

**PALM BEACH COUNTY  
BOARD OF COUNTY COMMISSIONERS**

**AGENDA ITEM SUMMARY**

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<b>Meeting Date:</b>	June 10, 2025	(X) Consent	( ) Regular
		( ) Workshop	( ) Public Hearing
<b>Department:</b>	<u>Environmental Resources Management</u>		

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**I. EXECUTIVE BRIEF**

**Motion and Title:** **Staff recommends motion to approve:** Consultant Services Authorization No. 0090-13 (CSA) to Contract (R2023-0090) (Contract) approved on January 24, 2023 with Foth Infrastructure & Environment, LLC (Foth) in the amount of \$217,999.64 to provide professional engineering, environmental surveys, reporting, and documentation to be used in permit required monitoring.

**Summary:** The Board of County Commissioners (BCC) approved the Contract with Foth, a Jacksonville company, on January 24, 2023. The CSA authorizes Foth to conduct yearly topographic and hydrographic surveys required by project permits. The CSA also contains optional tasks for post-hurricane surveys and damage assessment reports to aid in securing disaster assistance funding. Costs will be paid from the Beach Improvement Fund. This project was presented to the Goal Setting Committee on April 6, 2022 and the Committee established an Affirmative Procurement Initiative of 20% mandatory Small Business Enterprise (SBE) subcontracting goal and a SBE evaluation preference for Prime Bidders. Foth committed to an overall 48% SBE participation in the Contract. The SBE proposed participation for this CSA is 69.8%. To date, the overall participation achieved on this Contract is 71%. **The cost to the County is \$217,999.64.**



**Districts 1 and 4 (YBH)**

**Background and Justification:** Yearly physical monitoring surveys are required as permit conditions for existing beach and dune restoration projects located throughout Palm Beach County. Post disaster surveys and damage reports are critical to securing funding assistance from the Federal Emergency Management Agency and the United States Army Corps of Engineers.

**Attachment:**

1. CSA No. 0090-13 with Exhibits A – D

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<b>Recommended by:</b>		<b>5-5-2025</b>
	<small>lybh</small> <b>Department Director</b>	<b>Date</b>
<b>Approved by:</b>		<b>5/16/25</b>
	<b>Deputy County Administrator</b>	<b>Date</b>

## II. FISCAL IMPACT ANALYSIS

### A. Five Year Summary of Fiscal Impact:

Fiscal Years	2025	2026	2027	2028	2029
Capital Expenditures	<u>\$218,000</u>	_____	_____	_____	_____
Operating Costs	_____	_____	_____	_____	_____
External Revenues	_____	_____	_____	_____	_____
Program Income (County)	_____	_____	_____	_____	_____
In-Kind Match (County)	_____	_____	_____	_____	_____
NET FISCAL IMPACT	<u>\$218,000</u>	_____	_____	_____	_____
No. ADDITIONAL FTE POSITIONS (Cumulative)	_____	_____	_____	_____	_____

Is Item Included in Current Budget? Yes X No \_\_\_\_\_  
Does this item include the use of federal funds? Yes \_\_\_\_\_ No X  
Does this item include the use of state funds? Yes X No \_\_\_\_\_

Budget Account No.:

Fund 3652 Department 381 Unit M015, M028, M037, M040, M044, M045, and M046

Object 3120 Program \_\_\_\_\_ Reporting Category \_\_\_\_\_

### B. Recommended Sources of Funds/Summary of Fiscal Impact: Beach Improvement Fund

### C. Department Fiscal Review:

SKing

## III. REVIEW COMMENTS

### A. OFMB Fiscal and /or Contract Dev. and Control Comments:

Laura M. White 5/5/25 Minda Brach 5/8/25  
OFMB DASIS QA 515 Contract Development and Control 20 5/6/25

### B. Legal Sufficiency:

\_\_\_\_\_  
Assistant County Attorney

### C. Other Department Review:

\_\_\_\_\_  
Department Director

CONSULTANT SERVICES AUTHORIZATION

CSA #: 0090-13 CONSULTANT: Foth Infrastructure & Environment, LLC

ACCOUNT: various CONTRACT: R2023-0090; R2025-0036

[Fiscal approval of Budget Availability: See attached BAS (Exhibit A)]

PROJECT MANAGER: Hailey Wilson PHONE: 561-233-2465

CONTRACT MANAGER: Juan Cueto PHONE: 561-233-2431

PROJECT NAME: 2025 Regional Monitoring Surveys and Post-Storm Damage Assessment

LOCATION/DISTRICT #: Countywide Coastline and Atlantic Ocean / Districts 1 and 4

TASK DESCRIPTION (use additional pages if necessary): The Consultant shall conduct and prepare surveys and provide data, as described in the attached Foth proposal dated April 1, 2025 (Exhibit C). OEBO Schedules 1 and 2 (Exhibit B) and the Contract History (Exhibit D) are attached hereto and made part of this CSA. Execution of Tasks 12 through 21 will require separate written Notice to Proceed from the County.

DELIVERABLES: See Foth’s proposal dated 4/1/2025 (Exhibit C).

CSA TYPE: FIXED PRICE DUE DATE: January 31, 2026

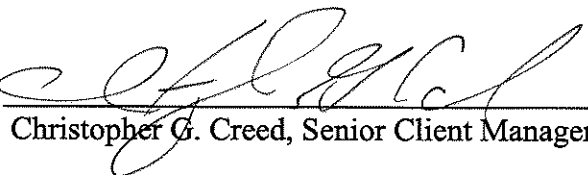
TOTAL AMOUNT: \$217,999.64

(Check where appropriate)
for Contract and Subcontract Amounts:

	Black	Hispanic	Women	Other (specify)	White Male
M/WBE (State) <input type="checkbox"/>	\$	\$	\$	\$	
SBE-M/WBE* <input type="checkbox"/>	\$	\$	\$	\$	
SBE <input checked="" type="checkbox"/>	\$	\$	\$	\$	\$152,272.00

\*certified as both an SBE and a State MBE
TOTAL SBE PARTICIPATION: \$152,272.00

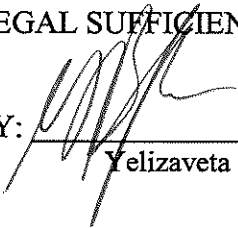
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CONSULTANT REP:  DATE: 4/8/15  
Christopher G. Creed, Senior Client Manager

APPROVED AS TO TERMS AND CONDITIONS:

ERM DIRECTOR:  DATE: 4-28-25  
Deborah Drum

APPROVED AS TO FORM AND LEGAL SUFFICIENCY:

ASSISTANT COUNTY ATTORNEY:  DATE: 5/8/25  
Yelizaveta B. Herman

ATTEST: JOSEPH ABRUZZO  
CLERK & COMPTROLLER: \_\_\_\_\_ DATE: \_\_\_\_\_  
Deputy Clerk

BOARD OF COUNTY COMMISSIONERS: \_\_\_\_\_ DATE: \_\_\_\_\_  
Maria G. Marino, Mayor



Palm Beach County  
Environmental Resources Management

INTERDEPARTMENTAL BUDGET AVAILABILITY STATEMENT

REQUEST DATE: 04/09/2025

REQUESTED BY: Juan Cueto

PHONE: 233-2431

PROJECT TITLE: Regional Monitoring Surveys

PROJECT NO: CSA 0090-13

SITE: Multiple

ACTIVITY: Monitoring

CONTRACTOR/CONSULTANT NAME: Foth Infrastructure & Environment, LLC.

