current firm
Project Manager responsible for: ~Hydrographic (multi-beam bathymetric) survey from water's edge, in conjunction with topographic cross-sections, adjacent to the SR A1A north bridge in Fort Pierce, St. Lucie County, Florida, extending from the west side of the waterway east to the easterly terminus of the bridge at the shoreline. ~Located all in-water structures, including but not limited to bridge piles (at the water surface and seafloor), bridge fenders, dock piles, mooring piles, and navigation aids. ~Also performed magnetometer and side scan sonar underwater remote sensing investigations for identifying and mapping the location of utility crossings within 300-feet north and south of the bridge. ~Deployed a pressure-gauge to collect tidal data for a full lunar cycle (approx. 30-days). ~Survey performed with Bowman Consulting for FDOT D4 under Continuous Services Contract

(1) TITLE AND LOCATION <i>(City and State)</i> ICWW Deepening Project & Las Olas Marina Expansion Fort Lauderdale, Broward County, FL	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES 2012	CONSTRUCTION <i>(If Applicable)</i>

d. (3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE Check if project performed with current firm
Project Manager responsible for: ~ Hydrographic (bathymetric) surveys of the ICWW marina deepening areas, which included the Las Olas Marina, Fort Lauderdale Aquatic Complex and Bahia Mar sites with the survey limits extending from the existing marina to the limits of the Intracoastal Waterway similar to the surveys conducted by Sea Diversified in 2011 ~Additionally, SDI conducted a bathymetric survey of the area inside the Las Olas Marina area and provided estimates of dredge volumes based on proposed design dredge information provided by URS ~Diver-support for benthic (seagrass) mapping ~Conducted with URS Corporation for the City of Fort Lauderdale

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

12. NAME Ron W. Ball	13. ROLE IN THIS CONTRACT Hydrographic Survey Manager	14. YEARS EXPERIENCE	
		a. TOTAL 30	b. WITH CURRENT FIRM 15

15. FIRM NAME AND LOCATION (City and State) Sea Diversified, Inc. (Delray Beach, Florida)	
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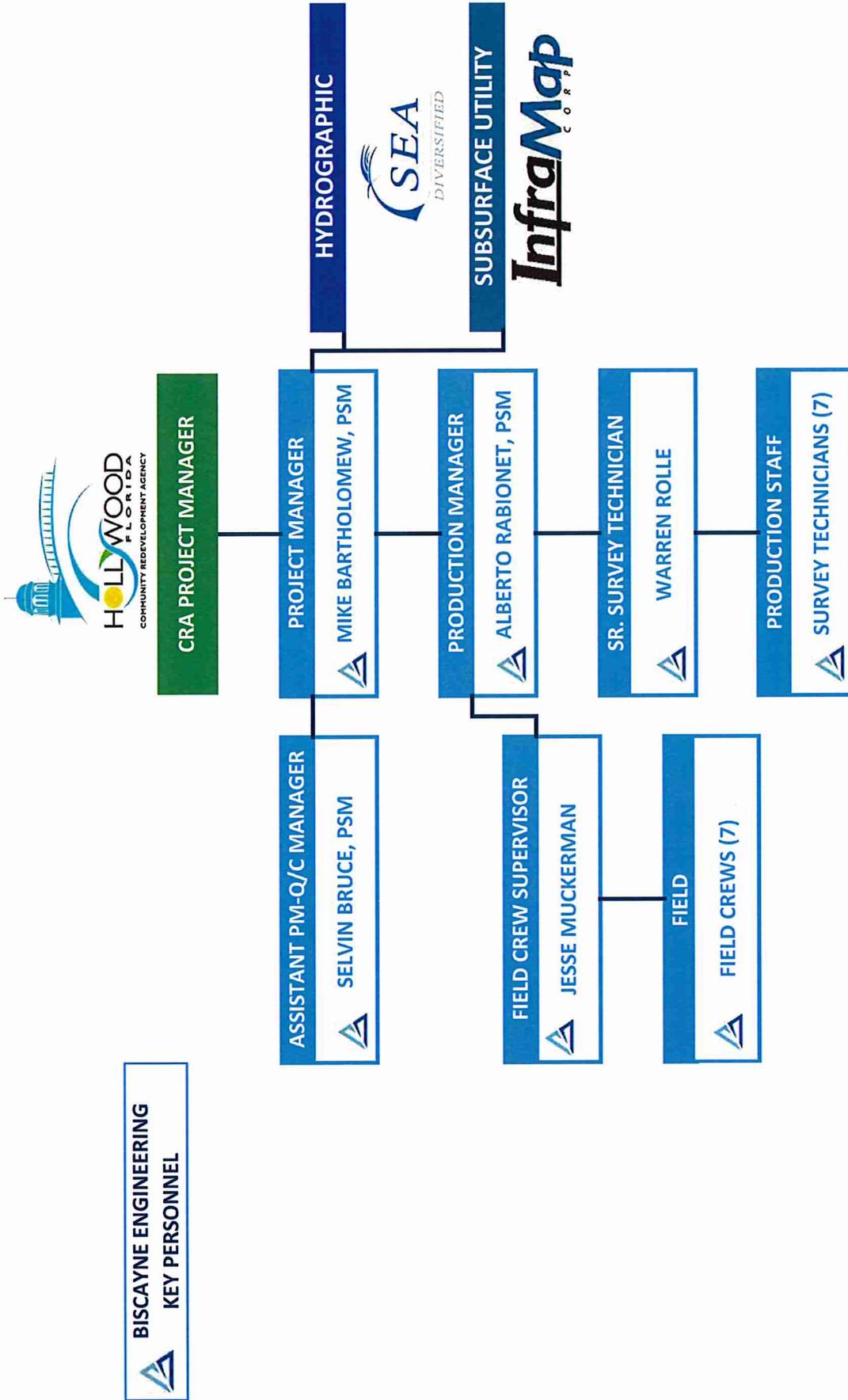
16. EDUCATION (DEGREE AND SPECIALIZATION) University of Puerto Rico, CAD & Survey Related Courses	17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)
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18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)
Mr. Ball has over 30-years of surveying experience throughout the State of Florida, U.S. Virgin Islands, Caribbean, and various regions of South America. He offers extensive expertise in all aspects of coastal and hydrographic surveying including; single and multi-beam bathymetric surveys, remote-sensing investigations (side scan sonar, magnetometers, and sub-bottom), submerged utility location surveys, and beach profile surveys for numerous agencies such as the U.S. Army Corps of Engineers, Florida Department of Transportation (FDOT), Palm Beach County, Martin County, Miami-Dade County, and many other municipalities and private concerns.

19. RELEVANT PROJECTS

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If Applicable)
FDOT District IV - Submerged Utility Location Survey of 23rd Avenue Bridge at Ibis Waterway, Lighthouse Point, FL	2016 - 2018	CONSTRUCTION (If Applicable)
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm		
a. Survey Manager responsible for: ~Bathymetric and side scan sonar survey of a portion of the Ibis Waterway at the NE 23rd Avenue Bridge in Lighthouse Point, Broward County, Florida. ~Performed a subaqueous utility location of approximately three (3) reported utilities, including two (2) water-main pipes and 1 force-main water pipe in proximity to bridge along with an inspection of the seawalls within 150 feet either side of the bridge. ~Located bridge support columns horizontally at water surface and seafloor. ~Utilizing the results of the bathymetric survey and magnetometer investigation results, SDI performed diver-assisted jet-probe investigations of utilities. ~Conducted with Stantec for FDOT – District 4.		
FDOT District VI - SR 968 (SW 1st St) Bridge PD&E Study, Multi-beam, Side Scan Sonar, and Submerged Utilities Locations, Miami-Dade County, FL	2015	CONSTRUCTION (If Applicable)
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm		
b. Survey Manager responsible for: ~Multi-beam bathymetric survey and side scan sonar investigation of a portion of the Miami River from the SW 1st Street Bridge in Miami-Dade County, to the Flagler Street Bridge and Interstate 95 Bridge. ~Magnetometer survey within the vicinity of the bridge to identify the presence of subaqueous utility crossings. Deployed a dive team to electronically track and subsequently expose, identify and map the horizontal and vertical location of the submerged utility identified as a result of the magnetometer survey. ~Collected supplemental topographic data from the limits of the hydrographic data to the top-of-banks or top of bulkheads for hydraulic modeling. ~Conducted with Hardesty & Hanover for FDOT District 6		
FDOT District IV – Bathymetric Survey of 10-Mile Creek & Pile Locations at McCarty Road Bridge, St. Lucie County, FL	2014	CONSTRUCTION (If Applicable)
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm		
c. Survey Manager responsible for: ~Hydrographic (single-beam bathymetric) survey cross-sections of a portion of the 10-Mile Creek, 3500-feet east and west of the McCarty Road Bridge in St. Lucie County, Florida. ~Bathymetric data was acquired from edge-of-water to edge-of-water, coordinating with Stantec topographic data collection efforts to complete cross-sections beyond top-of-bank. ~Also provided horizontal pile locations at water surface and seafloor supporting the McCarty Road Bridge. ~Survey was conducted with Stantec under IDIQ contract, FDOT D4 Districtwide Survey & Mapping		
Post-Storm Sandy - Onshore / Offshore Beach Profiles City of Fort Lauderdale Beach, FL	2012	CONSTRUCTION (If Applicable)
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm		
d. Survey Manager responsible for: ~Post-storm Sandy beach profile survey extending from 250-feet north of FDEP Range Monument R-64 (NE 20th Street) to 250-feet south of R-76 (Las Olas Boulevard) in Fort Lauderdale, Florida, encompassing approximate 12,500-feet of coastal shoreline ~Beach profiles performed at intervals of 200-feet (including data collection at historical FDEP Monuments) extending upland to the FDEP monument, approximately 150 feet landward of the vegetation line, or to the limits of SR A1A (whichever was most landward) and extended seaward 3000-feet from the approximate shoreline ~Conducted with URS for City of Ft Lauderdale under Continuous Services Contract for Coastal Engineering		

ORGANIZATIONAL CHART



BISCAYNE ENGINEERING
KEY PERSONNEL

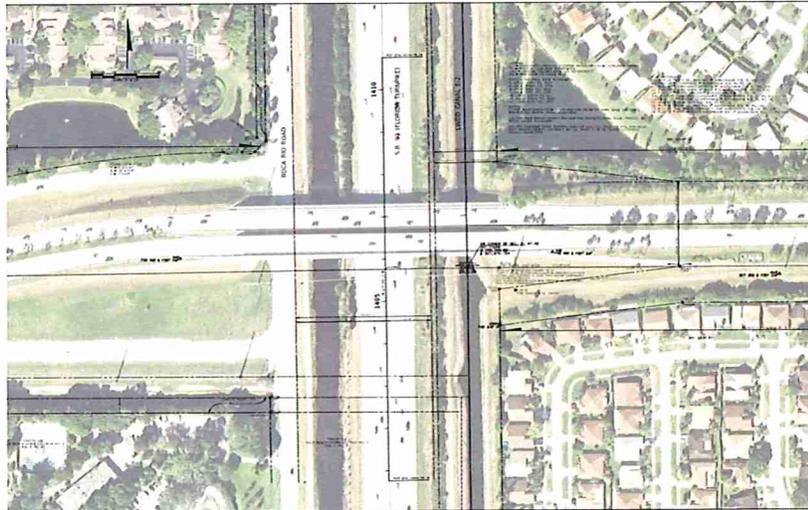
F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER <div style="text-align: center; font-size: 24px; font-weight: bold;">1</div>
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21. TITLE AND LOCATION (City and State) Title: CR 798 From SR 7 to NW 2nd Avenue Location: Palmetto Park Road, FL	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES 2017	CONSTRUCTION (If applicable) N/A

23. PROJECT OWNER'S INFORMATION
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a. PROJECT OWNER FDOT District 4	b. POINT OF CONTACT Paul Doll, PSM	c. POINT OF CONTACT TELEPHONE NUMBER (954)777-4579
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24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*



BE established secondary control, using GPS/RTK and conventional methods to determine the Baseline of Survey and existing Right of Way lines within the project limits for the design of a pedestrian pathway along the south side of Palmetto Park Road. Additional services provided in this project included: subsurface utility designating and locating (Test Holes). (Project length approximately 7 miles)

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
a.	Biscayne Engineering Company, Inc.	Boca Raton, FL	Prime
b.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
c.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
d.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
e.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
f.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE

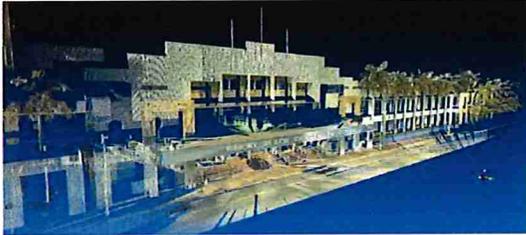
<p align="center">F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i></p>	<p>20. EXAMPLE PROJECT KEY NUMBER 2</p>
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<p>21. TITLE AND LOCATION (City and State) Title: Miami Beach Convention Center Location: City of Miami Beach, FL</p>	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES 2017	CONSTRUCTION (If applicable) N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER City of Miami Beach Public Works	b. POINT OF CONTACT Maria Hernandez	c. POINT OF CONTACT TELEPHONE NUMBER (305)673-7091
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24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*



Biscayne Engineering provided Surveying and Mapping Services to the City of Miami Beach at the Convention Center and its surrounding lands.

Tasks included:

- Topographic survey of the Miami Beach Convention Center, parking lots, Holocaust Memorial, Botanical Gardens, City offices.
- Drainage survey: Convention Center Drive, Meridian Avenue, 17th Street, 18th Street, 19th Street.
- Designated underground Utilities / Vacuum Excavation
 - Vacuum excavation
 - Reviewed title search and plot easements
 - HD Scan (LiDAR) and Interior survey inside the Convention Center

Contract amount: ± \$192,800

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
a.	Biscayne Engineering Company, Inc.	Miami, FL	Prime
b.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
c.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
d.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
e.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
f.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE



F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER <div style="text-align: center; font-size: 1.2em;">3</div>
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21. TITLE AND LOCATION (City and State) Title: Continuing Services for Survey, Mapping & SUE. Location: Broward Indian River, Martin, Palm Beach, and St. Lucie Counties, Florida	22. YEAR COMPLETED <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;">PROFESSIONAL SERVICES</td> <td style="width:50%; padding: 2px;">CONSTRUCTION (If applicable)</td> </tr> <tr> <td style="text-align: center; padding: 2px;">Ongoing</td> <td style="text-align: center; padding: 2px;">N/A</td> </tr> </table>	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)	Ongoing	N/A
PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)				
Ongoing	N/A				

23. PROJECT OWNER'S INFORMATION
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a. PROJECT OWNER FDOT, District Four (4)	b. POINT OF CONTACT Paul Doll, PSM	c. POINT OF CONTACT TELEPHONE NUMBER (954)777-4529
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24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Contract Description: District Wide contract to provide miscellaneous Surveying and Mapping services including but not limited to: Mobile Lidar, Field Surveys, Maintenance of Traffic (MOT), Historical Baseline and Existing Right of Way Determination, Global Positioning System (GPS) Surveys, Monumentation Surveys, Bathymetric Surveys (which includes single beam, multi beam and side scanner sonar capabilities), Utility Designation and Excavation (including Underwater Utilities), Tree Surveys (trees identified by an Arborist or Landscape Architect), Right of Way Control Survey Maps, Right of Way Maps, Maintenance Maps, Right of Way Monumentation Maps, Boundary Surveys, Quality Assurance Reviews, Expert Witness Testimony, Title Search Plotting Maps, Title Document Review and Analysis, Sketches, Parcel Staking, Legal Descriptions and Documents of Conveyance. Biscayne Engineering is responsible for managing a team of 9 Sub consultants and oversees all the Task Work Order assignments under the contract.

Contract Number: C9Y36 Contract Amount: \$5M Project Length: 5-Years (2018-2022) Task Work Order based.