SCOPE OF SERVICES: Regional Monitoring Surveys & Post-Storm Damage Assessment

BUDGET ACCOUNT NUMBER(S):

<u>Fund</u>	<u>Dept</u>	<u>Unit</u>	<u>Obj</u>	<u>SObj</u>	<u>Program</u>	<u>(Proj) Task</u>	<u>(Site) Sub Task</u>	<u>(Activity) Task Ord</u>	<u>Amount \$</u>
3652	381	M015	3120		E015	S040	COCR	008	20,034.02
3652	381	M028	3120		E028	S032	CJUB	008	35,456.98
3652	381	M037	3120		E037	S049	CSII	008	40,599.29
3652	381	M040	3120		E040	S048	CCOC	008	35,682.29
3652	381	M044	3120		E044	S023	CSPB	008	2,862.64
3652	381	M045	3120		E045	S045	CJUC	008	30,903.55
3652	381	M046	3120		E046	S029	CSLW	008	52,460.87
Total									217,999.64

FISCAL APPROVAL: Shing DATE: 4/16/25

ENCUMBRANCE NUMBER: \_\_\_\_\_

OEBO SCHEDULE 1

SOLICITATION/PROJECT/BID NAME: 2025 Regional Monitoring Surveys and Post-Storm Damage Assessment

SOLICITATION/PROJECT/BID NO.: CSA No. 0090-13

SOLICITATION OPENING/SUBMITTAL DATE: n/a

COUNTY DEPARTMENT: Environmental Resources Management

Section A PLEASE LIST THE DOLLAR AMOUNT OR PERCENTAGE OF WORK TO BE COMPLETED BY THE PRIME CONTRACTOR/CONSULTANT\* ON THE PROJECT:

NAME OF PRIME RESPONDENT/BIDDER: Foth Infrastructure & Environment, LLC ADDRESS: 2618 Herschel Street, Jacksonville, FL 32204

CONTACT PERSON: Steven C. Howard, P.E. PHONE NO.: 904-387-6114 E-MAIL: Steve.Howard@foth.com

PRIME'S DOLLAR AMOUNT OR PERCENTAGE OF WORK: \$65,727.64 Non-SBE MBE WBE SBE

\*SMWBE Prime's must include their percentage or dollar amount in the Total Participation line under section B.

Section B PLEASE LIST THE DOLLAR AMOUNT OR PERCENTAGE OF WORK TO BE COMPLETED BY ALL SUBCONTRACTORS/SUBCONSULTANTS ON THE PROJECT BELOW:

Subcontractor/Sub consultant Name	(Check all Applicable Categories)				DOLLAR AMOUNT OR PERCENTAGE OF WORK					
	Non-SBE	MBE	WBE	SBE	Black	Hispanic	Women	Caucasian	Asian	Other
	Minority Business	Minority Business	Women Business	Small Business						
1. Terraquatic, Inc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				\$152,272.00		
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						

(Please use additional sheets if necessary)

Total Bid/Offer Price \$217,999.64 Total Certified S/M/WBE Participation \$152,272.00

I hereby certify that the above information is accurate to the best of my knowledge: [Signature] Sr. Client Team Leader

- Note:
- 1. The amount listed on this form for a Subcontractor/sub consultant must be supported by price or percentage listed on the properly executed Schedule 2 or attached signed proposal.
  - 2. Only those firms certified by Palm Beach County at the time of solicitation due date are eligible to meet the established OEBO Affirmative Procurement Initiative (API). Please check the applicable box and list the dollar amount or percentage under the appropriate demographic category.
  - 3. Modification of this form is not permitted and will be rejected upon submittal.

OEBO LETTER OF INTENT – SCHEDULE 2

Exhibit B  
(page 2 of 2)

A completed Schedule 2 is a binding document between the Prime Contractor/consultant and a Subcontractor/subconsultant (for any tier) and should be treated as such. The Schedule 2 shall contain bolded language indicating that by signing the Schedule 2, both parties recognize this Schedule as a binding document. All Subcontractors/subconsultants, including any tiered Subcontractors/subconsultants, must properly execute this document. Each properly executed Schedule 2 must be submitted with the bid/proposal.

SOLICITATION/PROJECT NUMBER: **CSA No. 0090-13**  
SOLICITATION/PROJECT NAME: **2025 Regional Monitoring Surveys and Post-Storm Damage Assessment**

Prime Contractor: **Foth Infrastructure & Environment, LLC** Subcontractor: **Terraquatic, Inc.**

(Check box(s) that apply)

☒SBE ☐WBE ☐MBE ☐M/WBE ☐Non-S/M/WBE Date of Palm Beach County Certification (if applicable): **7/20/23-7/19/26**

The undersigned affirms they are the following (select one from each column if applicable):

Column 1	Column 2	Column 3
<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female	<input type="checkbox"/> African-American/Black <input type="checkbox"/> Asian American <input checked="" type="checkbox"/> Caucasian American <input type="checkbox"/> Hispanic American <input type="checkbox"/> Native American	<input type="checkbox"/> Supplier

**S/M/WBE PARTICIPATION** – S/M/WBE Primes must document all work to be performed by their own work force on this form. Failure to submit a properly executed Schedule 2 for any **S/M/WBE** participation may result in that participation not being counted. Specify in detail, the scope of work to be performed or items supplied with the dollar amount and/or percentage for each work item. S/M/WBE credit will only be given for the areas in which the S/M/WBE is certified. A detailed proposal may be attached to a properly executed Schedule 2.

Line Item	Item Description	Unit Price	Quantity/ Units	Contingencies/ Allowances	Total Price/Percentage
	Professional Surveying Services				\$152,272.00

The undersigned Subcontractor/subconsultant is prepared to self-perform the above-described work in conjunction with the aforementioned project at the following total price or percentage: **\$152,272.00**

If the undersigned intends to subcontract any portion of this work to another Subcontractor/subconsultant, please list the business name and the amount below accompanied by a separate properly executed Schedule 2.

Name of 2<sup>nd</sup>/3<sup>rd</sup> tier Subcontractor/subconsultant

Price or Percentage:

Foth Infrastructure & Environment, LLC

Print Name of Prime

By:

Authorized Signature

CHRISTOPHER G. CREED

Print Name

Title

Date:

4/8/25

Terraquatic, Inc.

Print Name of Subcontractor/subconsultant

By:

Authorized Signature

Print Name

Title

Date:

APRIL 8, 2025

Foth Infrastructure & Environment, LLC  
2618 Herschel Street  
Jacksonville, FL 32204  
(904) 387-6114  
foth.com

April 1, 2025

Hailey Wilson, Environmental Analyst  
Palm Beach County Department of Environmental Resources Management  
2300 North Jog Road, 4th Floor  
West Palm Beach, FL 33411-2743

Re: Annual Coastal Engineering Contract  
CSA 0090-13 Proposal: 2025 Regional Monitoring Surveys & Post-Hurricane FEMA Project  
Worksheet Assistance; Palm Beach County, Florida

Dear Ms. Wilson;

At the request of Palm Beach County ("County"), Foth Infrastructure & Environment, LLC | Olsen Associates, Inc. (Foth | Olsen, "Consultant") is pleased to present the following proposal for Consultant Services Authorization (CSA) 0090-15 to be completed under our existing annual services contract. This proposal details data collection and engineering services in support of the County's 2025 Beach Physical Monitoring initiative. All surveying and mapping work will be conducted by Foth | Olsen's subconsultant Terraquatic, Inc. Foth | Olsen's role in collection of the survey data will be limited to contract management, coordination, and QA/QC for general compliance. A detailed summary of total proposed costs and Terraquatics' statement of work and cost proposal are attached to this letter. The 2025 annual physical monitoring includes 11 distinct task items, as follows:

#### Tasks 1 through 11: 2025 Annual Physical Monitoring

- Task 1 = R1 to R8 (8) Onshore/offshore profiles
- Task 2 = R1.5 to R7.5 (7) Wading depth profiles at intermediate monuments
- Task 3 = R13 to R23 (11) Onshore/offshore profiles
- Task 4 = T24 to R45 (22) Onshore/offshore profiles
- Task 5 = R58 to R75 (18) Onshore/offshore Profiles
- Task 6 = R61.5 to R66.5 (6) Wading depth profiles at intermediate monuments
- Task 7 = R134 to R151 (18) Onshore/offshore profiles
- Task 8 = T152 to R164 (13) Onshore/offshore profiles
- Task 9 = Jupiter Ebb Shoal (No 2025 Action Required. Intentionally left blank.)
- Task 10 = SLWI Ebb Shoal (Bathymetric Survey)
- Task 11 = SLWI Flood Shoal (Bathymetric Survey)

This proposal includes additional allowance for completing post-hurricane surveys, engineering analyses, and providing coordination with the Federal Emergency Management Agency (FEMA) to



develop a storm damage report(s) in support of FEMA Category G Project Worksheet(s) for the County's existing, non-Federal coastal projects. For these tasks, all surveying and mapping work will be conducted by Terraquatic, Inc., and all engineering analyses and post-storm report development will be conducted by Foth | Olsen. Post-storm survey work is divided into seven tasks, numbered 12 through 19 (task 18 is omitted for 2025). A summary of the statement of work follows, and a statement of the proposed fees is attached to this letter.

Each post-storm task, 12 through 19, is to be completed on a contingency basis and requires written Notice to Proceed from the County. A description of the proposed means and methods to be used for completion of each survey task is included in the attached statement of work from Terraquatic, Inc.

#### Tasks 12 through 19: Post-storm beach survey

- Task 12 = Post-Storm R1 to R8 (8) Onshore/offshore profiles
- Task 13 = Post-Storm R1.5 to R7.5 (7) Wading depth profiles at intermediate monuments
- Task 14 = Post Storm R13 to R23 (11) Onshore/offshore profiles
- Task 15 = Post-storm T24 to R45 (22) Onshore/offshore profiles
- Task 16 = Post-Storm R61 to R67 (7) Onshore/offshore Profiles
- Task 17 = Post-Storm R61.5 to R66.5 (6) Wading depth profiles at intermediate monuments
- Task 18 = Intentionally left blank
- Task 19 = Post-Storm T152 to R164 (13) Onshore/offshore profiles

#### Deliverables and Project Timeline (Tasks 1 through 19)

Final deliverables are described in the attached proposal from Terraquatic, Inc. Beach profiles field data collection will be completed within forty days (40) of the notice to proceed (NTP). The processing and preparation of final (draft) deliverables shall be submitted within ninety days (90) of the NTP. Deliverable dates are offered as weather permitting.

#### Summary of Work, Tasks 20 and 21: FEMA Project Worksheet Assistance

Tasks 20 and 21 include allowance to provide professional coastal engineering services to assist the County in preparing engineering damage reports and cost analyses required to support the preparation of FEMA Category G Project Worksheets for four (4) County projects that have established engineered beach or dune sections following hurricane impacts. These projects are,

- Coral Cove (R-1 to R-7.5). Eligible infrastructure is a non-Federal engineered dune.
- South Jupiter (aka North County Comprehensive Shore Protection Project (NCCSPP) Segment II; R-19 to R-26). Eligible infrastructure is a non-Federal engineered dune.
- Juno Beach (aka NCCSPP; R-26 to R-38) Segment III. Eligible infrastructure is a non-Federal engineered beach and dune project.
- Singer Island (R-60.9 to R-67). Eligible infrastructure is a non-Federal engineered dune.

Execution of Tasks 20 and 21 will require written Notice To Proceed from County.

## Task 20: Post-Storm Damage Assessment

Following the Federal disaster declaration associated with the impacts from a declared disaster (i.e., a hurricane), Palm Beach County is eligible to seek reimbursement for a portion of the cost to repair storm related damages to non-Federal engineered beaches and dunes through the FEMA Public Assistance Program. Such reimbursement is for the beaches and dunes that are eligible as Category G facilities. The Consultant shall document the locations of the qualifying engineered beaches and dunes and quantify the extent of storm related damages that may be eligible for reimbursement.

As directed by the County, the Consultant may prepare two reports; the first will be for the Juno Beach project and the second will be for the three dune projects, as described above. This proposal assumes that pre- and post-storm survey data will be provided by the County. For each project reach, the report(s) shall include the following information:

- Description of the previously constructed engineered beach or dune project limited to quantification of the historical alongshore limits of sand placement and the project description included in the permit(s) for the project.
- A summary of the storm event which resulted in the claimed losses.
- Quantification of volumetric losses due to the storm event.
- To be favorably considered by FEMA, computations of damages attributed to a given storm event should be based upon analysis of the pre- and post-storm surveys. This proposal assumes that the necessary surveys will be completed in conjunction with the County's annual physical monitoring efforts or will be otherwise supplied by the County. For beach renourishment projects, volume change computations shall extend seaward to the point of profile closure or as required by updated guidance from FEMA representatives. Measured volumes shall be adjusted for background erosion potential between pre- and post-storm surveys, as applicable.

Volume losses along dune only segments shall be computed above the representative seaward dune toe elevation(s), or as required by updated guidance from FEMA. Computations shall utilize an average-end-area methodology based upon the alongshore length of the engineered project and surveyed sectional volume change.

For all projects, volume change shall be calculated along the entire permitted project reach unless updated guidance provided by FEMA allows otherwise.

- For projects where no pre- and post-storm profile surveys are available, storm-related volume change will be reported according to field observations made by County staff and provided to Foth | Olsen. Please note that field observations are unlikely to be acceptable to FEMA for the purpose of quantifying storm damages.
- Preparation of an Engineer's opinion on probable cost to construct storm repairs for each segment.

As directed by the County, the Consultant shall summarize post-storm volumetric change along the Ocean Ridge (T152 to R159) and North County Comprehensive Shore Protection Project, Segment I (AKA Jupiter/Carlin, R13 to R19) reaches – both are federal projects and are ineligible for Category G assistance.

The Consultant assumes the following with respect to completion of Task 20:

- No additional survey data will be required.
- In the absence of other supporting documentation, quantification of storm-related losses to vegetation shall be based upon data supplied by the County.

#### Deliverables (Task 20)

As directed by the County, the Consultant shall prepare two draft summary reports, one for the Juno Beach project and a combined report for the dune only project segments. The draft reports will be submitted within 45 days of receipt of: Notice to Proceed, final survey data, and all necessary project documentation from the County. Final copies of each report shall be completed within 15 working days of receipt of County comments.