Please see below some task work orders awarded under this contract include:

- | | |
|---|--|
| <ul style="list-style-type: none"> •TWO#1N 14th Avenue, Broward County •TWO#2 SR 76 at Martin County High School •TWO#3 SR 9 at 6 Avenue South (Various Areas) •TWO#4 SR 5 from George Bush Boulevard to C-16 •TWO#5 Pedestrian Bridge at New River •TWO#6 CSX Railway Baseline •TWO#7 State Road 60 at 43rd Av. (Various Parcels) •TWO#8 SR A1A Pine to Atlantic Blvd. •TWO#9 SR A1A, Palm Beach County •TWO#10 SR 808(Glades Road) @ NW 15 Avenue/Parcel 101 •TWO#11 SR 820 at N. 29th Avenue. | <ul style="list-style-type: none"> •TWO#13 SR 76 at Martin County High School •TWO#14 SR 806 (Atlantic Avenue) at Congress Avenue •TWO#15 SR 5 at Sunrise Blvd. @ PNC Bank •TWO#17 CR 612 (74th Avenue) at 8th Street •TWO#18 Propane Tank P 705, 105, 805 •TWO#19 SW Corner of Linton Blvd. and Congress Avenue •TWO#20 I 595 at FEC RR Mapping •TWO#21 SR 820 at 9 Ave. •TWO#22 SR A1A at Sloan Curve |
|---|--|

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	Biscayne Engineering Company, Inc.	Boca Raton, FL	Prime
b.			
c.			
d.			
e.			
f.			



F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER <div style="text-align: center; font-size: 24pt; font-weight: bold;">4</div>
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21. TITLE AND LOCATION (City and State) Title: US Coast Guard Air Station Location: Miami, FL	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
	2018	N/A

23. PROJECT OWNER'S INFORMATION
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a. PROJECT OWNER AECOM Services, Inc.	b. POINT OF CONTACT Ashleigh Hernandez	c. POINT OF CONTACT TELEPHONE NUMBER (512)419-6952
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24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*



Biscayne Engineering in support of preparation of Storm Water Pollution Prevention Plans, provided to US Coastal Airs Station a topographic survey of *all facilities and surrounding areas onboard each Coast Guard Base, Sector, Station, and/or unit (4 sites)*. The survey shall include, among other things, the footprint of all buildings, structures, paved areas, parking lots, lands, storm and sanitary pipes, with Global Positioning System (GPS) accuracy. A Computer Assisted Design (CAD) drawing (map) shall demonstrate potential flood plains for natural channel systems and direction of storm water flow throughout each facility; and identify the potential pollutant sources (this will be performed by AECOM) that may come into contact with a facility's storm water runoff. The total cost for the first site of the project is \$8,813.75 (hourly basis)

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a.	(1) FIRM NAME Biscayne Engineering Company, Inc.	(2) FIRM LOCATION <i>(City and State)</i> Miami / Boca Raton, FL	(3) ROLE Prime
b.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
c.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
d.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
e.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
f.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE



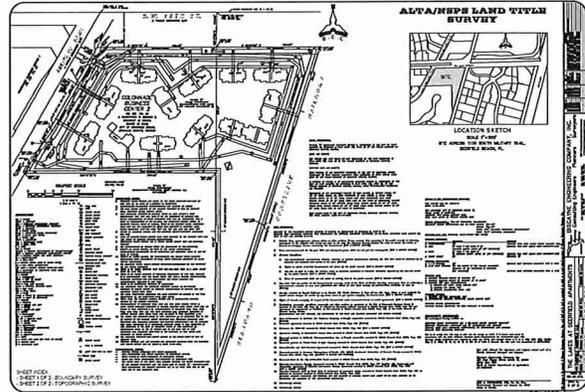
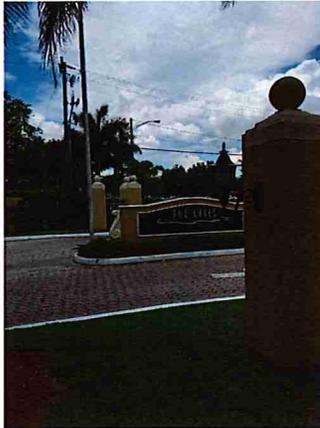
<p style="text-align: center;">F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i></p>	<p>20. EXAMPLE PROJECT KEY NUMBER</p> <p style="text-align: center; font-size: 1.2em;">5</p>
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<p>21. TITLE AND LOCATION (City and State)</p> <p>Title: The Lakes at Deerfield Apartments Location: Deerfield Beach, FL</p>	<p>22. YEAR COMPLETED</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">PROFESSIONAL SERVICES</td> <td style="width: 50%;">CONSTRUCTION (If applicable)</td> </tr> <tr> <td style="text-align: center;">2017</td> <td style="text-align: center;">N/A</td> </tr> </table>	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)	2017	N/A
PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)				
2017	N/A				

23. PROJECT OWNER'S INFORMATION

<p>a. PROJECT OWNER</p> <p>Greenberg Trauring, P.A.</p>	<p>b. POINT OF CONTACT</p> <p>Moshe Lerhfield</p>	<p>c. POINT OF CONTACT TELEPHONE NUMBER</p> <p>(305)579-7744</p>
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24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*



Biscayne Engineering provided Surveying and Mapping services for Greenberg Trauring, P.A. This project consisted of an ALTA/NSPS Land Title survey and thirteen (13) elevation Certificates at The Lakes at Deerfield Apartments. Also, this proposal included coordination with the client, lender and other parties involved in this project.

Contract amount ± \$19,800

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
a.	Biscayne Engineering Company, Inc.	Boca Raton, FL	Prime
b.			
c.			
d.			
e.			
f.			

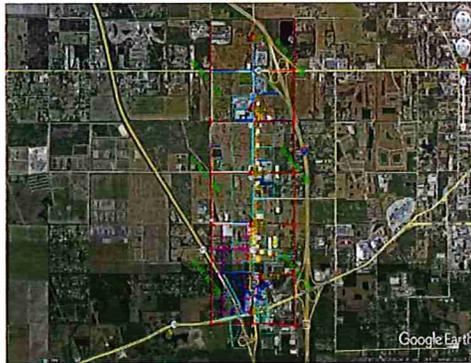
<p align="center">F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i></p>	<p>20. EXAMPLE PROJECT KEY NUMBER 6</p>
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<p>21. TITLE AND LOCATION (City and State) Title: SR 713 (Kings Highway) Location: Port Saint Lucie, FL</p>	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES 2017	CONSTRUCTION (If applicable) N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER FDOT District 4	b. POINT OF CONTACT Paul Doll, PSM	c. POINT OF CONTACT TELEPHONE NUMBER (954)777-4529
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24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*



- 1.Recon primary control points provided by FDOT, Reference FP Number 230256-5-52-0, prepared by Kimley-Horn and Associates, Inc, dated June 2008.
- 2.Set secondary control points as needed via RTK double occupation methods and processed in Vector NT.
- 3.Stake out R/W lines for Parcels 102, 808, 721 and 722 so the Pilot Station can move their signs. Take field photos of staked points. Wherever possible, parcels will be staked out via GPS RTK (Base and Rover) methods.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
a.	Biscayne Engineering Company, Inc.	Boca Raton, FL	Prime
b.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
c.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
d.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
e.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
f.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER 7
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21. TITLE AND LOCATION (City and State) City of Hollywood WM Replacement Project, Hollywood, FL	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES 2016	CONSTRUCTION (If applicable)

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER Craven & Thompson	b. POINT OF CONTACT Mathew Novak	c. POINT OF CONTACT TELEPHONE NUMBER 954-739-6400
--	--	---

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

InfraMap crews performed 58 test holes within the city of Hollywood at various locations where the city was proposing to install their new water main.

InfraMap was in communication with the project engineer at Craven & Thompson and City of Hollywood field personnel. The data that was collected is noted in each individual test hole report with survey information provided by Craven & Thompson.

Contract Value: \$17,600.00

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER 8
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21. TITLE AND LOCATION (City and State) SR 7 / US 441 Designation and Test Hole Services	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES 2013	CONSTRUCTION (If applicable)

23. PROJECT OWNER'S INFORMATION

d. PROJECT OWNER FDOT	e. POINT OF CONTACT Paul Dall	f. POINT OF CONTACT TELEPHONE NUMBER 954-486-1400
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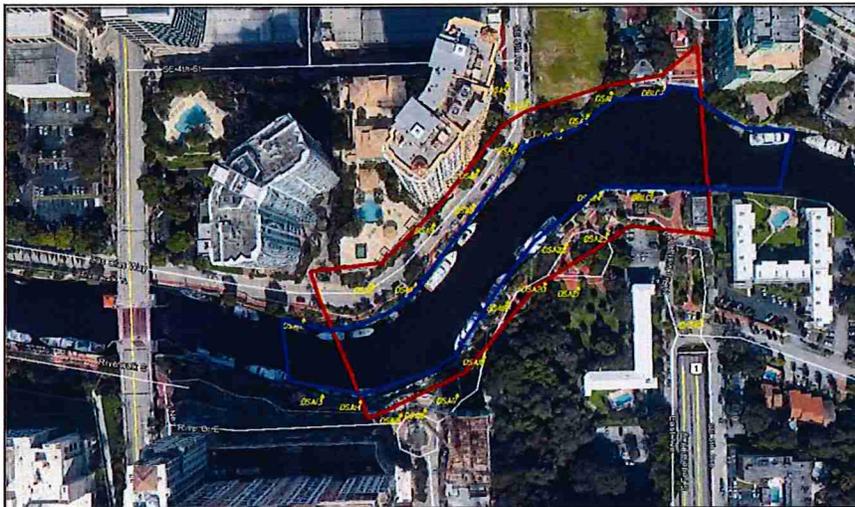
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

InfraMap provided utility designation, test holes and survey along SR7/US 441 from Fillmore St to Stirling Rd. for this highway improvement project. InfraMap designated 553,700 linear feet of utilities along SR 7/ US 441 and adjacent streets.

In addition to the designation portion of this project, InfraMap also performed 200 air vacuum test holes at locations requested by the FDOT. Deliverables were provided to the client's specifications on time and in the requested format for this project.

Contract Value: \$117,551.05

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>		20. EXAMPLE PROJECT KEY NUMBER 9				
21. TITLE AND LOCATION <i>(City and State)</i> Florida Department of Transportation (FDOT) District 4 Multi-beam Bathymetric & Side Scan Sonar Survey at New River (SE 3rd Avenue) Bridge Fort Lauderdale, Broward County, Florida		22. YEAR COMPLETED <table border="1"> <tr> <td>PROFESSIONAL SERVICES</td> <td>CONSTRUCTION <i>(If applicable)</i></td> </tr> <tr> <td>10/2018 - 11/2018</td> <td>N/A</td> </tr> </table>	PROFESSIONAL SERVICES	CONSTRUCTION <i>(If applicable)</i>	10/2018 - 11/2018	N/A
PROFESSIONAL SERVICES	CONSTRUCTION <i>(If applicable)</i>					
10/2018 - 11/2018	N/A					
23. PROJECT OWNER'S INFORMATION						
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER				
Florida Department of Transportation (FDOT) District 4 <i>Sub-contracted through Biscayne Engineering</i>	Mr. Luis Gaztambide, PSM <i>Biscayne Engineering</i>	(561) 609-2329				
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT <i>(Include scope, size, and cost)</i>						



Key Project Services
<ul style="list-style-type: none"> ▪ Multi-beam Bathymetric Survey ▪ Side Scan Sonar Survey ▪ Topographic Survey
Key Personnel
<ul style="list-style-type: none"> ▪ William T. Sadler, Jr, PSM, PE ▪ Ron W. Ball ▪ Michael P. Donovan, Jr



Project Description:

- Multibeam bathymetric survey and side scan sonar investigation at a portion of the New River waterway east of the SE 3rd Avenue Bridge in Fort Lauderdale, Broward County, Florida
- Multi-beam bathymetric survey extending approximately two hundred fifty (250) feet east of the SE 3rd Avenue Bridge over New River conducted using an automated hydrographic system comprised of a shallow-draft survey launch equipped with a Teledyne Odom MB1 shallow water multi-beam swath system (120-degree minimum swath coverage) with integrated Teledyne TSS DMS-05 Motion Sensor
- Scan sonar survey conducted to assist in the identification of bottom anomalies, including but not limited to old foundations, riprap/debris abandoned submarine cables and exposed utility locations
- Topographic data collected using Real-Time Kinematic (RTK) GPS to locate edge-of-water, docks and structures within the project limits
- Conducted with Biscayne Engineering for Florida Department of Transportation (FDOT) District 4
- Approximate survey costs: \$18,000+/-

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
a.	Sea Diversified, Inc.	Delray Beach, Florida	Sub-Consultant

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>		20. EXAMPLE PROJECT KEY NUMBER 10	
21. TITLE AND LOCATION <i>(City and State)</i> Riviera Beach Municipal Marina Redevelopment Palm Beach County, Florida		22. YEAR COMPLETED PROFESSIONAL SERVICES 2010 – Present (2019)	
		CONSTRUCTION <i>(If applicable)</i> N/A	
23. PROJECT OWNER'S INFORMATION			
a. PROJECT OWNER City of Riviera Beach		b. POINT OF CONTACT NAME Mr. Randy Wood, CPPB	c. POINT OF CONTACT TELEPHONE NUMBER (561) 845-3480
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT <i>(Include scope, size, and cost)</i>			



Key Project Services
<ul style="list-style-type: none"> ▪ Hydrographic Surveys ▪ Topographic Surveys ▪ Marine Engineering ▪ Environmental Permitting ▪ Construction Administration ▪ Submerged Utility Locates ▪ Final As-built Surveys
Key Personnel
<ul style="list-style-type: none"> ▪ William T. Sadler, Jr, PSM, PE ▪ Ron W. Ball



Project Description:

- Planning, design, and construction administration of infrastructure improvements and related enhancements to City Marina, which will facilitate and preserve public access, including new floating docks, new bulkhead, related electrical and sanitary infrastructure improvements
- Design of breakwater / wave protection
- Pre- and post- dredge hydrographic surveys, including volumetric calculations and final certifications, and construction layout / stake-out of docks, piers and submerged utility locations
- Provided public awareness campaigns and project bidding support with web development
- Conducted for the City of Riviera Beach

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
a.	(1) FIRM NAME Sea Diversified, Inc.	(2) FIRM LOCATION <i>(City and State)</i> Delray Beach, Florida	(3) ROLE Prime Consultant

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 (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
Mike Bartholomew, PSM	Project Manager	X	X	X	X	X	X				
Selvin Bruce, PSM	Asst. PM-Q/C Manager		X	X	X		X				
Alberto Rabionet, PSM	Production Manager	X	X	X		X					
Igor Volovesky, SIT	QA/QC Manager	X	X	X	X		X				
Warren Rolle	Sr. Survey Technician	X	X	X		X					
Jesse Muckerman	Field Crew Supervisor	X	X	X	X	X	X				
Michael Goodman, MPM, CIPM	SUE PM							X	X		
Robert Richmond, PSM	SUE Survey Mgr.										
Andres Garcia, SULM	Senior SUE Mgr.							X	X		
William T. Sadler, Jr, PE, PSM	Hydrographic Surveyor & Mapper									X	X
Ron W. Ball	Hydrographic Mgr.									X	X

29. EXAMPLE PROJECTS KEY

NO.	TITLE OF EXAMPLE PROJECT (FROM SECTION F)	NO.	TITLE OF EXAMPLE PROJECT (FROM SECTION F)
1	CR 798 From SR 7 to NW 2nd Avenue	6	SR 713 (Kings Highway)
2	Miami Beach Convention Center	7	City of Hollywood WM Replacement Project
3	Continuing Services Survey, Mapping & SUE Location	8	SR 7 / US 441 Designation and Test Hole Services
4	US Coast Guard Air Station	9	Multi-beam Bathymetric & Side Scan Sonar Survey at New River (SE 3rd Avenue) Bridge
5	The Lakes at Deerfield Apartments	10	Riviera Beach Municipal Marina Redevelopment



H. ADDITIONAL INFORMATION

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

Biscayne Engineering Company, Inc. (BE) is a full-service Civil Engineering and Land Surveying company which has been headquartered in downtown Miami since its founding in 1898. BE, also maintains a branch office in Palm Beach County. In addition to the services we provide, BE maintains one of the most comprehensive libraries of local historic surveying records, which tell a unique story of South Florida that is unavailable elsewhere. BE has been providing professional services to the Tri-County area since our inception. Also, we are certified as a Small Business Enterprise (SBE) by the Miami-Dade County, Palm Beach County, School District of Palm Beach County, City of West Palm Beach, School Board of Broward County and South Florida Water Management District.

As a benefit of our long and varied history in engineering and surveying services, BE has gained vast experience and expertise in virtually every aspect of the respective professions, from tried and true practices to the newest applicable technologies.

BE has successful State and Municipal contracts which include City of Miami, City of Miami Beach, City of Hialeah, City of Delray Beach, City of Deerfield Beach, Florida Department of Transportation (District 6 and District 4), and South Florida Water Management (SFWMD).

I. AUTHORIZED REPRESENTATIVE
The foregoing is a statement of facts.

31. SIGNATURE



32. DATE

8/23/2019

33. NAME AND TITLE

Mike Bartholomew, PSM Project Manager / President



Description of the Firm

Description of the Firm

Biscayne Engineering Company, Inc. (BE) is a local full service civil engineering and surveying firm with offices in both Miami and Boca Raton, Florida. BE is a small business enterprise (SBE) that has been serving the South Florida community for over 120 years. Founded in 1898, BE has been recognized for being an influential part in the growth of South Florida since its inception. Our civil engineering and surveying professionals are among the most respected in South Florida and are committed to the growth of this community.

Biscayne Engineering was founded by J.S. Frederick in 1898 and was officially incorporated in 1914 with W.E. Brown (City of Miami Beach councilman and pioneer), as its first President. A year prior to its incorporation, the company hired a rodman by the name of John J. Bennett; whom would eventually work his way up the ladder to become Biscayne's majority stockholder and President (from 1952 to 1973). It was through Mr. Bennett's passion, exemplary work ethic and dedication that BE was recognized for its early achievements. Biscayne has provided countless professional services throughout Broward County including **A1A in the City of Hollywood, the Westin Diplomat, Apollo Middle School, Bethune Elementary, Attucks Middle School, the Seminole Tribe of Florida and Florida East Coast Railways**. Throughout its long history some other notable projects include the layout of the City of Miami streets and their extension throughout the County, the Federal Courthouse in Miami, Vizcaya, the Deering Estate, Star Island, Fisher Island, Bayside Marketplace, Brightline, the University of Miami and Florida International University. Many of our notable projects and achievements have been recognized by the community on various occasions.

BE took the muddy roadways and swamplands of a tropical settlement and laid out the plans for the streets, canals and drainage that led to the building of a city. We were instrumental in much of the development of Broward County, and continued providing services during the explosive growth of the 1970's including the developments of Weston and Welleby and many areas in Broward County.



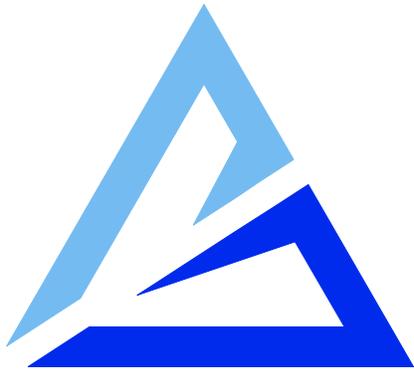


Some of these recognitions include “commendations” from the City of Miami in 1976, named a “Cornerstone Company” by the Beacon Council in 1991, and deemed as a “Pioneer Company” by the Miami Centennial 1996 Committee. The current link to its long standing legacy is George C. Bolton, the grandson of one of the company’s original founders, Earl E. Harvey. Mr. Bolton has drawn from his extensive background and years of experience to provide clients with the integrity and professionalism that has long been the trademark established by the original founders.

Our current President, Mike Bartholomew, PSM who will serve as Project Manager in this contract, has been with the firm for 28 years. The Vice President, Al Dettbarn, PE has been with the firm for several years and is in charge of the Engineering Division. BE currently employs 50 people.

For 121 years, BE has been providing high quality Surveying and Engineering Professional Services to all South Florida. Today BE combines its history and incomparable records with the latest in technology to produce deliverables which exceed our client’s expectations. Our staffing includes (5) PSMs, (7) field crews, (8) surveying technicians, as well as engineering and administrative staff. BE employs several university graduates in our surveying department, giving our firm the best and most educated possible staff for our projects and customers.

Resumes



BISCAYNE
ENGINEERING

**MIKE BARTHOLOMEW, PSM
PROJECT MANAGER**

Education

- Associate of Technical Arts, Everett Community College, Everett, WA (1987)

Registration

- Professional Surveyor & Mapper License No. LS 5666
- Microsoft Certified Professional

Affiliations

- Member Florida Surveying and Mapping Society (FSMS)

Years of Experience

- 32 Years

Mr. Bartholomew is President of Biscayne Engineering Company and a Professional Surveyor and Mapper with 32 years of experience (28 years of which have been with Biscayne Engineering Company, Inc.). His responsibilities include managing large scale, contracts for Municipalities and State government agencies, and overseeing the preparation of Canal R/W Maps and Surveys, LiDAR, Design and Control Surveys, and the wide variety of surveys encountered at Biscayne (Boundary, ALTA/ACSM, Specific Purpose, Topographic, Mean High Water, etc.). Also, he is actively involved in the preparation of plats and in his role as plat reviewer for the City of Hialeah. He is well versed in the requirements of Chapter 177, Part 1, and Florida Statutes. He has a vast knowledge of various software programs such as Microstation, Leica's Cyclone, TopDOT, FDOT procedures and requirements, Autodesk's AutoCAD Civil 3D and basic scripting capabilities. In addition, he works closely with the office staff and Field Crew Supervisor in the management of the numerous construction surveying projects performed throughout south Florida.

RELEVANT EXPERIENCE

Project Manager City of Miami Beach– Miami Beach Convention Center, Miami-Dade County, Florida.

Project Description: Oversees the preparation of Topographic and Drainage Survey including two bridges for planned renovation and expansion of Convention Center. Coordinate with another company to identify the utility line locations, used in our mapping process, by use of vacuum excavation techniques and ground penetration radar. Role in Project: **Project Manager.**

Project Manager for City of Miami, Various Continuing Survey Projects, Miami-Dade, Florida.

Project Description: Oversees the preparation of surveys related to environmental projects at such locations as: Blanche Park, Merrie Christmas Park, Kennedy Park and Curtis Park. Role in Project: **Project Manager.**

Project Manager FDOT District 6, Miami-Dade, Florida.

Project Description: This project consisted of Recon and Locate R/W Monument Section Corners. Performed GPS Survey, Horizontal Traverse and analyze Survey R/W Monumentations in conjunction with Record Data. Also, performed topographic Surveys and prepared Digital Terrain Models (DTMS). Site Location: Miami, Florida. Role in Project: **Project Manager.**

Lincoln Road District Phase1

This project consisted of preparation of a Topographic Survey and high density 3D survey model of Lincoln Road Mall for architectural and engineering design purposes with reference to state plane coordinates and a known vertical datum. The scope of work was developed as two phases. Role in Project: **Project Manager.**

Lyric Subdivision, Miami-Dade, Florida.

Project Description: This project consisted of initial Boundary Survey, Topographic Survey, Tentative Plat, and Final Plat preparation for City of Miami & Miami-Dade County review and approval. Site Located: Between NW 1 Avenue & NE 2 Ave. and NW 8 St. & NW 9 St. Role in Project: **Project Manager.**

Expert Witness for Sunset Cove, Key Largo, FL & Murals, Miami-Dade, Florida.

Project Description: Perform research, Title Review, and attend meetings in connection with Sunset Cove matter in Key Largo, and Murals located in the City of Miami, Florida. Role in Project: **Expert Witness.**

City of Miami Beach HD Scan & Utility Location Survey

This project consists of establishing horizontal & vertical control, determining existing R/W lines & establishing a baseline of survey, performing a full topographic survey for design, obtaining drainage & sanitary sewer information, surveying the designated utilities, performing a high definition laser scanning within the projects limits. Role in Project: **Project Manager.**



SELVIN BRUCE, PSM SURVEYOR & MAPPER

Education

- Associate St. Elizabeth Technical High School, Jamaica, WI. High School Diploma, Engineering Certificate-Union of Lancashire & Cheshire Institutes, England (1974)
- General Certificate Education, The Associated Examining Board, UK- Mathematics, Physics, Engineering Science, Engineering Drawing, Engineering Workshop Theory and Practice, Chemistry (1975)
- University of Technology *formally* College of Arts Science and Technology, Jamaica, WI. Construction Studies (1977) Structural Engineering (1978)

Selvin Bruce has over 32 years of experience in surveying and mapping. Mr. Bruce has served as Project Manager on numerous projects ranging from hydrographic, construction, condominium documents, boundary, topographic, mean high water, platting subdivision, to design and transportation surveys.

Registration

- Professional Surveyor & Mapper License No. LS 5290

Years of Experience

- 32 Years
-

RELEVANT EXPERIENCE

Project Manager FDOT District VI Districtwide ROW Mapping Services, Miami-Dade/Monroe Counties, Florida

Contract Description: As **Project Manager** for this contract, Mr. Bruce was responsible for providing Right of Way Mapping and Surveying Services for various projects throughout the District. These services include, but are not limited to, the preparation of Right of Way Maps, Right of Way Control Surveys, Maintenance Maps, Parcel Sketches, Title Search review, plotting of legal descriptions.

FDOT District VI, SR 924 (NW 119 St) from SR 9 (NW 27 Ave), Miami-Dade, Florida

Project Description: Biscayne Engineering prepares Route Survey along State Road 924 between NW 27th Avenue and State Road 7 and Right of Way determination. (*Approximately 2 miles*). Role in Project: **Project Manager**.

NW 17 Street from NW 27 Ave. to NW 32 Avenue, Miami-Dade County, Florida.

Project Description: This project consisted of a Topographic Survey of the survey limits outlined on the sketch provided by client. Provide DTM Survey. Prepare Project Network Control. Role in Project: **Project Manager**.

275 E 3 Street & 150 E 1 Avenue, Miami-Dade County, Florida.

Project Description: This project consists of Re-Platting services to the City of Hialeah. These services include, but are not limited to, the preparation of Boundary Survey, Tentative Plat, plotting of legal descriptions and Final Plat. Role in Project: **Project Manager**.

CRA Stadium Ph. 1 & 2 Miami-Dade County, Florida.

Project Description: This project consisted of an update to a Boundary Survey to include a Topographic Survey in accordance to Florida Standards of Practice for Surveys as set forth by the Florida Board of Professional Surveyors and Mappers pursuant to Chapter 5J-17 Florida Administrative Code Section 472.027 Florida Statutes. Prepare a Sketch to Accompany Legal Description. Role in Project: **Project Manager**.

ALBERTO RABIONET, PSM ASSISTANT PROJECT MANAGER

Education

- 2003–2008, 2011-2013 University of Florida, Gainesville, Florida.
B.S. Geomatics

Registrations

- Professional Surveyor & Mapper License
No. LS7218

Affiliations

- Member of Florida Surveying and Mapping Society (FSMS)

Years of Experience

- 6 Years

Mr. Rabionet is a Surveyor in Training and Survey Technician with 6 years of experience, all of which have been with Biscayne Engineering. He has worked on various right-of-way projects and is experienced in research, calculations, and drafting.

He also has experience preparing DTM, R/W, control, design, boundary, and topographic surveys. He has a good working knowledge of various software programs such as Leica's Cyclone and Autodesk's AutoCAD Civil 3D as well as basic scripting capabilities. He has used GPS equipment, total stations, level instruments, laser scanners, and electronic digital levels to obtain field data and elevations.

PROJECT EXPERIENCE

Center Brickell Subdivision, Miami-Dade County, Florida.

Project Description: Services include initial Boundary Survey, Topographic Survey; Tentative Plat preparation for City of Miami; and Miami-Dade County review, approval, and Final Plat preparation. Role in Project: **Survey Technician.**

Southern Glades, South Florida Water Management District (SFWMD), Monroe County, Florida.

Project Description: A multi section Boundary Survey located in the Southern Glades of Florida. This project consisted of the location and setting of section corners in the Glades utilizing boats and creative surveying methods; in accordance with Florida's Standards of Practice (SOP) and SFWMD requirements. Role in Project: **Production Manager.**

Interstate 95 overpasses, Broward County, Florida.

Project Description: Research project site and determine survey strategy. Coordinate with data collection, including laser scanning operation, and verify quality control parameters. Check and process field data, register and integrate scan data, import data into software database. Perform boundary and baseline analysis utilizing field surveyed monuments and record data. Prepare Control and Topographic Survey, CAD files, point cloud, GIS layers, and signed and sealed sheets. Role in Project: **Scanning Manager and Technician.**

Miami Beach Convention Center and Right-of-Way from Meridian Ave. to Washington Ave. and from 17th St. to Dade Blvd., Miami-Dade County, Florida.

Project Description: Coordinate with data collection, including laser scanning operation, and verify quality control parameters. Check and process field data, integrate scan data, import into software database. R/W and baseline analysis utilizing field surveyed monuments and record data. Prepare control survey, files, GIS layers, and sheets. Role in Project: **Survey Technician.**

Miami Design District Special Area Plan and Right-of-Way from N Miami Ave. to N Federal Highway and from NE 36th St. to NE 42nd St., Miami-Dade County, Florida.

Project Description: Coordinate with data collection and verify quality control parameters. Check and process field data, import into software database. R/W and boundary analysis utilizing field surveyed monuments and record data. Prepare control survey, updates, files, and sheets. Role in Project: **Survey Technician.**

WARREN ROLLE

SENIOR SURVEY TECHNICIAN

Education

- Keiser College
Fort Lauderdale, Florida.
- Palm Beach State College
Palm Beach, Florida

Registration

- Member Florida Surveying and Mapping Society (FSMS)

Years of Experience

- 20 Years

Mr. Rolle is a Senior Survey Technician with 20 years of experience in the South Florida surveying and mapping industry.

Mr. Rolle started out as a survey rodman working his way up through the industry to become a well-rounded surveying asset. With 17 plus years of experience working on government projects and overseeing multiple departments from CAD to project manager he can provide a unique oversight and technical ability to any project.

RELEVANT EXPERIENCE

Palmetto Park Road Palm Beach County, Florida

Project Description: Right of Way determination, Researched for recorded boundary documents along Palmetto Park Road; managed field crews in work to be performed and methodology to be used; processed survey data for GPS and conventional surveys; drafted worksheet and performed right-of-way analysis and calculations. Role in Project: **Survey Technician.**

Interstate 95 overpasses, Broward County, Florida

Project Description: this project consisted of prepare high density 3D survey model of the interstate 95 overpasses and clearances for engineering design with reference to state plane coordinates and a vertical datum. Research project site and determine survey strategy. Coordinate with data collection, including laser scanning operation, and verify quality control parameters. Role in Project: **Survey Technician.**

N. 14th Avenue, from Atlantic Shore Boulevard to Sheridan Street, Florida

Project Description: Design Survey. Assisted in preparation of scope of services; researched for Horizontal and Vertical Control Points from NGS; prepared GPS Plan for Fast Static Observations; lined out and manage field crews in work to be performed in different phases; researched for Section Corner records and recorded documents for right-of-way determination; processed survey data for GPS static observations, RTK methods, conventional surveying with EFB and leveling; determine Section Lines, Right of Way and Baseline based on found Monumentation. Role in Project: **Survey Technician.**

I-95 at 6th Avenue in Lake Worth, Palm Beach, Florida

Project Description: Processed conventional and GPS survey data for DTM and Right of Way Monumentation; Performed field LiDAR survey for I-95 underpass; extracted survey files from LiDAR data in Microstation using Topo-DOT software; drafted deliverable survey files for FDOT and drafted Project Network Control (PNC) sheets. Role in Project: **Survey Technician.**

Southern Glades, South Florida Water Management District, Florida

Project Description: A multi section Boundary Survey located in the Southern Glades of Florida, Location and setting of section corners in the Glades utilizing boats and creative surveying methods. Project Roles: Assisted with the project research and setup, CAD production and final plan submittals. Role in Project: **Survey Technician.**

JESSE MUCKERMAN FIELD CREW SUPERVISOR

Education

Maintenance of Traffic (MOT) Intermediate
CSX – Roadway Worker Protection
Contractor Safety (09/2017)
South Carolina Land Surveyor, License No.
LS 30767
Civil Engineering Associates, Horry
Georgetown Tech, Conway, South Carolina
(2009)

Years of Experience

- 16 Years

Mr. Muckerman is a Field Crew Supervisor with 16 years of experience in the maximum challenging situations. Mr. Muckerman applies general land survey knowledge to deliver job assignments in a timely manner.