#### Task 21: Post-Storm Agency Coordination

As directed by the County, the Consultant shall coordinate with FEMA for purposes of finalizing the storm damage estimates required for completion of a Project Worksheet (PW) to secure FEMA funding assistance for the repairs to the eligible engineered beaches and dunes. Such coordination shall be limited to six (6) teleconferences with FEMA representatives. Coordination shall include two (2) revisions to each report submitted to the County which incorporates additional FEMA guidance.

Any additional work required as a result of agency coordination is not included in this proposal. In the event that additional work is required, modifications to this proposal shall be required.

#### Deliverables (Task 21)

The Consultant shall provide to the County, in writing, periodic updates regarding the coordination efforts with FEMA or digital copies of final reports which incorporate FEMA guidance.

## Summary of Costs

Costs by task are detailed in the attached cost itemization table. The total proposed lump sum cost for all tasks is \$217,999.64. Of this amount, \$152,272.00 or 69.8% is allocated to Terraquatics, Inc., a SBE certified firm.

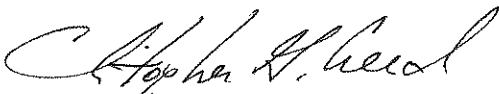
Should you have any questions, please do not hesitate to contact me at [showard@olsen-associates.com](mailto:showard@olsen-associates.com) or (904) 387-6114 ext. 316.

Sincerely,

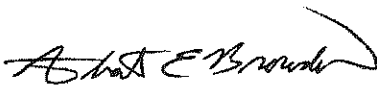


Steve Howard, P.E.  
Lead Coastal Engineer

Authorizing Signatures:



Christopher Greed, PE  
Senior Coastal Engineer & Client Team Leader



Albert Browder, PE, PhD  
Senior Coastal Engineer & Client Team Leader

cc: File

Enclosure(s)  
Cost Details  
Terraquatic Proposal

Palm Beach County, Florida  
ANNUAL COASTAL ENGINEERING CONTRACT, CSA 0090-13  
COST SUMMARY

Task	Olsen Associates, Inc.	SBE Sub	CEG ODC's (WBE)	ODC's (non-SBE/ WMBE firm)	Total
CSA 0090-13: 2025 Regional Monitoring Surveys & post-hurricane FEMA Project Worksheet Assistance					
Task 1 (R-1 to R-8)	\$ 472.01	\$ 5,575.00			\$ 6,047.01
Task 2 (R1.5 to R7.5)	\$ 472.01	\$ 4,095.00			\$ 4,567.01
Task 3 (R-13 to R-23)	\$ 472.01	\$ 7,665.00			\$ 8,137.01
Task 4 (R-24 to R-45)	\$ 472.01	\$ 15,330.00			\$ 15,802.01
Task 5 (R-58 to R-75)	\$ 472.01	\$ 12,540.00			\$ 13,012.01
Task 6 (R-61.5 to R-66.5)	\$ 472.01	\$ 3,550.00			\$ 4,022.01
Task 7 (R-134 to R-151)	\$ 472.01	\$ 12,540.00			\$ 13,012.01
Task 8 (R-152 to R-164)	\$ 472.01	\$ 9,060.00			\$ 9,532.01
Task 9 : Jupiter Ebb Shoal	\$ -	\$ -			\$ -
Task 10: SLWI Ebb Shoal	\$ 472.01	\$ 10,450.00			\$ 10,922.01
Task 11: SLWI Flood Shoal	\$ 472.01	\$ 14,910.00			\$ 15,382.01
Subtotal (2025 Annual Physical Monitoring)	\$ 4,720.10	\$ 95,715.00	\$ -	\$ -	\$ 100,435.10
Task 12 (Post-Storm R-1 to R-8)	\$ 472.01	\$ 6,175.00			\$ 6,647.01
Task 13 (Post-Storm R1.5 to R7.5)	\$ 472.01	\$ 5,105.00			\$ 5,577.01
Task 14 (Post-Storm R-13 to R-23)	\$ 472.01	\$ 8,490.00			\$ 8,962.01
Task 15 (Post-Storm R-24 to R-45)	\$ 472.01	\$ 16,980.00			\$ 17,452.01
Task 16 (Post-Storm R-61 to R-67)	\$ 472.01	\$ 5,402.00			\$ 5,874.01
Task 17 (Post-Storm R-61.5 to R-66.5)	\$ 472.01	\$ 4,375.00			\$ 4,847.01
Task 18 (Intentionally left blank)	\$ -	\$ -			\$ -
Task 19 (Post-Storm R-152 to R-164)	\$ 472.01	\$ 10,030.00			\$ 10,502.01
Subtotal (Post-Storm Physical Monitoring, NTP Required)	\$ 3,304.07	\$ 56,557.00	\$ -	\$ -	\$ 59,861.07
Task 20 (Post-Storm Damage Assessment)	\$ 31,632.45	\$ -			\$ 31,632.45
Task 21 (Agency Coordination)	\$ 26,071.02	\$ -			\$ 26,071.02
Subtotal (FEMA Project Worksheet Assistance, NTP Required)	\$ 57,703.47	\$ -	\$ -	\$ -	\$ 57,703.47
Total (All Tasks, Lump Sum)	\$ 65,727.64	\$ 152,272.00	\$ -	\$ -	\$ 217,999.64
SBE Participation (All Tasks)					69.8%