He coordinates activities with Production Manager to ensure work completion within contract provisions.

He is a results-oriented leader. Throughout his career he has gained a wide range of experience in the following types of surveying:

- R/W Surveying & Mapping Surveys
- DTM Surveys
- Boundary & Topographic Surveys
- ALTA/ACSM Land Title Survey
- As-built survey

PROJECT EXPERIENCE

FDOT District 6 R/W Mapping Contract, District VI

Currently manages the preparation of R/W Maps, Maintenance Maps, Control Surveys and related Maps and Surveys; Florida Department of Transportation (FDOT) District VI. Role in Project: ***Field Crew Supervisor.***

South Beach Construction, Miami Beach, FL

Project Description: Project consists of Boundary Verification, Field Lay-out of up to 220 Piles, As-Built measurements of up to 220 piles, Topographic Survey and Boundary. Site Located 419 Michigan Avenue. Role in Project: ***Field Crew Supervisor.***

Miami Beach Convention Center Renovation, Miami Beach, FL

Project Description: Services include engineering support to the General Contractor during construction including plans for the construction support compound, multiples maintenance of traffic plan projects and permitting. Project also includes Construction Layout Surveying and As-Built. Role in Project: ***Field Crew Supervisor.***

Met Square, Miami, FL (2017)

Project Description: Project consisted of Miscellaneous Construction Services including but not limited to Initial Gridlines, Sheet Pile, Foundation, Control Lines, Layout Drainage Well Boxes, FPL Duct, Final FEMA Certification, Final Survey, Layout Drainage Wells, and Piles Layout. Role in Project: ***Field Crew Supervisor.***

FDOT District 6, SR 9 from Miami-Dade / Broward County Line to Johnson Street, Broward County, FL

Project Description: Biscayne Engineering established primary, secondary and aerial control, using GPS/RTK and conventional methods obtained topographic DTM data on all the obscured areas identified by the aerial firm as well as elevations on all soft surfaces (natural ground) areas; performed drainage and underground utility surveys; established Baseline of Survey and Right of Way lines within the project limits and prepared a PNC sheet. Per the District request, High Definition Laser Scanning was used to survey the I-95 underpasses for the three State Road crossings located within the project limits (SR 858, SR 824 and SR 820). TopoDOT was used for the extraction or 3D topographic data from the point cloud to prepare the typical FDOT deliverable. Role in Project: ***Field Crew Supervisor.***

InfraMap
C O R P

MICHAEL A. GOODMAN, MPM, CIPM

TITLE

Vice President - South

EDUCATION

Bluefield State College	2001
General Studies, John A. Logan College	1992

TRAINING

International Project Manager Cert.	American Academy of Project Management	2013
Master Project Manager Certification	American Academy of Project Management	2011
Certificate of Achievement in Economic Enhancement-Occupational Skill Development		2010
Project Management Professional/Certified in Project Management		2009

VDOT Work Zone Traffic Control Training Instructor	Instructor Number	09240805
VDOT Intermediate Work Zone Traffic Control Training	Certificate Number	09240805
Certificate of Completion, US Army PLDC, 1989		

Years with InfraMap: 12

Years with other firms: 27

Mr. Goodman is the Vice President of InfraMap’s South Region and oversees Operations of InfraMap’s regional office in Glen Allen, VA. He served as Project Manager for the last Henrico County DPW and Public Schools Utility Locating Contracts. His current duties include scheduling, proposal preparation and pricing. He oversees the coordination of all designation, test hole and survey crews in Virginia, North Carolina, South Carolina, Florida and Georgia. His other duties include QA/QC review on all client submittals, and supervision of CAD Department.

PROJECT EXPERIENCE:

United States Navy, NAVFAC Utility Locating and Survey Contract, Norfolk, VA: Mr. Goodman is the Project Manager, Project Coordinator and primary contract for the Navy Utility Locating contract that started in April 2008. InfraMap is tasked with locating all utilities for five Navy facilities in the Hampton Roads Region of NAVFAC and all Navy facilities within a 50-mile radius of Norfolk. This Contract also supports Engineering Design and GPS surveys. InfraMap established an additional office on Hampton Boulevard in Virginia Beach, staffing the office with a combination of InfraMap veterans and local new hires with extensive industry experience. This contract is valued at \$22.5 million.

Georgia Department of Transportation Statewide SUE Open-End Contract, Subsurface Utility Designating and Locating (Test Hole) Service: Mr. Goodman is the Project Manager for the GDOT Statewide SUE Open-End Contract. He has been the Project Manager on several GDOT highway improvement projects which required designating and test holes throughout this ongoing contract. The InfraMap staff produce consistent, timely, and accurate SUE deliverables for GDOT. This contract is valued at \$24 million.

Henrico County Virginia Public Works Contracts, Henrico County, VA: Mr. Goodman is Project Manager and Project Coordinator for the Henrico County, VA Public Works contracts and has managed several county highway improvement projects requiring designating and test holes. Henrico County had InfraMap under contract since 1996.

ROBERT W. RICHMOND, P.S.M.

Regional Survey Manager

EDUCATION

West Virginia University	Morgantown, WV	Liberal Arts	1983-1987
Glennville State College	Glennville, WV	AS Land Surveying	1989

Certification:

Florida Professional Surveyor & Mapper #6616
West Virginia Professional Surveyor (1992-2003)
West Virginia Professional Underground Surveyor (1995-2003)
New York Professional Surveyor (1993)
ARCGIS, RTK, & Static GPS, CADD, C3D
OSHA Safety Training, MASC, TWIK, First Aid

KEY QUALIFICATIONS in Work Group 8 – Surveying and Mapping

Mr. Richmond has experience in Land Surveying of varying depths from lot surveys to 3d laser scanning. Mr. Richmond produced right-of-way mapping using CADD and/or C3D software to reduce and analyze field collected data via conventional, GPS and drone. His experience includes the research of title documents for multiple public and private projects. During his career, he has become proficient with processing survey data and computer drafting. He is a Professional Surveyor and Mapper Project Manager, a former Professional Surveyor in WV and NY.

Experience with InfraMap: In his 1st Year

Experience with other firms:

30

Mr. Richmond is experienced and well-versed regarding FDOT Design Standard Services 27 SURVEY, Work Group Sub-Categories 8.1 Control Surveying, 8.2 Design, Right of Way, Construction Surveying, 8.4 Right of Way Mapping, Utility Designating, Utility Locating project coordination, Quality Assurance/Quality Control, Survey, data processing and computer drafting. Mr. Richmond is aware of the Florida Department of Transportation Survey Submittal Standards and pertinent submittal segment creation involving the processing data procedures, field notes/review and submittal preparation. The FDOT survey data submittal includes but is not limited to the following: Efb_rep.txt, th_xyz.txt, BL.txt and BL.thos.txt, utexrd.dgn, and SR util.dgn.

PROJECT EXPERIENCE:

BECKER ROAD IMPROVEMENTS, FLORIDA. ORIGINAL GROUND SURVEY FOR ROAD IMPROVEMENTS: Role in Project: Project Surveyor in charge of all aspects of conventional and GPS locations for engineering design. Mr. Richmond was in direct charge of establishing horizontal survey control using closed loop traverse, also RTK GPS. Vertical survey control was established from closed loop leveling. Calculating location of right-of-way, structure locations. Delivering original data information for the developer and delivering surveys during various stages of construction. Final surveys were delivered to the clients and their respective buyers. This project was prior to coming to InfraMap.

CROSTOWN PARKWAY ORIGINAL GROUND DATA FOR INTERSTATE EXIT AND ROAD IMPROVEMENTS: As Professional Surveyor and Mapper Mr. Richmond's tasks included survey control calculations, ROW depiction, station recording data, reviewing key maps, incorporating information supplied by the client. His survey crews set the horizontal and vertical control for Right of Way Mapping Detail Sheets which included general notes and certifications. His Quality Assurance and Quality Control is essential is every task completed. Writing legal descriptions for utility easements, abandonments. Production of sketch and legal. Mr. Richmond worked establishing horizontal survey control using closed loop traverse, also RTK GPS. Vertical survey control was established from closed loop leveling. Calculating location of right-of-way, all structure locations. Delivering As-builts to the developer and delivering surveys during





Professional Services
City of Hollywood Community Redevelopment Agency (CRA)
Surveying and Mapping Consulting Services to the CRA for
Neighborhood Lighting & Streetscape Enhancement
Project # DCRA 19-026

William T Sadler, Jr, PE, PSM
Sea Diversified, Inc. Title: President
Availability: 65%

Years of Experience: 35 years
Years with Current Firm: 15 years

Education:

Florida Atlantic University
 B.S. Ocean Engineering, 1984



Registration:

Professional Surveyor, Florida 1998
 Professional Engineer, Florida 1989
 Building Contractor, Florida 1987

Professional Affiliations:

Florida Surveyors and Mappers Society
 American Society of Civil Engineers

Corporate Experience:

Sea Diversified, Inc. – Surveying & Engineering
 President
 2004 to Present

Sea Systems Corp – Surveying & Engineering
 Vice-President
 1990 to 2004

Keith & Schnars Associates – Surveying & Mapping
 Director of Business Development
 1986 to 1990

Professional Experience:

Mr. Sadler has over 35-years of experience in surveying, mapping, and engineering. His specific expertise includes automated hydrographic surveying (single and multi-beam), and remote-sensing investigations such as side scan sonar, magnetometer and sub-bottom profile surveys. He has served as project manager on continuous surveying services contracts for clients such as the U.S. Army Corps of Engineers, Florida Department of Transportation (FDOT), Palm Beach County, Miami-Dade County, Martin County, Brevard County, Town of Palm Beach, City of Riviera Beach, City of Ft Lauderdale, and numerous municipalities throughout the State of Florida.

Mr. Sadler coordinates all survey tasks including definition of scope, development of schedules, monitoring field and office operations, and reviewing final products prior to delivery. He will serve as the Survey Manager between SDI, Biscayne Engineering, and the City of Hollywood Community Redevelopment Agency (CRA) and shall ensure that survey tasks are completed on-time and within budget. These responsibilities are key to any project and are considered essential to assure that objectives are met and a sound subconsultant – owner relationship is continuously maintained.

Project Experience:

FDOT District 4 PED Multi-beam Bathymetric & Side Scan Sonar Survey at New River (SE 3rd Ave) Bridge, Fort Lauderdale, Broward County, Florida

Project Manager responsible for:

- Multibeam bathymetric survey and side scan sonar investigation at a portion of the New River waterway, extended approximately two hundred fifty (250) feet east of the SE 3rd Avenue Bridge over New River in Fort Lauderdale, Broward County, Florida.
- Scan sonar survey conducted to assist in the identification of bottom anomalies, including but not limited to old foundations, riprap/debris abandoned submarine cables and exposed utility locations.
- Topographic data collected using Real-Time Kinematic (RTK) GPS to locate edge-of-water, docks and structures within the project limits.
- Conducted with Stantec for FDOT – District 4.

City of Lighthouse Point Citywide Hydrographic (Multibeam) Survey of Waterways & Canals City of Lighthouse Point, Florida

Project Manager responsible for:

- Multibeam bathymetric survey of approximately 18-miles of manmade waterways and canals throughout the City of Lighthouse Point
- Side scan sonar data was collected using a Edgetech fully digital, ultra-high resolution (400 / 900 kHz) side scan sonar system that utilizes full spectrum CHIRP technology
- Conducted for City of Lighthouse Point

Sea Diversified, Inc.
151 NW 1st Avenue
Delray Beach, Florida 33444
561.243.4920 (Phone) – 561.243.4957 (Facsimile)
www.seadiversified.com



Professional Resume – William T Sadler, Jr, PE, PSM
Page Two

Riviera Beach Municipal Marina Redevelopment - Design Surveys, Construction Layout, As-built Surveys, Dredging Surveys & Submerged Utilities Location, City of Riviera Beach, Palm Beach County, Florida

Project Manager responsible for:

- Planning, permitting, design and construction administration of infrastructure improvements and related enhancements to City Marina, which will facilitate and preserve public access, including new floating docks, new seawall, related electrical and sanitary infrastructure improvements
- Pre- & post- dredge hydrographic surveys, volumetric calculations & final certifications
- Design and maintenance of website for City bidding process, including the development and distribution of newsletters and signage for local information
- Conducting for the City of Riviera Beach

Pompano Beach Long-Term Citywide Canal Maintenance Program
City of Pompano Beach, Broward County, Florida

Project Manager responsible for:

- Conducted hydrographic (bathymetric) surveys of entire canal system for maintenance dredging of approximately 26-miles of inland manmade canal systems
- Prepared dredge plans and specifications based upon review of hydrographic and engineering data taking into account the geometry of the waterways and condition of adjacent bulkheads
- Detailed assessment of dredging requirements including detailed cost analysis to the City for presentation to City Council and the general public.
- Prepared and administered the bidding process, including bid packages and documentation, pre-bid meetings and contractor selection
- Conducted complete administration of the project, including site inspections, environmental monitoring and reporting, and permit compliance activities
- Conducted for City of Pompano Beach

Plantation Isles Long-Term Canal Maintenance Program
City of Plantation, Florida

Project Manager responsible for:

- Topographic and hydrographic surveys to support the maintenance dredging of approximately 22,000 feet of manmade and tidally connected canals
- Prepared dredge plans and specifications based upon review of the data taking into account the width of waterways and condition of adjacent bulkheads
- Provided a detailed breakdown of dredging requirements including dredging cost per canal to the City for presentation to City Council and the general public
- Conducted for City of Plantation

FDOT District VI - SR 968 (SW 1st St) Bridge PD&E Study, Multi-beam, Side Scan Sonar, and Submerged Utilities Locations Miami-Dade County, Florida

Project Manager responsible for:

- Multi-beam bathymetric survey and side scan sonar investigation of a portion of the Miami River from the SW 1st St. Bridge, in Miami-Dade Co, to the Flagler St. Bridge and I-95 Bridge
- Magnetometer survey within the vicinity of the bridge to identify subaqueous utility crossings
- Deployed a dive team to electronically track and subsequently expose and map the horizontal and vertical location of the submerged utility identified as a result of the magnetometer survey.
- Collected supplemental topographic data from the limits of the hydrographic data to the top-of-banks or top of bulkheads for hydraulic modeling
- Conducted with Hardesty & Hanover for Florida Department of Transportation (FDOT) District 6



Professional Services
City of Hollywood Community Redevelopment Agency (CRA)
Surveying and Mapping Consulting Services to the CRA for
Neighborhood Lighting & Streetscape Enhancement
Project # DCRA 19-026

Ronald W. Ball
Sea Diversified, Inc. Title: Survey Manager
Availability: 55%

Years of Experience: 30 years
Years with Current Firm: 15 years

Education:

1989 - University of Puerto Rico,
 Computer Automated Drafting



Corporate Experience:

Sea Diversified, Inc. – Surveying & Engineering
 Survey Manager
 2004 to Present

Sea Systems Corp – Surveying & Engineering
 Field Crew Supervisor
 1998 to 2004

Keith & Schnars Associates – Surveying & Mapping
 Party Chief
 1995-1998

Professional Affiliations:

Florida Shores & Beaches
 Preservation Association
 Western Dredging Association

Relevant Professional Experience:

Ronald W. Ball has over 30-years of surveying experience throughout the State of Florida, U.S. Virgin Islands, Caribbean, and various regions of South America. He offers extensive expertise with hydrographic surveys including single and multi-beam bathymetric surveys, submerged utility location surveys, remote sensing investigations (including side scan sonar, magnetometer and sub-bottom) and beach profile surveys for numerous agencies such as the U.S. Army Corps of Engineers (USACE), Florida Department of Environmental Protection (FDEP), and many other government entities. He brings a high level of detail to our firm, offering professional on-site assessments in addition to coordination of field technicians and data collection methodologies.