DIRECT LABOR									OUTSIDE SVS/SUB-CONTRACTORS		TOTAL
LABOR CATEGORY	Engineer / Scientist VI	Engineer / Scientist V	Engineer / Scientist IV	Engineer / Scientist III	Engineer / Scientist I	Technician IV	Assistant II	COST	SERVICE	COST	
Rate (\$/hr)	\$ 242.35	\$ 178.58	\$ 122.76	\$ 107.85	\$ 114.32	\$ 93.47	\$ 98.66				
Task 1 (R-1 to R-8)	0.50	0.75			1.25		0.75	\$ 472.01	Terraquatic	\$ 5,575.00	\$ 6,047.01
Task 2 (R1.5 to R7.5)	0.50	0.75			1.25		0.75	\$ 472.01	Terraquatic	\$ 4,095.00	\$ 4,567.01
Task 3 (R-13 to R-23)	0.50	0.75			1.25		0.75	\$ 472.01	Terraquatic	\$ 7,865.00	\$ 8,137.01
Task 4 (R-24 to R-45)	0.50	0.75			1.25		0.75	\$ 472.01	Terraquatic	\$ 15,330.00	\$ 15,802.01
Task 5 (R-58 to R-75)	0.50	0.75			1.25		0.75	\$ 472.01	Terraquatic	\$ 12,540.00	\$ 13,012.01
Task 6 (R-61.5 to R-66.5)	0.50	0.75			1.25		0.75	\$ 472.01	Terraquatic	\$ 3,550.00	\$ 4,022.01
Task 7 (R-134 to R-151)	0.50	0.75			1.25		0.75	\$ 472.01	Terraquatic	\$ 12,540.00	\$ 13,012.01
Task 8 (R-152 to R-164)	0.50	0.75			1.25		0.75	\$ 472.01	Terraquatic	\$ 9,060.00	\$ 9,532.01
Task 9: Jupiter Ebb Shoal (No 2025 Work)								\$ -			\$ -
Task 10: SLWI Ebb Shoal	0.50	0.75			1.25		0.75	\$ 472.01	Terraquatic	\$ 10,450.00	\$ 10,922.01
Task 11: SLWI Flood Shoal	0.50	0.75			1.25		0.75	\$ 472.01	Terraquatic	\$ 14,910.00	\$ 15,382.01
Subtotal (Tasks 1-11, Direct Labor)										subtotal \$ 95,715.00	\$ 100,435.10
Task 12 (Post-Storm R-1 to R-8)	0.50	0.75			1.25		0.75	\$ 472.01	Terraquatic	\$ 6,175.00	\$ 6,647.01
Task 13 (Post-Storm R1.5 to R7.5)	0.50	0.75			1.25		0.75	\$ 472.01	Terraquatic	\$ 5,105.00	\$ 5,577.01
Task 14 (Post-Storm R-13 to R-23)	0.50	0.75			1.25		0.75	\$ 472.01	Terraquatic	\$ 8,490.00	\$ 8,962.01
Task 15 (Post-Storm R-24 to R-45)	0.50	0.75			1.25		0.75	\$ 472.01	Terraquatic	\$ 16,980.00	\$ 17,452.01
Task 16 (Post-Storm R-61 to R-67)	0.50	0.75			1.25		0.75	\$ 472.01	Terraquatic	\$ 5,402.00	\$ 5,874.01
Task 17 (Post-Storm R-61.5 to R-66.5)	0.50	0.75			1.25		0.75	\$ 472.01	Terraquatic	\$ 4,375.00	\$ 4,847.01
Task 18 (Intentionally left blank)								\$ -	Terraquatic		\$ -
Task 19 (Post-Storm R-152 to R-164)	0.50	0.75			1.25		0.75	\$ 472.01	Terraquatic	\$ 10,030.00	\$ 10,502.01
Subtotal (Tasks 12-19, Direct Labor)										subtotal \$ 56,557.00	\$ 59,861.07
Task 20 (Post-Storm Damage Assessment)											
Admin. / Management	4.00	10.00					8.00	\$ 3,544.48			\$ 3,544.48
Engineering / Design								\$ -			\$ -
Analysis / Modeling		24.00			16.00			\$ 6,115.04			\$ 6,115.04
Fieldwork								\$ -			\$ -
Travel								\$ -			\$ -
Liason	12.00	12.00						\$ 5,051.16			\$ 5,051.16
Report Preparation		80.00		8.00		6.00		\$ 15,710.02			\$ 15,710.02
QA/QC	5.00							\$ 1,211.75			\$ 1,211.75
Subtotal (Task 20, Direct Labor)										subtotal \$ -	\$ 31,632.45
Task 21 (Agency Coordination)											
Admin. / Management	2						8.00	\$ 1,273.98			\$ 1,273.98
Engineering / Design		32.00						\$ 5,714.56			\$ 5,714.56
Analysis / Modeling		32.00						\$ 5,714.56			\$ 5,714.56
Fieldwork								\$ -			\$ -
Travel								\$ -			\$ -
Liason	8	32.00						\$ 7,653.36			\$ 7,653.36
Report Preparation		32.00						\$ 5,714.56			\$ 5,714.56
QA/QC								\$ -			\$ -
Subtotal (Task 21, Direct Labor)										subtotal \$ -	\$ 26,071.02
SUBTOTAL (Tasks 1 through 11)										\$ 95,715.00	\$ 100,435.10
SUBTOTAL (Tasks 12 through 19, NTP Required)										\$ 56,557.00	\$ 59,861.07
SUBTOTAL (Tasks 20 and 21, NTP Required)										\$ -	\$ 57,703.47
TOTAL (Tasks 1 through 21)										\$ 152,272.00	\$ 217,999.64

**Terraquatic, Inc.**  
**1220 Tangelo Terrace Unit A-12**  
**Delray Beach, Florida 33444**



Exhibit C  
Page 8 of 18

March 13, 2025

Steven C. Howard, P.E., D.CE  
Foth  
2618 Herschel Street  
Jacksonville, Florida 32204

**RE: Professional Surveying and Mapping Proposal**  
**Hydrographic / Topographic Surveying & Mapping**  
**Onshore / Offshore Profiles**  
**2025 Annual Monitoring & Post-Storm Events**  
**Palm Beach County, Florida**

Dear Steven,

In accordance with your request, Terraquatic Inc. is pleased to provide the following proposal for professional services pertaining to the above-mentioned project. The scope of work shall encompass collecting a total of seventy-eight (78) onshore / offshore FDEP profile lines and thirteen (13) intermediate or half-monument wading depth profiles, as follows:

- |                                      |   |
|--------------------------------------|---|
| • Task 1: R1 to R8                   | (8) Onshore/offshore profiles                       |
| • Task 2: R1.5 to R7.5               | (7) Wading depth profiles at intermediate monuments |
| • Task 3: R13 to R23                 | (11) Onshore/offshore profiles                      |
| • Task 4: T24 to R45                 | (22) Onshore/offshore profiles                      |
| • Task 5: R58 to R75                 | (18) Onshore/offshore Profiles                      |
| • Task 6: R61.5 to R66.5             | (6) Wading depth profiles at intermediate monuments |
| • Task 7: R134 to R151               | (18) Onshore/offshore profiles                      |
| • Task 8: T152 to R164               | (13) Onshore/offshore profiles                      |
| • Task 9: Jupiter Ebb Shoal Survey   |   |
| • Task 10: SLWI Ebb Shoal Survey     | Bathymetric Survey                                  |
| • Task 11: SLWI Flood Shoal Survey   | Bathymetric Survey                                  |
| • Task 12: Post-Storm R1 to R8       | (8) Onshore/offshore profiles                       |
| • Task 13: Post-Storm R1.5 to R7.5   | (7) Wading depth profiles at intermediate monuments |
| • Task 14: Post Storm R13 to R23     | (11) Onshore/offshore profiles                      |
| • Task 15: Post-storm T24 to R45     | (22) Onshore/offshore profiles                      |
| • Task 16: Post-Storm R61 to R67     | (7) Onshore/offshore Profiles                       |
| • Task 17: Post-Storm R61.5 to R66.5 | (6) Wading depth profiles at intermediate monuments |
| • Task 18: Post-Storm R134 to R151   |   |
| • Task 19: Post-Storm T152 to R164   | (13) Onshore/offshore profiles                      |

*\*Task 9 and 18 have been intentionally left blank. No action required for 2025.*

The scope of this survey task shall be consistent with that described in the scope / task list of services you requested via electronic mail dated February 28, 2025. All survey operations will be conducted under the direct responsible charge of a Florida Licensed Professional Surveyor and Mapper and will be in accordance with the "Standards of Practice" set forth in Florida Statue 472, Administrative Code 5J17.