Mr. Ball shall be the Hydrographic Survey Manager responsible for coordinating the activities of field and office support staff. He will assist in the collection of both hydrographic and topographic data, oversee the data processing activities and coordinate the preparation of charts or other deliverables.

Relevant Project Experience:

Seminole Middle School - Seawall Design & Improvements
City of Plantation, Broward County, Florida

Survey Manager responsible for:

- Topographic and bathymetric survey with geotechnical investigation
- Prepared and submitted both the state / federal Joint Environmental Resource Permit (ERP) and local applications serving as agent to the City
- Design of seawall system along the easterly shoreline of Seminole Middle School property
- Monitored construction activities as they related to established schedules, project budgets, conformance to permit criteria / conditions & overall quality of work
- Conducted for City of Plantation

FDOT Submerged Utility Location Survey of 23rd Avenue Bridge at Ibis Waterway, Lighthouse Point, FL

Survey Manager responsible for:

- Bathymetric and side scan sonar survey of a portion of the Ibis Waterway at the NE 23rd Avenue Bridge in Lighthouse Point, Broward County, Florida
- Subaqueous utility location of three (3) reported utilities, including two (2) water-main pipes and one (1) force-main water pipe in proximity to bridge along with inspection of the seawalls within 150-feet either side of the bridge
- located bridge support columns horizontally at water surface and seafloor
- Utilizing the results of the bathymetric survey and magnetometer investigation results, SDI performed diver-assisted jet-probe investigations of utilities
- Conducted with Stantec for Florida Department of Transportation (FDOT) – District 4

Sea Diversified, Inc.
151 NW 1st Avenue
Delray Beach, Florida 33444
561.243.4920 (Phone) – 561.243.4957 (Facsimile)
www.seadiversified.com



Professional Resume – Ron W. Ball
Page Two

***Hydrographic Surveys of FP&L Cooling Canal and Borrow Pit for the I-595 Viaduct
FDOT I-95 Express Lanes Phase 3C, Broward County, Florida***

Survey Manager responsible for:

- Multi-beam bathymetric survey and side scan sonar investigation in a portion of the FP&L cooling canal and borrow pit under I-595 Bridge between SR-7 and SW 26th Terrace to support the FDOT I-95 Express Lanes Phase 3C Project in Broward County, Florida
- Conducted with RS&H for Florida Department of Transportation (FDOT) District 4

***Florida Inland Navigation District (FIND) New River Study
PD&E Bathymetric & Sub-Bottom Profile Surveys
Broward County, Florida***

Survey Manager responsible for:

- Bathymetric and sub-bottom profile survey of 7.9 miles of the New River in support of a study pertaining to the proposed deepening of this segment of waterway
- Two-month tide study to determine the mean low water datum for the South Fork of New River
- Bathymetric (single-beam) data collected along cross sections perpendicular to the centerline of river with additional cross-sections at bends in river and confluences with other waterbodies
- Sub-bottom profile data collected along longitudinal transects to map the sediment characteristics within the proposed dredge cut with specific focus on the upper layer of rock strata that may exist
- Groundtruthing the results of the remote sensing study encompassed sediment probes along the 1000-foot interval cross-sections established for the bathymetric survey
- Conducted with Taylor Engineering for Florida Inland Navigation District (FIND)

***Town of Hillsboro Beach Pressure Equalizing Modules (PEMS) Experimental Beach Renourishment
Project, Topographic/Hydrographic Beach Profile Surveys, Broward County, FL***

Survey Manager responsible for:

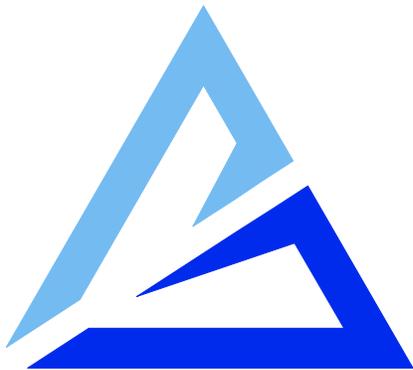
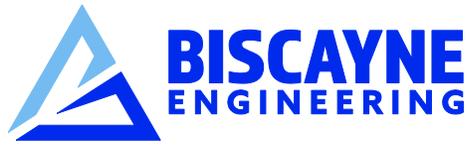
- Beach profile surveys between DNR Monuments R-4 through R-15 in the Town of Hillsboro, capturing the full berm width from the landward edge of the dune out to the closure depth, for the entire two (2) mile Test Area.
- Surveys were conducted on 3-month and 6-month intervals over a period of 3-years to calculate volumes of accretion and/or erosion
- Conducted with EcoShore International for Town of Hillsboro

***Fort Lauderdale Floating Day Dockage
City of Fort Lauderdale, Florida***

Project Manager responsible for:

- Design and construction administration of floating docks along the New River in Downtown Fort Lauderdale, encompassing four (4) sites along the river with approximately 6000 square feet of floating docks plus access piers and gangways.
- Environmental permitting, State Submerged Lands Lease processing, engineering analysis, construction plans and specifications, construction administration services, and topographic and bathymetric surveying.
- Worked closely with City staff, the Marine Advisory Board and the Riverwalk Committee in developing the specifications for the floating docks with an ultimate goal of ensuring consistency with the Downtown Riverwalk theme
- Conducted for the City of Fort Lauderdale

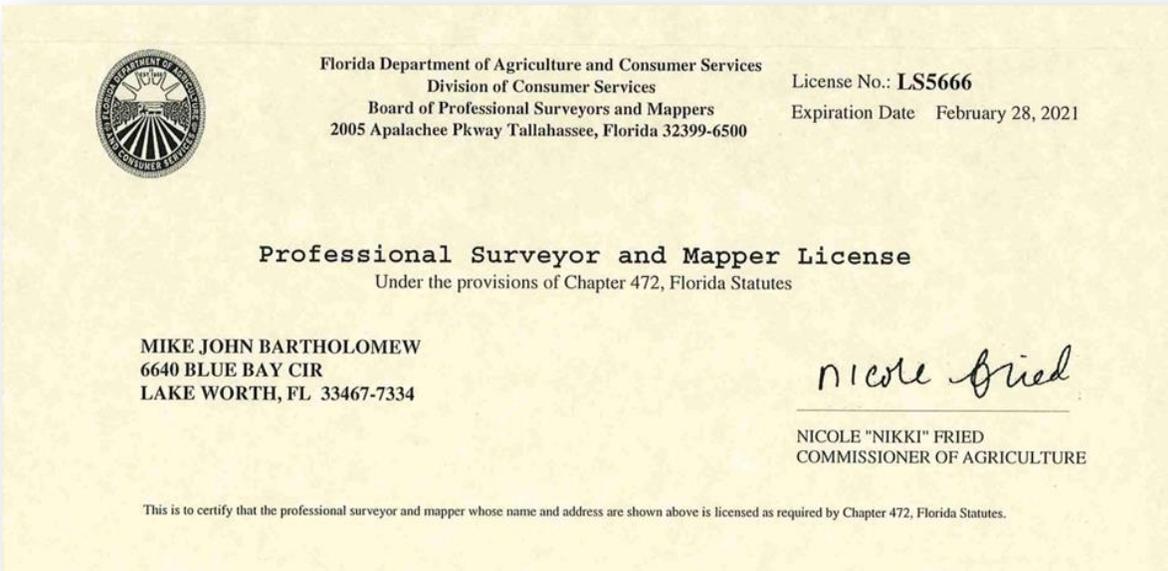
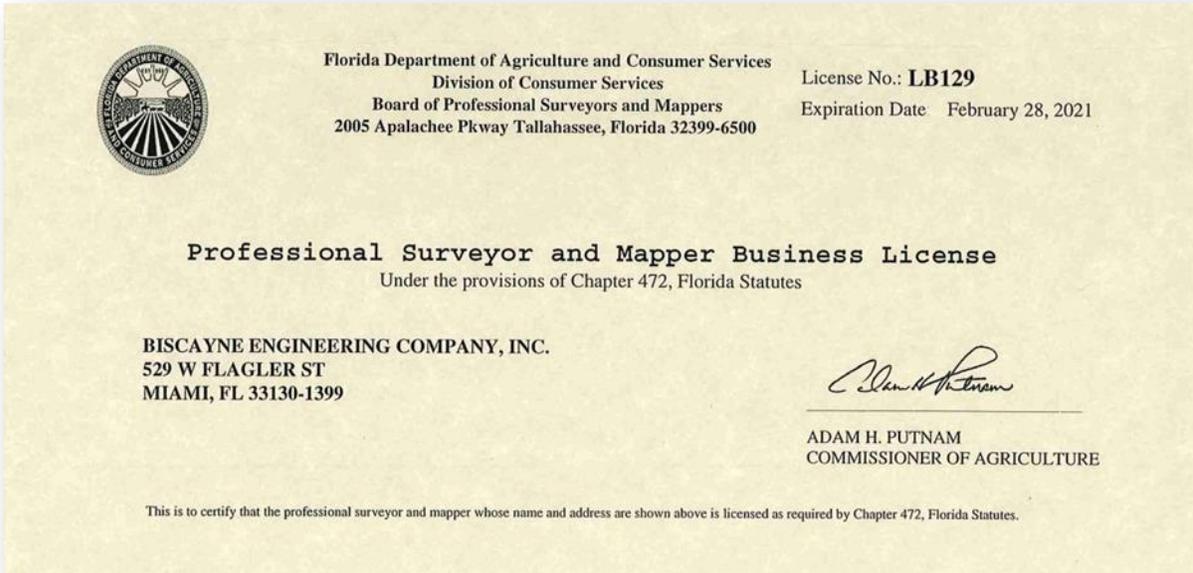
Licenses



**BISCAYNE
ENGINEERING**



**SURVEYING & MAPPING CONSULTING SERVICES
TO THE CRA FOR
NEIGHBORHOOD LIGHTING & STREETSCAPE ENHANCEMENT
DCRA 19-206**





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.: **LS5290**
Expiration Date: February 28, 2021

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

SELVIN P BRUCE
8200 NW 41ST ST STE 305
DORAL, FL 33166-6206



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.: **LS7218**
Expiration Date: February 28, 2021

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

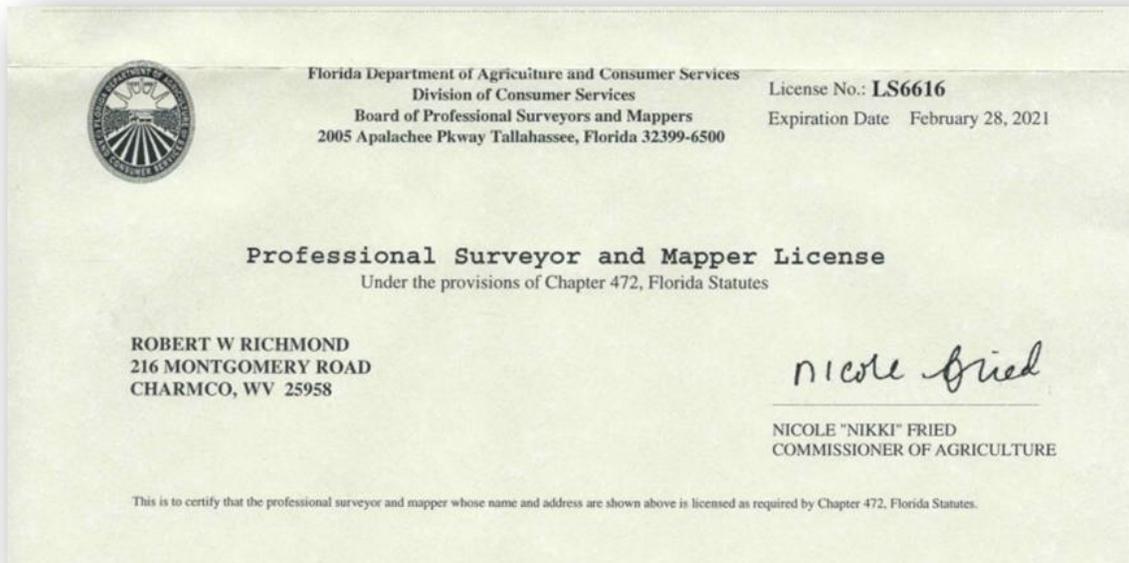
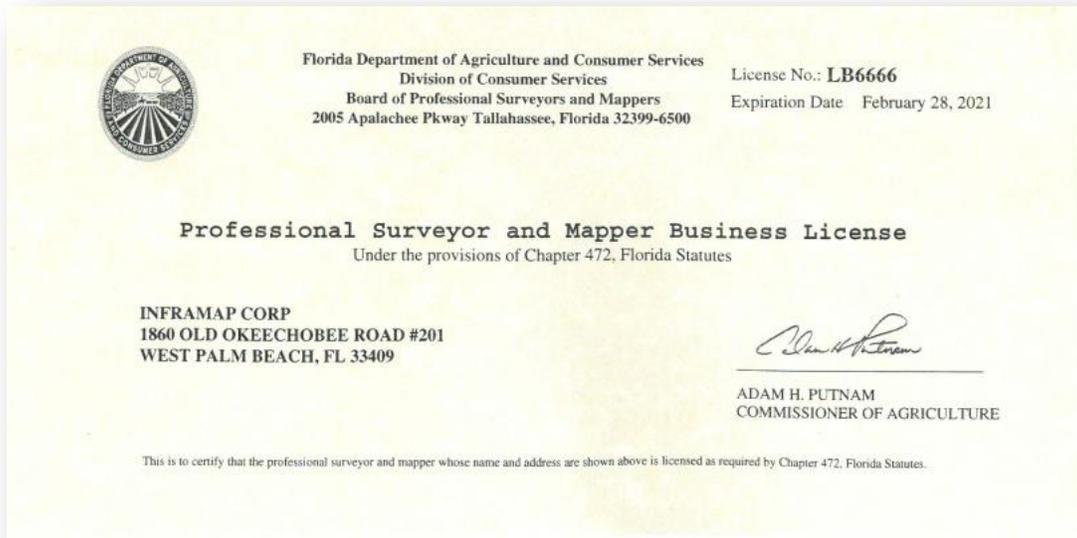
ALBERTO J RABIONET
10 SW SOUTH RIVER DRIVE, #1609
MIAMI, FL 33130



ADAM H. PUTNAM
COMMISSIONER OF AGRICULTURE

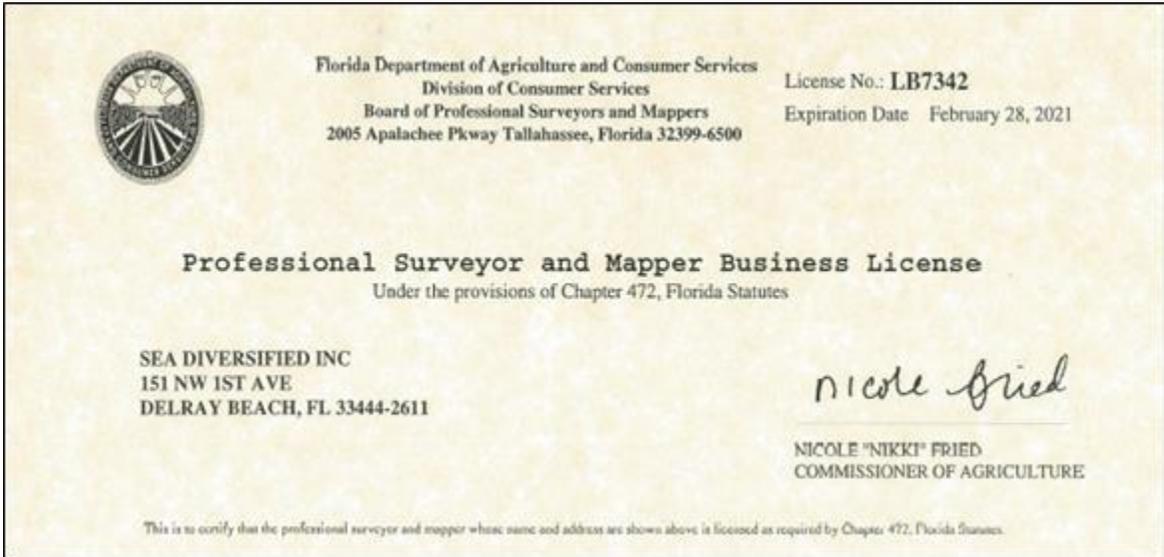
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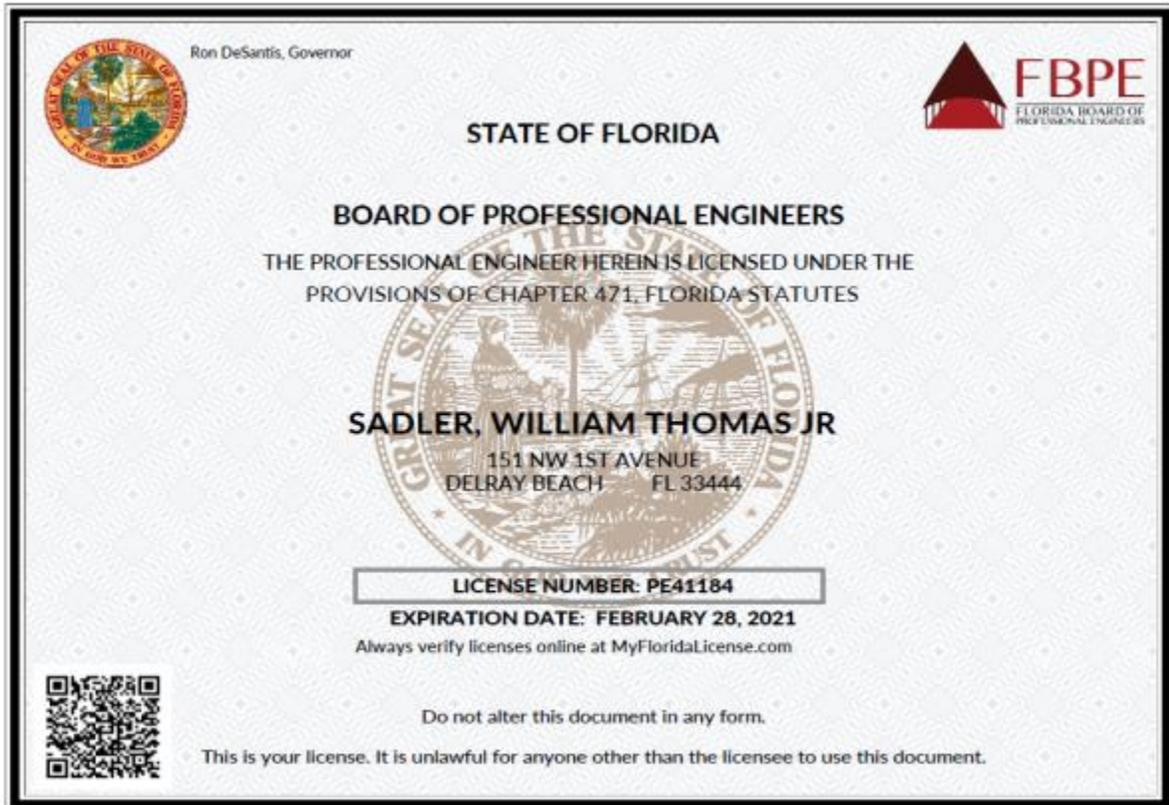
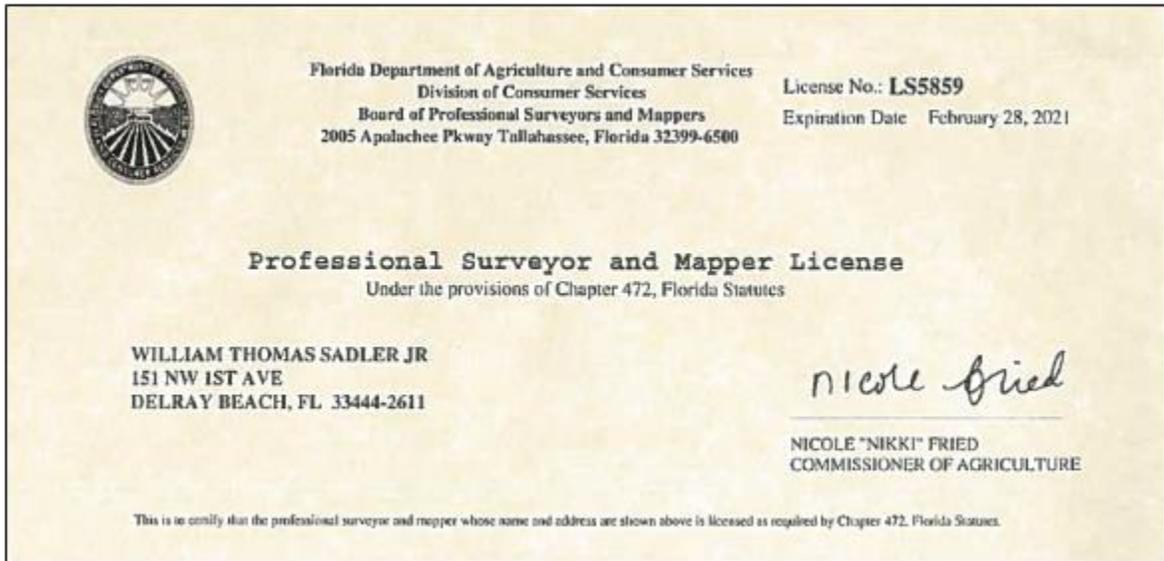
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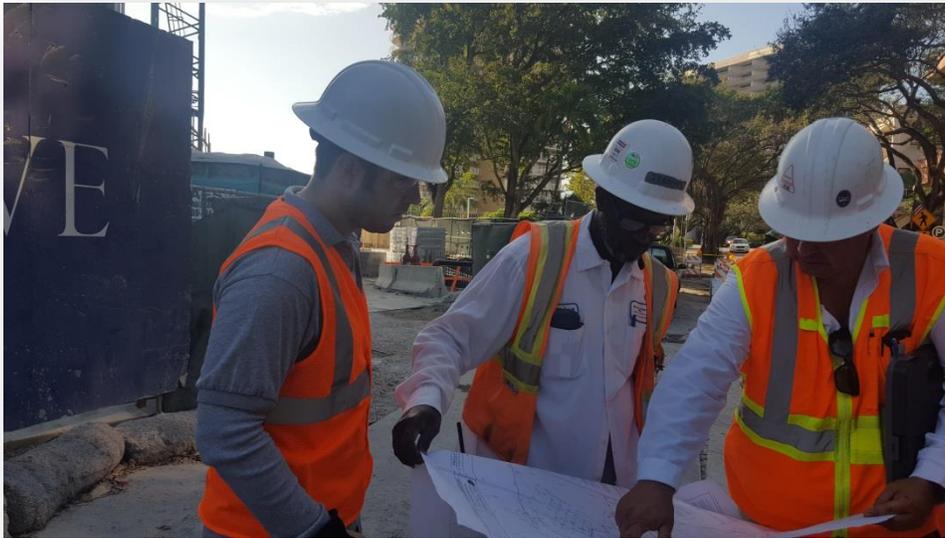
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Project Approach

Approach to Work

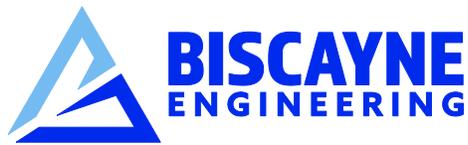


Biscayne Engineering Company, Inc. (BE), in partnership with our sub consultants Sea Diversified and InfraMap Corp., is committed to providing the City of Hollywood Community Redevelopment Agency (CRA) with Surveying and Mapping services for the Neighborhood Lighting & Streetscape Enhancement project (DCRA 19-026) as outlined in the scope of services for this project.

Roles: Mr. Mike Bartholomew, PSM will be acting as Biscayne Engineering's Project Manager for this Contract and the primary contact for the CRA. Upon receipt of a request for a proposal, Mr. Bartholomew will work closely with the CRA's Project Manager to develop a full understanding of the scope of services required including the need for services provided by any of the sub consultants on our team. BE staff will then take the steps necessary to prepare a competitive and detailed fee proposal.

Mr. Bartholomew will coordinate with the Production Manager, who in time will oversee and coordinate with the Field production manager and the rest of the staff to research the property starting with our own extensive surveying records, which date back into the mid 1800's

Prior to preparing a fee proposal, a site visit will be performed, typically by Biscayne's Field Crew Supervisor. This will ensure that conditions on the ground are as we expected, and the scope of services, as we understand them can be performed. This information will be used to develop a plan and approach to perform the tasks requested for the project in the most productive and efficient way. A determination is then made of the most appropriate and effective technology that should be used to perform the assignment at hand. Once the assignment has been fully researched and a site visit has been performed, BE will prepare a man hour estimate worksheet together with our contract rates and a detailed scope of work to be provided to the CRA for review and approval.



Upon approval of our fee proposal and we have received the Authorization to Proceed, BE will prepare an in-house work order which generates a job number in our orders database. This work order will follow the job wherever it goes (field and office). In addition to the project location and scope of services, the job order includes the man-hour budget for each task. Biscayne's Project Manager will meet with the Production Manager, Field Production Manager and Field Crew Supervisor, to ensure that the project objectives are well understood. Research documents (plats, deeds, benchmarks, etc.) will be assembled and project budgets will be re-affirmed. Staff will be assigned and BE is committed to assigning the same staff consistently throughout the contract.

The Field Crew Supervisor in close coordination with the Field Production Manager prepares two identical project folders, one for office and one for field, and selects the survey crew or crews who will be assigned for the project. A detailed explanation of the project tasks, schedule and the approach previously discussed and agreed upon with the Project and Production Managers is provided to the crews to ensure full understanding of the tasks involved. Daily goals are set for each crew. The Field Crew Supervisor meets with each crew in the afternoon to ensure the daily goals are met and to discuss the work performed. Field notes are scanned and the data collected is downloaded into the project folder daily. Field notes are checked by the Field Crew Supervisor to ensure they meet BE and the City of Hollywood standards of quality and completeness.

The Senior Survey Technician processes the data collected daily and creates a plot of said data. A plot of the collected data is provided to the crew chief for review and to perform a walkthrough of the surveyed area. Any missing information is collected before continuing with the assigned daily goal. This practice is proven to minimize the chances of having to return to a project to collect missing information.

Data analysis: BE understands the importance of data analysis in surveying projects. Our technicians and Professional Surveyors and Mappers analyze all the data acquired during the surveying process to ensure that the field methods, as planned, were properly executed and the data resulting from our field measurements is an accurate and true representation of the existing or proposed project necessary to meet the City's CRA expectations. The first data analysis of every project is performed during the control establishment or control verification. Horizontal and vertical controls are the foundation of every job. Different data analysis and adjustment methods are employed by BE staff, the most common one being Least Squares. More than one adjustment technique may be used for each data set including, but not limited to, compass rule, Crandall rule and transit rule. The results of the different adjustments are then analyzed and the best solution, based on the opinions of our team of professionals, is selected. The resulting coordinates are then distributed to all the survey crews and office staff involved in the project and are used during all field data collection and office data processing.

Other types of analyses are performed depending on the type of survey requested. These are discussed below in the approach by Work Type section.

Approach (by Work Type)

BE has a long history of performing all types of surveys throughout South Florida. For the most part, our volume of work speaks for itself, but there are a few areas where we feel it is necessary to illustrate our approach.





Boundary Surveys (Property Surveys)

At Biscayne Engineering Company, Boundary Surveys are taken very seriously. While all surveys are prepared to the highest standards, BE recognizes that Boundary Surveys are used to describe the limits of ownership, to define work limits for construction and are often used in real estate transactions.

All monuments that are found must be proven or disproven and all monuments that are set must be substantiated by suitable evidence.

BE develops boundaries by collecting evidence. Some of this evidence comes in the form of prior surveys, plats, etc., and some comes in the form

of located survey monuments. We are privileged at BE to have such an extensive library of historic surveying records for South Florida. With 120 years of experience, it seems that there is hardly an area in South Florida that we have not worked in. Having access to this vast library of information gives us insight into how the region looked a century ago. Such data is invaluable when making boundary decisions and can often help us reduce costs because much of the complicated work has been done.

BE works to develop control outside the property we are surveying. This may consist of block corners, section corners, or other well established points. We use the control to determine our property boundaries, and then check to ensure that it fits well with Monumentation found at the property. Differences will be evaluated and additional evidence will be collected, if required. Based on our findings recommendations may be given to the client if we believe it to be pertinent.

Construction Survey

Construction Surveying is one of the pillars of our company and one of the primary reasons BE has remained at the forefront of surveying for more than a century. Our extensive portfolio of construction projects speaks for itself. From complicated “High Rise” and Highway construction projects with extremely aggressive schedules to landmark projects such as the construction of the Miami Metro Rail and most recently the Brightline – Miami Station, BE has been involved and continues to be a driving force in the development of South Florida. BE has all the tools and trained personnel required to bring a construction project from the design phase to construction completion successfully. Having accurate control is of utmost importance as it is the foundation for every project. BE prides itself in the art of establishing proper horizontal and vertical control that can be preserved for the duration of the project. BE understands the importance of adhering to construction schedules and makes these a priority by having crews available for a project within 24-hours or less. BE project manager works directly with the construction Superintendent to ensure that all field requests are completely understood and that the crews understand the client needs every time.

Preparation of Sketches and Legal Descriptions

BE has a wealth of experience preparing legal descriptions and Sketches to Accompany Legal Descriptions for a wide variety of public and private sector clients. It is not uncommon that in preparation for (or during the course of) a roadway or neighborhood survey it is determined that either permanent or temporary easements are needed to construct the project, or in other cases a dedication of right-of-way is required. Preparing a legal description requires an understanding of the precise location of the premises to be described (with respect to land boundaries) as well as an ability to clearly

communicate the results in a manner which is harmonious with record descriptions in the area. The language of the description should be concise, precise, and unambiguous. Our objective is to describe the land to the exclusion of all others.

BE prepares easements, legal descriptions and sketches on a daily basis. These items range in size and scope. Some may be used for discussion purposes, while others are used for meeting municipal/county/state requirements. At times, a legal description and accompanying sketch are prepared for the purpose of creating an easement through an instrument for official recordation. Our clients can rest assured that BE has extensive knowledge of these items.

Roadway Design Surveys

BE has a wealth of experience in preparing surveys for roadway design. As a current and prior consultant to the Florida Department of Transportation, District 4 and 6, and a variety of municipalities, our team has the credentials to handle this work efficiently and professionally.