**Beach Profiles:**

Terraquatic, Inc. shall follow the above-described scope of services for the beach profiles as follows:

- **Planning and compiling historic profile information:**
  - Obtain all necessary profile and beach information needed to assist in survey planning and scheduling, such as recent aerial images, previous monitoring report containing all profile control dates, photographs, positions, elevations, and historical azimuths.
- **Reconnaissance of profile monuments and controlling survey stations**
  - Upload all profile and control station positions into the GPS data collector.
  - All profile data shall be positioned using the second-order control monuments found in the field and calibrated into the network using the Trimble Virtual Reference Station (VRS), which is a subscription service broadcasting RTK corrections statewide.
  - Once a network is established it will be used to navigate to each profile control station at which time a photograph will be taken along with verification of monument stamping, condition, and completeness of to reach description.
  - Results of field profile control reconnaissance information will be inserted into the FDEP control spreadsheet for both profile control and survey second-order control stations.
- **Upland profile data collection**
  - Upland profile data shall be collected using whatever necessary survey methods are needed, such as rod, level and measuring tape, total station or RTK GPS methods and combinations depending on the environmental conditions.
  - Data shall be collected in accordance with the "Physical Monitoring Manual" prepared by FDEP and edited October 2014.
  - Upland data shall commence from each profile control station and extend landward to the limits as defined in the FDEP manual and extend seaward defining all material changes, such as vegetation, dunes, boardwalks, pavement, sand or rock and changes in grade greater than six inches (6").
  - Profile data shall extend into the water to yield a depth sufficient to establish continuity with the offshore profile data.
- **Wading Depth-Half Monument Profiles**
  - This task shall be conducted following the same guidelines as the upland profile data collection methodologies and techniques.
  - These "Half Monument" profiles shall be collected along profiles placed at a mid-point between adjacent historic profiles and an azimuth either on an average of the adjacent profiles or on a preapproved azimuth directed by the client.
  - Half monument profiles shall extend seaward from the hypothetical profile control point to a minimum depth of approximately minus four feet (-4 foot), NAVD, 88.



- **Offshore Profile**

- Horizontal and vertical control of the offshore profile shall be measured using the network previously established for the upland data collection in conjunction with a dual antenna RTK Differential GPS. This GPS (Trimble BX-992 or similar) has manufacturers horizontal and vertical accuracy tolerances of 2cm.
- Horizontal and vertical checks shall be conducted at the start and end of each day to confirm position and tide or vertical control accuracies.
- Horizontal checks will be conducted using existing or established control points set or verified relative to the project GPS network.
- Vertical or tide checks will be conducted using vertical control points either existing or established points set or verified relative to the project GPS network. This check is conducted by measuring to the existing water level (from stated network control) and monitoring the tide level being calculated on the vessel's navigation computer. Adjustments are made to the antenna offset to dial-in the correct tide readings.
- The GPS unit is also used to aid an inertial navigation sensor that provides vessel motion such as heave, pitch, and roll. The SBG model "Ekinox2 "E" unit can also be used to post-process vessel positioning and provide real-time inertial guidance during weak or poor GPS periods or near unsuitable GPS conditions, such as piers, bridges, or large ships.
- To measure depths a fully digital dual frequency survey grade sounder will be used in conjunction with a 200kHz narrow beam (3°) transducer. The sounder records an interactive digital trace of the seafloor for archive and post-processing purposes.
- The sounder's draft and speed of sound are calibrated at the start and end of each survey day using standard bar-check calibration and sound velocity casts. The bar check is conducted using a flat plate or disc suspended by a graduated cable or chain incremented at five-foot intervals. The bar is then suspended below the sounder transducer for calibration. The bar check is conducted from a minimum depth of (5 feet) to a depth within five feet of the maximum survey depth or a maximum of sixty-feet (60'). The sound velocity casts are conducted using a velocity probe (Castaway or similar) which records water continuity, temperature, and depth (CTD) throughout the water column.
- The sound velocity profile of the water column is applied prior to data collection as needed or during post-processing.

- **Offshore Data Collection**

- The vessel operator shall navigate the vessel along the historic profile azimuth using "Hypack" data acquisition and navigation software.
- Sounding data shall be collected continuously along the profile while recording depth, position, time, date, GPS quality, tide, and vessel position relative to the transect.
- Offshore profiles shall extend from the nearshore limits of the survey vessel, ensuring a sufficient depth to establish continuity with the upland profile data and extend seaward to -32-foot (NAVD, 88) or one-mile whichever is further.
- Digital sounder records (charts) are recorded simultaneously along with depths to a digital file (\*.BIN) which is used for archive records, post-processing, and QA/QC purposes.

- **Data Review, Processing and Charting**
  - Upon completion of all field data collection both upland and offshore profile data are reviewed and processed to the project vertical datum, elevations in feet referenced to NAVD, 88. Each profile set (upland and offshore) shall be overlaid prior to merging to confirm vertical closure meets the requirements set forth in the Monitoring Standards.
  - Final merged data sets will be formatted to required Ascii XYZ and FDEP acceptable data formats.
  - The final XYZ data set shall be imported to a Computer Aided Design (CAD \*.DWG) program for production of plan-view, profile, final digital and hard copy charts.

**Final Deliverables Beach Profiles**

- AutoCAD format files (\*.dwg) showing data in plan and profile view.
- Digital Final Deliverable (PDF) electronically signed and sealed, 11" x 17" format, plan view and profile surveys.
- Surveyor Certification – Survey Report
- Field book copies in PDF format
- Survey report/monument control report
- QA/AC Report
- ASCII final XYZ data file
- FDEP acceptable formatted data files
- ASCII monument information file
- Digital photos of monument locations
- Metadata files
- Completed GIS Data Sheet

*\* Deliverables shall be provided in an electronically certified digital format and delivered via FTP or other electronic means.*

**Cost: Annual / Post-Storm Monitoring**

**Onshore / Offshore Profiles**

The cost for the above-described services shall be as follows:

• Task 1: R1 to R8 (8) Profiles	\$ 5,575.00
• Task 3: R-13 to T-23 (11) Profiles	\$ 7,665.00
• Task 4: T-24 to R-45 (22) Profiles	\$15,330.00
• Task 5: R-58 to R-75, (18) Profiles	\$12,540.00
• Task 7: R-134 to R-151, (18) Profiles	\$12,540.00
• Task 8: T-152 to R-164, (13) Profiles	<u>\$ 9,060.00</u>
<b>Beach Profiles (90), Onshore / Offshore, lump sum fee:</b>	<b>\$62,710.00</b>

\*See Appendix A: Cost Breakdown.

**Cost: Upland Wading Depth Half Monument Profiles**

The cost for upland / onshore profiles shall be as follows:

• Task 2: R1.5 to R-7.5 (7) ½ monument profiles	\$ 4,095.00
• Task 6: R-61.5 to R-66.5, (6) ½ monument profiles	<u>\$ 3,550.00</u>

<b>Wading Depth Beach Profiles (13), Onshore, lump sum fee:</b>	<b>\$ 7,645.00</b>
---	--------------------

\*See Appendix A: Cost Breakdown.

Post-Storm Surveys - Contingency  
Onshore / Offshore Profiles

The cost for the above-described services shall be as follows:

- Task 12: R1 to R8 (8) Profiles \$ 6,175.00
- Task 14: R-13 to T-23 (11) Profiles \$ 8,490.00
- Task 15: T-24 to R-45 (22) Profiles \$16,980.00
- Task 16: R-61 to R-67, (7) Profiles \$ 5,402.00
- Task 18: *Intentionally left blank – No 2025 Action*
- Task 19: T-152 to R-164, (13) Profiles \$10,030.00

Beach Profiles (78), Onshore / Offshore, lump sum fee: \$47,077.00

\*See Appendix A: Cost Breakdown.