The first step is usually the establishment of Project Controls (horizontal and vertical throughout the project corridor). Next will be the recovery of monuments which can be used to re-establish the historic baseline or to determine a new baseline of survey if none exist. In addition to locating all fixed, aboveground improvements, cross-sections are taken throughout the project corridor (typically at 50 foot intervals as well as any breaks in grade)(10 feet spacing on pavement). It is common to extend the survey at least 5 feet outside of the existing Right-of-Way, and further if additional Right-of-Way is to be acquired.

Once the data is processed and adjusted in the office, it is common that a Digital Terrain Model (DTM) is prepared. This allows designers to cut cross-sections and profiles if needed, and allows for greater flexibility as designs change. Often times, it will be necessary to review title searches, particularly if additional Right-of-Way is to be acquired.

Subsurface Utility Surveys

Throughout Biscayne's many years of surveying experience, Utility Infrastructure Mapping and Subsurface Utility Engineering (SUE) have proven to be an invaluable asset for our wide variety of clients. Should a need for SUE services arise during the length of this contract, BE will coordinate directly with InfraMap's Project Manager to discuss the project scope in detail until the scope is fully understood by both parties of the team.

InfraMap is a leading provider of Utility Infrastructure Mapping and Subsurface Utility Engineering (SUE) services. They collect utility infrastructure data in the field using sophisticated geophysical techniques and instrumentation (including GPR), with automated data collection gear and state of the art survey equipment; then they merge this information onto the base map in their desired format and collect and present this data to aid our clients in reducing the design and construction cost of major infrastructure projects.



SDI 26-foot Parker

Hydrographic Survey Vessel

Hydrographic Surveys

BE has the resources and expertise to perform hydrographic surveys in inland water bodies, Canals, Lakes, Retention and Detention ponds. BE has completed of 15 miles of hydrographic survey for South Florida Water management District, creating digital terrain models of the canal bottom and cross sections for evaluations by the District. For Hydrographic Surveying that requires off shore and ocean access BE has retained the services of Sea Diversified (SDI).

SDI's primary services that make the firm very unique to the industry is automated hydrographic employing both single-beam, dual-frequency and multi-beam technologies. Personnel of the firm have surveyed hundreds of miles of inland waterways throughout the State of Florida including many coastal regions of the United States, Caribbean, Puerto Rico and the U.S. Virgin Islands.

Hydrographic and remote sensing studies are conducted from one of SDI's fleet of multiple vessels of varying size, type and capabilities. Typical inland and nearshore hydrographic surveys are conducted using a 24-foot survey launch with enclosed cabin and center-hull mounted transducer. This vessel has a trailer for efficient mobilization to any location in Florida. For extreme shallow water operations, SDI has numerous survey skiffs ranging in size for 12 feet to 19 feet. For sediment testing, including vibrating and dive operations, SDI have a 26-foot survey platform with open deck and A-frame.

Experience in Other Survey Related Services

Topographic Surveys

With our long history, it is hard to imagine a company having more experience in the preparation of Topographic Surveys than BE. While no two scopes are alike, there are some basic items that are components of any well prepared Topographic Survey.

First, the Project Manager and all team members must gain a clear understanding of the main purpose our client is requesting the Topographic Survey for to ensure the correct amount of data is collected. Also, equipment must be calibrated: poorly calibrated equipment introduces errors that may be difficult and costly to fix later. Furthermore, any benchmarks (vertical control point) used must be independently verified by a closed bench level circuit to additional benchmark(s). When locating features with the total station, it is imperative that the survey crew regularly checks and records their back sight reading, to ensure that the instrument has not been disturbed.

GPS (global positioning system)

BE uses both Trimble and Topcon GPS units and performs a wide variety of GPS surveys throughout South Florida. BE performs static and RTK surveys and also utilizes the FPRN network. All GPS work is post processed in Trimble Business Center



GIS

Technology is rapidly advancing in the field of Surveying and Mapping. As a full-service Engineering company it is critical that Biscayne adapts to these advancements in our approach to providing professional services of modern measurement that meet our clients' needs. Biscayne can now take field data that was captured by traditional surveying methods and translate it to

a Geographic Information Systems [GIS] platform. GIS is quickly becoming a standard for governmental and large corporate sectors. It is an important tool that helps envision, develop, and formally illustrate ideas of expansion, acquisition, and notable resolution to congestion and resource availability concerns. Historical data may be used as base maps for conceptualizing, understanding, and prescribing action and can specifically be tailored into a GIS database for our clients. A major benefit of Geographic Information Systems as it relates to a municipality would be an infrastructure database that would allow tracking and maintenance of utilities that can be continuously updated in real-time.

Historic Preservation Surveys

BE has also worked on some unique projects that have involved the preservation of protected lands such as American Indian habitation lands in the Miami region. We utilized Static LiDAR technology to give a detailed and precise survey of these areas.

High Definition (HD) Laser Scanning

Biscayne Engineering has been providing high definition surveying services since 2006 through our HD Laser Scanning division using top-of-the-line hardware manufactured by Leica Geosystems. Since the emergence of this technology, Biscayne has been one of the leaders providing numerous clients with various services depending on their specific needs. We have experience working with architectural, archaeological, drainage, structural, topographic and other types of surveys that substantially benefit from this service.

Laser scanning is well suited for many types of jobs where conventional instruments or methods may be inadequate or inefficient. This option allows us to collect millions of points with a high level of accuracy in a matter of minutes and is perfect for unsafe or inaccessible environments. Laser scanning data can also be transformed into a coordinate system and datum allowing an entire site to be virtually captured in a point cloud. The point clouds that are produced provide a high level of detail that are unparalleled by conventional methods while preserving large amounts of data that may be analyzed over time without requiring additional visits to a site.

The benefits of laser scanning services are evident in our high definition surveys and also through inclusive access to Leica's TruView software plug-in that allow our clients to view the point clouds from the comfort of their computers. As this technology and the expectations of our clients continuously evolve, Biscayne Engineering will continue to adapt in order to meet these needs.



Surveying Expert Witness

While surveying and mapping skills are obviously important assets, consultants should also be prepared to defend the CRA in court, should the need arise. Court work is specialized: a good surveyor is not always a good expert. One must be confident, possess excellent communication skills, have some fundamental understanding of the law, and know what to say and what not to say. Being conscious of the courtroom also guides how we prepare our surveys from the outset.

BE has recent successful experience testifying in both jury and non-jury trials. BE has extensive experience in the preparation of Court Exhibits (we are currently assisting the FDOT Districts 4 and 6 Legal Department as well as others on several matters). Surveys and Maps are not always the best choice for conveying complex information in a simple manner. Using Adobe Illustrator, PowerPoint, and other applications, BE has honed its skills at making compelling color graphics for court over the course of many years.

Site Photographs

BE believes that pictures are essential for documenting all aspects of a project. Having access to current site pictures allows us to count and read track signs within the project limits to ensure all are accounted for in our surveys. Pictures prove to be indispensable for drainage surveys. All BE field crews obtain exterior and interior pictures of all drainage and or sanitary sewer structures during each project.

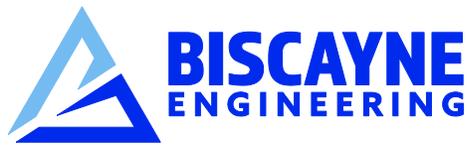
General Surveying

Biscayne's longevity has put us in contact with all types of surveying imaginable, but we don't stop here. As the surveying profession continues to develop new techniques that make data acquisition faster and more accurate, our dynamic team of professionals continues to grow by obtaining training in such techniques. From preparation of legal descriptions and ownership/parcel mapping, appraisal surveys, court testimony to HD Laser Scanning, point cloud processing and data extraction, our seasoned group of professionals has done it all. CRA can feel confident that if they select Biscayne, they will be selecting a team that has the experience, dedication, and technical knowledge to deliver the highest quality products on time and under budget.

Experience in Other Related Services Different to Surveying Services

In-House Civil Engineering

With Biscayne Engineering also being a full service Civil Engineering Firm, we have a unique perspective of visualizing a project from its conception through the design process allowing us to anticipate the surveying needs of our clients. Developers and design professionals need sufficient detail in a survey used for design purposes to understand the existing conditions of a property; the information not always shown on a typical topographic survey. By having engineering expertise in-house, Biscayne is able to provide surveys for design purposes with the understanding of the needs of developers and



design professionals, thus minimizing the need for additional surveying and the scheduling impacts to the project. Biscayne also recognizes that such surveys are used to formulate bids and the information contained in the survey can be valuable in reducing change orders and avoiding scheduling delays.

Permitting

As a firm that offers the public and private sector both surveying and a diverse range of civil engineering services, Biscayne Engineering Company has extensive experience in the permitting process. Many projects require permitting by more than one agency, and each agency has different requirements for permitting a project. Projects could require permitting under a municipal zoning code, under the Florida Building Code, under the regulations of a municipal utility, under the regulations of a County agency, and even permitting through State agencies or federal agencies. Each project has a unique set of permitting requirements depending on the nature of the project and the location of the project, and Biscayne's knowledge of the permitting process is invaluable to insuring that surveys are produced consistent with the requirements of the agencies that will be permitting the project.

Engineering Expert Witness

In addition to serving as expert witness in the area of surveying, Biscayne has been called upon to serve as expert witness with respect to litigation involving engineering design and construction issues. These have included reviewing the design of other professionals for conformance with accepted standards and construction issues such as non-performance by contractors and other contractual issues. Regardless of the claims involved, it is important that an expert witness have a thorough grasp of the background of a project and the basis on which the claims are being made. It is additionally important to reduce this information to the underlying circumstances which led to the claim and present that information in a manner that can be understood by the non-engineering professional.



Schedule for a Typical Project

Over the years Biscayne Engineering Company, Inc. (BE) has consistently demonstrated meeting project schedules is crucial to the success of our clients. We do not take schedules lightly. Our long history shows that Biscayne has been able and will continue to be able to meet even the most challenging schedules to ensure our clients projects are a success.

As stated, BE has assigned Mike Bartholomew, PSM as Project Manager for this contract. Mr. Bartholomew has a wealth of experience managing many similar contracts (including municipal contracts) during his 30 years with the Firm. He understands that in order to successfully manage a contract such as this requires the involvement of licensed professionals at all levels of the process. He believes in a hands-on approach: set aggressive goals and work with the managers and Team Members to make sure these goals are met. Keeping promises is close to an obsession at BE and permeates every aspect of what we do. We strive for 100% customer satisfaction. Furthermore, a project is only successful when all unnecessary involvement of CRA staff has been eliminated.

At BE daily goals are established to track performance. These results are reviewed each day with the Production Manager, CAD Manager and Field Crew Supervisor for every job. Project budgets are updated on a daily basis and reviewed by the Production Manager and the office manager each morning. As work progresses, the Production Manager, Field Crew Supervisor and CAD Manager will provide weekly cost and schedule updates to the Project Manager so that overruns may be avoided. Weekly staff meetings are also held to review progress of every concurrent job undertaken by BE, so that real-time allocation or reallocation of resources can be made to improve the efficiency, reduce costs, and/or to get back on schedule when weather or site conditions negatively affect a particular project task. At these meetings, open communication between staff and managers is encouraged so that all options are considered for project improvement and for maintaining employee morale; making sure that anyone with a creative or innovative suggestion is heard. Where applicable, Team Members will also join the meeting.

Tracking projects' costs, man-hour usage and company resources are handled using Ajera Software and monthly reports are reviewed by management, however, real-time cost reductions and keeping project schedules is best handled with advance planning before starting any project.

Fleet Management

BE utilizes Network Fleet to manage our field/vehicle resources. Network Fleet is a web based, GPS vehicle tracking service which allows us to track our vehicle assets in real time. Network Fleet provides an intuitive interface and easy to use controls which gives us vehicle information such as speed and location as well as a variety of vehicle statistics.

This service allows us to allocate resources in the most efficient manner possible, making it possible for project managers to make quick decisions regarding field crew assignments.

Project Workflow

There are three things that are a ‘must’ on any of BE’s projects: (1) Top Quality (2) Aggressive Schedule and (3) Competitive Cost. The project is not considered successful unless we have achieved all three of these objectives. Allowing quality to suffer, in pursuit of reducing costs, for example, would be considered a failure at BE. We demand that all three goals are achieved.

BE has learned over the years that putting experienced, licensed professionals in charge of each level of production (including QC) is the best way to ensure a successful project that achieves these goals. Under this management model, we have found that quality improves, schedules improve, and costs go down. Furthermore, this model has allowed us to quickly scale up (adding crews for example) without losing momentum in the pursuit of these three goals.

QA/QC Plan

BE takes Quality Control very seriously. It is for this reason that we have assigned Selvin Bruce, PSM, as Quality Control Manager for this project. In this position, Mr. Bruce will be responsible for developing both field and office QC procedures. Using his many years of previous experience he will ensure that our final product has been prepared to the highest possible standard.

Below is a summary of some of the key components of the Field and Office Quality Control Plans.

Field Work

Equipment Calibration

Total Stations distance measurements will be checked bi-weekly against a series of points that we have established near our office and the results will be kept in the QC Manager’s office for inspection. At this time, it will also be determined if crosshair adjustments (collimation corrections) must be made, and if so, will be made in-house. Tribrachs will also be evaluated at this time, and if adjustments are required, they will be made in-house as well. Levels will be regularly peg tested, and the results will be kept in the field book and copies will be provided to the QC Manager.

Periodically, field equipment (total stations, GPS, levels, HD laser scanner, etc.) will be sent to a service center for calibration. Records of these calibrations will be kept with the QC Manager.

Control baseline checks

Control baseline (or suitable alternative) checks will be performed at scheduled intervals to ensure that total stations are in good working order, and a record of these observations will be kept with the QC Manager.

Backsight checks

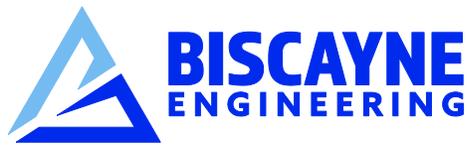
The QC Manager will check the field notes/raw data to ensure that backsights are checked and recorded at least every 30 minutes.

Site photographs

Photographs will be taken regularly through the course of the work. Pictures are invaluable to the staff when preparing the drawing, and also allow the party chief to show areas of interest or concern. Photographs can also help the CRA understand drawing features.

Field inspections

After a field assignment has been completed, an independent walk through will be performed by the QC Manager or his designee. In addition to verifying the accuracy and completeness of the field work,



the QC Manager will be looking for visible evidence of easements and evidence of use by others (billboards, overhead wires, etc.). Florida Standards of Practice compliance will also be evaluated at this time. A markup of his finding will be prepared and shared with the CAD department (via the Production Manager), and will be kept in the QC file.

Redline field notes

Field notes will be redlined on a daily basis and will be provided to the party chief (via the Production Manager) for revision, if necessary. Field notes will not be erased, however, under any circumstances. The QC Manager will be checking for presentation, clarity, cross-references, and data sources. All control and boundary work will be maintained in the field book, and setup data will be recorded for topographic data collected with the data collector.

With such a long history, BE understands the importance of developing and enforcing standards with the manner in which field notes are recorded. These important records will be relied upon decades from now by the CRA, BE employees and others and when standards are followed, it becomes much less challenging to understand the work performed.

Florida Standards of Practice check

All field work will be checked against a Florida Standards of Practice Checklist prior to submittal of a project. A copy of the checklist will be kept in the QC Manager's file.

Office Work

CAD layering standards/templates

The QC Manager will implement and enforce the use of CAD layering standards and drawing templates. The purpose of this is to ensure that a consistent product is provided to the CRA, to simplify checking and to allow development of a product that can be easily plotted and modified in the future.

Redline drawings

Drawings will be redlined at appropriate intervals during the course of the work, as dictated by the size of the project. The QC Manager will initial and date the markup and the person incorporating the changes will also initial and date the markup. The QC Manager or an independent reviewer will back check the markups against a revised drawing to ensure all required modifications were implemented.

Legal Description/Area check

Legal Descriptions will be prepared by a Licensed Professional Surveyor and Mapper and will be checked by the QC Manager or his designee.