Cost: Upland Wading Depth Half Monument Profiles

The cost for upland / onshore profiles shall be as follows:

- Task 13: R1.5 to R-7.5 (7) ½ monument profiles \$ 5,105.00
- Task 17: R-61.5 to R-66.5, (6) ½ monument profiles \$ 4,375.00

Wading Depth Beach Profiles (13), Onshore, lump sum fee: \$ 9,480.00

\*See Appendix A: Cost Breakdown.

Ebb and Flood Shoal Bathymetric Surveys

- Task 9: *Jupiter Inlet ebb-shoal survey:*
  - *Intentionally left blank – No 2025 Action*
- Task 10: *South Lake Worth Inlet ebb-shoals survey:*
  - *South Lake Worth Inlet ebb-shoals shall be surveyed. The survey shall be performed from FDEP survey monument R146 through R159 for the South Lake Worth Inlet. The track lines are spaced 500 feet apart from R146 through R149, 250 feet apart from R149 through R156, and 500 feet apart from R156 through R159. Data shall be surveyed from the shoreline to a depth of 35 feet, NAVD, 88. An additional five (5) perpendicular track lines shall be collected, to define the inlet channel within the shoal survey.*
    - *Lump Sum Fee \$10,450.00*
- Task 11: *South Lake Worth Inlet flood shoal survey:*
  - *South Lake Worth Inlet flood shoal shall be surveyed consistently with the footprint or limits used in the 2023 survey and shown on the exhibit below. The proposed area will be mapped using multiple techniques, single beam, multibeam and manual poling. Manual poling will be collected in those areas to shallow to access with the survey vessel. Single beam sonar will be collected from the limits of the poled data seaward to the 8 to 10-foot depth of water. Multibeam sonar will be used in the remaining deeper water areas and the inlet channel.*
    - *Lump Sum Fee \$14,910.00*

Terraquatic, Inc.  
1220 Tangelo Terrace Unit A-12  
Delray Beach, Florida 33444

We appreciate the opportunity to provide this proposal and look forward to the opportunity of conducting this year’s survey for Foth & Palm Beach County.

Sincerely,  
Terraquatic, Inc.



Joshua Lee, PSM  
Terraquatic, Inc.

Appendix A: Cost Breakdown

2025 Annual Beach Profile Monitoring

Profiles R-1 to R-8, R-13 to T-23, R-24 to R-45, R-58 to R-75, R-134 to R-151, T-152 to R-164,  
90-Profiles

Onshore / Offshore Profiles				
Cost Breakdown:				
Crew / Services	Estimated Hours	Regular Hourly Rate	Unit	Total Cost
2- Person GPS Crew	45	\$175.00	Crew Hour	\$7,875
3-Person GPS Crew	95	\$230.00	Crew Hour	\$21,850
3-Person Hydrographic Crew	50	\$270.00	Crew Hour	\$13,500
Computer / Processing CADD	72	\$100.00	Per Hour	\$7,200
Field Survey Manager / Planning	54	\$95.00	Per Hour	\$5,130
Project Manager	33	\$150.00	Per Hour	\$4,950
Professional Surveyor & Mapper	12.6	\$175.00	Per Hour	\$2,205
Total Cost:				\$62,710.00

2025 Annual Beach Profile Monitoring  
Half Monument Wading Depth Profile: R1 to R8 & R61 to R66 - 13- Profiles

Onshore Profiles

Cost Breakdown:

Crew / Services	Estimated Hours	Regular Hourly Rate	Unit	Total Cost
2- Person GPS Crew	0	\$175.00	Crew Hour	\$0.00
3-Person GPS Crew	24	\$230.00	Crew Hour	\$5,520.00
3-Person Hydrographic Crew	0	\$270.00	Crew Hour	\$0.00
Computer / Processing CADD	8	\$100.00	Per Hour	\$800.00
Field Survey Manager / Planning	4	\$95.00	Per Hour	\$380.00
Project Manager	4	\$150.00	Per Hour	\$600.00
Professional Surveyor & Mapper	1.97	\$175.00	Per Hour	\$345.00
Total Cost:				\$7,645.00

2025 South Lake Worth Inlet Ebb Shoal Survey  
Within FDEP Range Line R146 to R159

Bathymetric Survey

Cost Breakdown:

Crew / Services	Estimated Hours	Regular Hourly Rate	Unit	Total Cost
2- Person GPS Crew	4	\$175.00	Crew Hour	\$700.00
3-Person GPS Crew	0	\$230.00	Crew Hour	\$0.00
3-Person Hydrographic Crew	20	\$270.00	Crew Hour	\$5,400.00
Computer / Processing CADD	24	\$100.00	Per Hour	\$2,400.00
Field Survey Manager / Planning	10	\$95.00	Per Hour	\$950.00
Project Manager	2	\$150.00	Per Hour	\$300.00
Professional Surveyor & Mapper	4	\$175.00	Per Hour	\$700.00
Total Cost:				\$10,450.00

2025 South Lake Worth Inlet Flood Shoal Survey

Bathymetric Survey

Cost Breakdown:

Crew / Services	Estimated Hours	Regular Hourly Rate	Unit	Total Cost
2- Person GPS Crew	16	\$175.00	Crew Hour	\$2,800.00
3-Person GPS Crew	0	\$230.00	Crew Hour	\$0.00
3-Person Hydrographic Crew	24	\$270.00	Crew Hour	\$6,480.00
Multibeam Sonar System	2 days	\$950.00	Day Rate	\$1,900.00
Computer / Processing CADD	24	\$100.00	Per Hour	\$2,400.00
Field Survey Manager / Planning	4	\$95.00	Per Hour	\$380.00
Project Manager	4	\$150.00	Per Hour	\$600.00
Professional Surveyor & Mapper	2	\$175.00	Per Hour	\$350.00
Total Cost:				\$14,910.00

2025 Post-Storm Beach Profiles

Profiles R-1 to R-8, R-13 to T-23, R-24 to R-45, R-61 to R-67, T-152 to R-164  
61-Profiles

Onshore / Offshore Profiles

Cost Breakdown:

Crew / Services	Estimated Hours	Regular Hourly Rate	Unit	Total Cost
2- Person GPS Crew	34	\$175.00	Crew Hour	\$5,950
3-Person GPS Crew	76	\$230.00	Crew Hour	\$17,480
3-Person Hydrographic Crew	38	\$270.00	Crew Hour	\$10,260
Computer / Processing CADD	60	\$100.00	Per Hour	\$6,000
Field Survey Manager / Planning	36	\$95.00	Per Hour	\$3,420
Project Manager	19	\$150.00	Per Hour	\$2,850
Professional Surveyor & Mapper	6.38	\$175.00	Per Hour	\$1,117
Total Cost:				\$47,077.00

2025 Post-Storm Beach Profiles

Half Monument Wading Depth Profile: R1 to R8 & R61 to R66 - 13-Profiles

Onshore Profiles

Cost Breakdown:

Crew / Services	Estimated Hours	Regular Hourly Rate	Unit	Total Cost
2- Person GPS Crew	0	\$175.00	Crew Hour	\$0.00
3-Person GPS Crew	32	\$230.00	Crew Hour	\$7,360.00
3-Person Hydrographic Crew	0	\$270.00	Crew Hour	\$0.00
Computer / Processing CADD	8	\$100.00	Per Hour	\$800.00
Field Survey Manager / Planning	4	\$95.00	Per Hour	\$380.00
Project Manager	4	\$150.00	Per Hour	\$600.00
Professional Surveyor & Mapper	1.94	\$175.00	Per Hour	\$340.00
Total Cost:				\$9,480.00