The review of the legal description will include independently plotting the description to ensure it closes and can be properly interpreted. An area check will be performed as well.

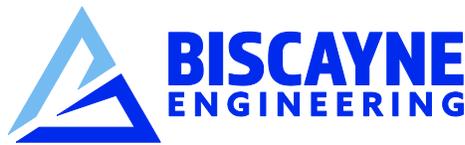
Safety and Security

Safety is of paramount importance to the CRA and to Biscayne. Each Crew Chief maintains the proper MOT certification. We maintain FEC Roadway Worker Protection, CSX certification, OSHA 30, Confined Space Certifications and First Aid. Biscayne will utilize off-duty Florida Highway Patrol to provide security services and Maintenance of Traffic support in those circumstances where the safety of our field personnel and/or the traveling public may be at risk.

Commitment to Budget

Biscayne strives to develop a budget that is as cost conscious as possible. We don't do this by cutting corners (and we are interested in the success of both CRA and BE): we do this by taking time to develop what we believe is an intelligent approach to completing the work. We don't want CRA to pay for waste, so we strive to eliminate waste. This may involve spending a little time at the outset to develop a





comprehensive work plan with our crews, to eliminate unnecessary return trips. It may also involve some extra training on specialized software in the office to ensure our whole team works like a well-oiled machine.

Staff Availability & Workload

BE has evaluated our current workload, as well as trends observed from prior months and years and we believe that we are in an excellent position to take on this project with an estimated 48% manpower availability. The CRA can feel confident that BE has the staff and resources needed to take on this project immediately.

The following graphic demonstrates the current individual availability for our team:

BISCAYNE ENGINEERING KEY PERSONNEL	
Key Personnel	Availability
Mike Bartholomew, PSM (BE)	45%
Selvin Bruce, PSM (BE)	48%
Alberto Rabionet, PSM (BE)	52%
Warren Role (BE)	54%
Jesse Muckerman (BE)	56%
Michael Goodman, MPM, CIPM (InfraMap)	45%
William T Sadler, Jr, PE, PSM	65%

BE has developed a technical staff which is goal oriented and flexible. We understand that keeping clients happy means delivering a great product on time and under budget. Our main office is open every weekday from 6:30 in the morning to 8:00 in the evening (and weekends, if required) for that very reason. The current workload of BE is absorbing approximately 65% of our current workforce including all existing Professionals, CAD operators, survey technicians, field crews, and administrative personnel.

All survey operations are conducted under the responsibility of a Professional Surveyor and Mapper registered in the State of Florida. Staff members include five (5) Professional Surveyors and Mappers registered in the State of Florida to oversee and manage all survey related activities of the firm. Other support staff includes GIS/Computer specialists, field party chiefs, instrument persons, rod persons, survey technicians, and computer/CADD personnel.



Location

Biscayne Engineering presently operates two fully staffed offices located in Palm Beach County and Miami-Dade County with our ***Palm Beach Location serving as primary location*** for this request for qualification.

Biscayne's Boca Raton Office is conveniently located next to I-95 in the city of Boca Raton. Our proximity to I-95 allows ready access to the City of Hollywood offices. The relationship between our offices and the CRA means that survey crews can reach all prospective project locations within 30 minutes. We have designed our offices so that on all of our projects, we are able to build great teams by joining the efforts of both offices.

Throughout our long history, Biscayne has worked successfully throughout the entire State of Florida, and we regularly perform work in Broward, Palm Beach, Miami-Dade, Collier, Martin and Monroe Counties.

Project Experience

Project Experience

Edgewood Neighborhood

Project Owner: Hazen & Sawyer

Contract Person: Robert Taylor, Jr., P.E.

Phone Number: 954-987-0066

Period of Services: 2018

This project consisted of the preparation of a Topographic Survey, Drainage Survey, R/W and Baseline determination. Size: Approximate 26,000 linear feet for phase 1 and Approximate 7,000 linear feet for phase 2.

University of Miami/RSMAS

Project Owner: University of Miami

Contract Person: Bill Campanella, PE

Phone Number: 305-243-9534

Period of Services: 2018

This project consisted of preparing two (2) Sketch and Legal Descriptions for Miami-Dade Water and Sewer Department Water Line Easement Extensions / Additions to the existing Water Line Easement at RSMAS (University of Miami), Review and Plot the existing information from the recorded instruments provided by client, and verify and existing Water Line As-Built with regards to the most current Biscayne Engineering survey.

3250 NE 56 Court, FL Lauderdale, FL

Project Owner: Juan E. Figueras, PA

Contract Person: Juan E. Figueras

Phone Number: (305)595-3750

Period of Services: 2017

This project consisted of the preparation of Boundary survey of 3250 NE 52nd court, Fort Lauderdale and the location of sufficient property corners and centerline control to determine the location of the property. Also, the location of the existing features as to determine and depict the proximity to the building setback lines.

SR 9 (I-95) at 6th Avenue South, Palm Beach County

Project Owner: Florida Department of Transportation District 4

Contract Person: Paul E. Doll, PSM

Phone Number: (954)777-4579

Period of Services: 2017

Biscayne Engineering established primary, secondary and aerial control, using GPS/RTK and conventional methods obtained topographic DTM data on all the obscured areas identified by the aerial firm. This included elevations on all soft surfaces (natural ground) areas, performed drainage and underground utility surveys and established baseline of survey and R/W lines within the project limits and prepared a PNC sheet. High Definition laser scanning was used to survey the I-95 underpass and TopoDOT for the extraction or topographic data from the point cloud. **(Approximately 1.2 miles).**

SR 838 (Sunrise Boulevard) at 16th Avenue

Project Owner: Watman Group, Inc.

Contract Person: Sam Hall

Phone Number: (561)687-2220

Period of Services: 2017

This project consisted of Stake out of a portion of the Right of way of Sunrise Boulevard at the intersection of NE 16th Avenue and location of the existing features along the right of way (Chain link fence, sidewalks, and building location to show the ties to the right of way.

SR 9 from Miami-Dade/Broward County Line to Johnson Street

Project Owner: Florida Department of Transportation District 4

Contract Person: Paul E. Doll, PSM

Phone Number: (954)777-4579

Period of Services: 2017

Biscayne Engineering established primary, secondary and aerial control, using GPS/RTK and conventional methods obtained topographic DTM data on all the obscured areas identified by the aerial firm as well as elevations on all soft surfaces (natural ground) areas, performed drainage and underground utility surveys, established Baseline of Survey and R/W lines within the project limits and prepared a PNC sheet. Per the District request High Definition Laser Scanning was used to survey the I-95 underpasses for the three State Road crossings located within the project limits (SR 858, SR 824 and SR 820). TopoDOT was used for the extraction or 3D topographic data from the point cloud to prepare the typical FDOT deliverables. **(Approximately 5.1 miles)**

Strive for 19 Structures (Miami-Dade & Broward County)

Project Owner: South Florida Water Management District

Contract Person: Howard Ehmke

Phone Number: 561-682-2978

Period of Services: 2017

Project consisted of asbuilt 19 structures' elevations in North American Vertical Datum of 1988. Services provided by Biscayne Engineering Company included:

- Provide a drawing showing the approximate project location and survey limits
- Provide a copy of the structures US Army Corps of Engineers asbuilt maps
- Provide the structures' DBHydro Information
- Provide control point description sheets

Southern Glades-C11 Basin Restoration Boundary Services

Project Owner: South Florida Water Management District

Contract Person: Howard Ehmke

Phone Number: 561-682-2978

Period of Services: 2016

The project consisted of establishing the boundary of four sections and delineating eighty-three (83) parcels within said sections.

- Provided a Boundary Survey
- Performed Title Analysis



INFRAMAP PROJECTS

FDOT District 4 - District-Wide Utility Locating Services Contract # C-9161 (April 18, 2011 - Current): InfraMap has provided utility designating, air/vacuum test holes, survey and EFB/CAiCE/MicroStation CADD on highway projects in District 4 in support of the District's pre-design program through private consultants and in-house design program. InfraMap has had a district-wide utility locating contracts since 1996. Reference: Mr. Jeff Smith, District Surveyor (954) 777-4579

North County Neighborhood Improvement Projects (Multiple Phases) 2009 - 2015: Broward County Urban Redevelopment water main improvement projects entailed multiple phases of over five hundred test hole locations most recently throughout the City of Oakland Park, BP-10. Other project phases included Broward County WWS UAZ Stirling Road water main improvement Task work orders also subsurface utility locating and mapping. InfraMap has performed careful utility conflict investigations and completed projects well within anticipated deadlines as the sub consultant to Craven Thompson & Associates, Inc. Reference: Mr. Pat Gibney & Mr. Johnny Gil (954) 739-6400

FDOT District 6 District-Wide Utility Locating Services Contract # C-9C12 (July 25, 2013 – Current): InfraMap has provided utility designating, air/vacuum test holes, survey and EFB/CAiCE/MicroStation CADD on highway projects in District 6 in support of the District's pre-design program through private consultants and in-house design program. InfraMap has had consecutive district-wide utility locating contracts since 1997. Reference: Mr. Tony Soto, Project Manager (305) 470-5232

**Intracoastal Waterway (ICWW) and Dania Cutoff Canal
Hydrographic and Submerged Utility Location Surveys
Broward County, Florida**



Client: *Taylor Engineering, Inc.*
10151 Deerwood Park Blvd, Bldg 300,
Jacksonville, FL 32256



Contact: *Mr. Jonathan Armbruster, P.E.*
Vice President, Waterfront Engineering
(904) 731-7040

Nature of Work:

- Multi-beam Bathymetric Survey
- Side Scan Sonar Investigation
- Magnetometer Investigation
- Diver Investigations

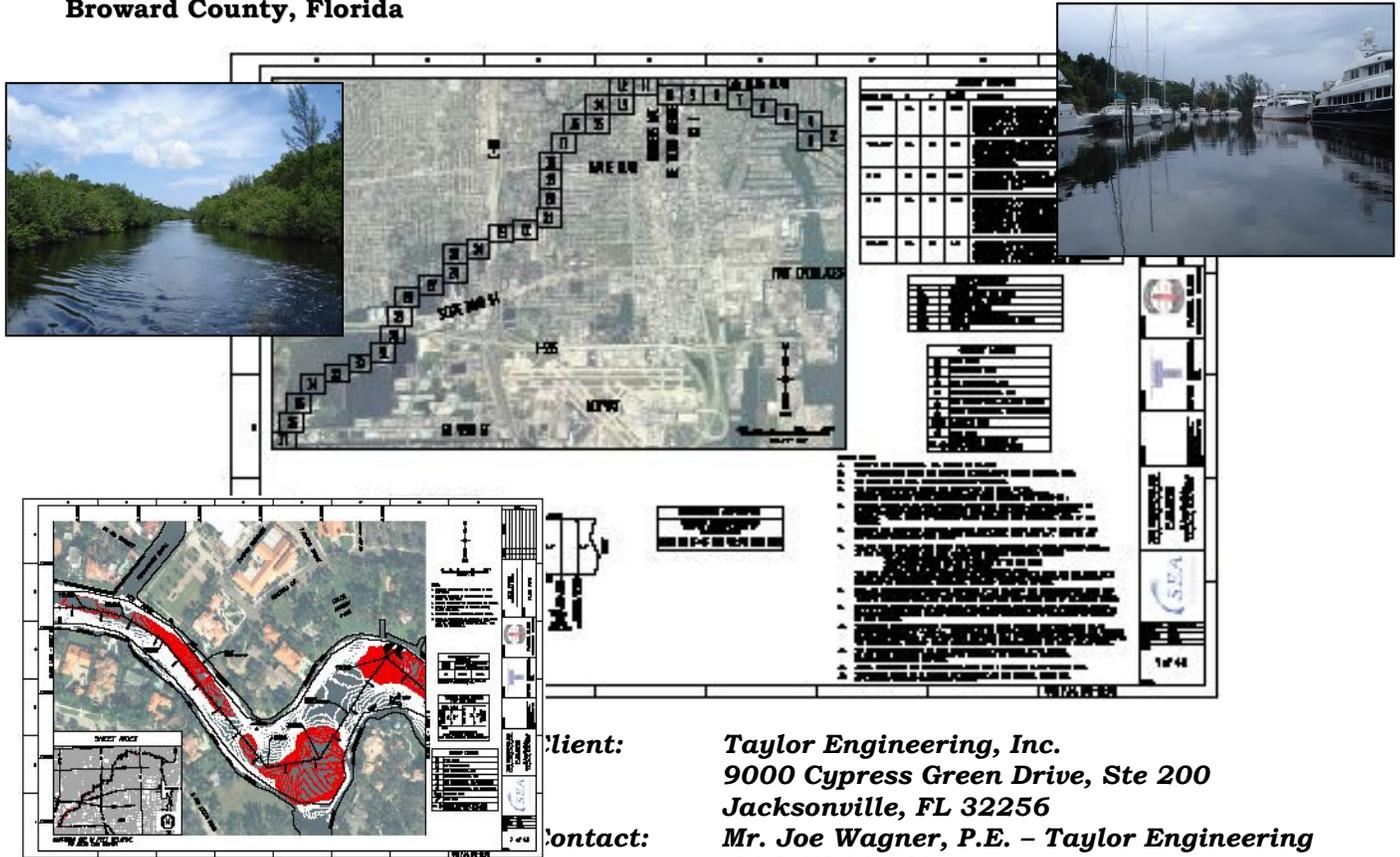
Project Description:

- Bathymetric multi-beam survey of a portion of ICWW encompassing approximately 14,300 linear feet of waterway from the 17th Street Causeway north to a point 4,000 feet north of the Las Olas Boulevard bridge, and Dania Cutoff Canal encompassing approximately 4,700 linear feet of waterway extending from the southwestern end of Port Everglades to US 1 Highway
- Side scan sonar survey of the waterway at each project location to identify and map exposed cables or other utilities lying on the bottom
- Magnetometer investigation to identify and map features of ferrous composition that are either buried or projecting above the seafloor including submerged cables and pipelines and /or other submerged items that may be pertinent to the channel deepening project
- Upon completion of survey operations, a dive team was deployed to electronically track and subsequently expose, identify and map the horizontal and vertical location of reported and/or mapped utility crossings at each project location

Sea Diversified, Inc.
151 NW 1st Avenue
Delray Beach, Florida 33444
561.243.4920 (Phone) – 561.243.4957 (Facsimile)
www.seadiversified.com



**Florida Inland Navigation District
New River Bathymetric / Sub-Bottom Profile Survey
Broward County, Florida**



Client: *Taylor Engineering, Inc.
9000 Cypress Green Drive, Ste 200
Jacksonville, FL 32256*

Contact: *Mr. Joe Wagner, P.E. – Taylor Engineering
(904) 731-7040*

Nature of Work:

- Bathymetric Surveys (Single & Multi-beam)
- Sub-bottom Profile
- Sediment Probes



Project Description:

- Bathymetric and sub-bottom profile survey of 7.9 miles of the New River in Broward County, Florida to support of a study pertaining to the proposed deepening of this segment of waterway
- Bathymetric data collected along cross sections perpendicular to the established centerline of the river, with additional cross-sections at bends in the river and confluences with other waterbodies
- Sub-bottom profile data collected along the longitudinal transects established for the bathymetric survey operations using a digital, high-resolution sub-bottom profiler operating at multiple frequencies
- Sediment probes conducted along the same cross sections established for the bathymetric survey to groundtruth the results of the sub-bottom profile survey
- As part of the field data collection efforts, features lying within the survey limits of the river were located and described for subsequent mapping purposes

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Litigation

Litigation

Biscayne Engineering Company, Inc. is currently involved in the following minor litigation:

1. Biscayne Engineering Company, Inc. was named as a party among other parties in the litigation filed by Annex Industrial Park, LLC. The status of this litigation is ongoing and pertains to an Engineering plan.
2. Biscayne Engineering Company, Inc. was involved in litigation regarding general liability with Anne Chioffe back in 2015. This litigation was settled for \$2,500.00.

Certificate of Insurance

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