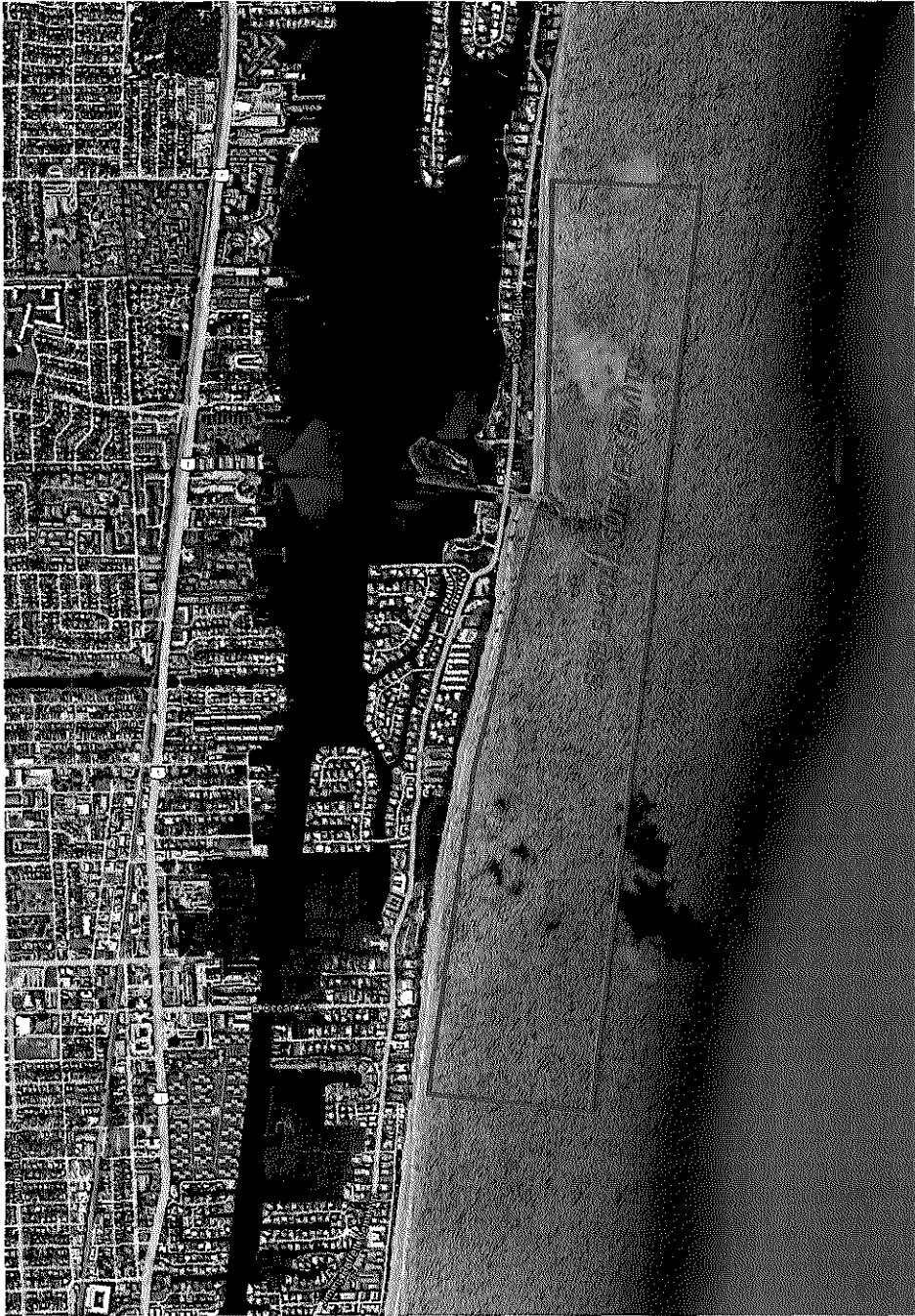
EXHIBITS:

SOUTH LAKE WORTH INLET FLOOD SHOAL  
SURVEY LIMITS





**SOUTH LAKE WORTH INLET EBB SHOAL**  
**SURVEY LIMITS**



**CONTRACT HISTORY**  
**Foth Infrastructure & Environment, LLC**  
**(f.k.a. Olsen Associates, Inc.)**  
**Continuing Contract for Coastal and Marine Engineering Services**

Contract R2023-0090 dated January 24, 2023 for a period of two years, expires on January 23, 2025.  
Amendment No. 1 (R2025-0036) dated January 7, 2025 extends the contract through January 23, 2026.  
SBE Goal: 48.0% (28% SBE/White Male; 20% SBE/Woman)

Consultant Services Authorization summary:

CSA #	TOTAL/ SBE and/or MWBE AMOUNT	CSA DUE DATE	PROJECT DESCRIPTION	APPROVED BY/DATE
0090-01	47,130.28 44,853.00	12/31/2023	2023 Lake Worth Lagoon Seagrass Fixed Transect Monitoring	ERM 3/16/2023
0090-02	227,979.42 167,485.00	1/31/2024	2023 Regional Monitoring Surveys and Post-Storm Damage Assessment	BCC 5/16/2023
0090-03	43,889.84 42,089.00	12/31/2023	2023 Lake Worth Lagoon Seagrass Mapping	ERM 4/19/2023
0090-04	33,321.55 0.00	11/30/2023	NCCSPP Segment I - 1 Year Post-Construction Physical Monitoring Report	ERM 5/1/2023
0090-03A	124,767.98 122,082.00	12/31/2023	2023 Lake Worth Lagoon Seagrass Mapping	BCC 7/11/2023
0090-05	34,495.46 0.00	5/1/2024	NCCSPP Sand Search - Phase 1	ERM 8/18/2023
0090-06	5,845.67 5,072.00	12/31/2023	NCCSPP Segment 2 Legal Descriptions	ERM 11/9/2023
0090-07	195,326.24 131,675.00	1/31/2025	2024 Regional Monitoring Surveys and Post-Storm Damage Assessment	BCC 5/7/2024
0090-08	52,267.28 49,990.00	12/31/2024	2024 Lake Worth Lagoon Seagrass Fixed Transect Monitoring	CRC 4/24/2024
0090-09	37,541.17 0.00	12/31/2024	NCCSPP - Segment III Year-Three Post Construction Physical Monitoring Report	ERM 5/10/2024
0090-10	68,773.72 65,400.00	3/31/2025	2024 Coastal Aerial Hardbottom Delineation	CRC 8/14/2024
0090-11	27,108.06 0.00	3/1/2025	NCCSPP Borrow Area Cable Investigation	ERM 12/23/2025
0090-12	52,864.04 50,340.00	12/31/2025	2025 Lake Worth Lagoon Seagrass Fixed Transect Monitoring	ERM 3/21/2025
0090-13	217,999.64 152,272.00	1/31/2026	2025 Regional Monitoring Surveys and Post-Storm Damage Assessment	BCC

Total: 1,169,310.35  
SBE-M/WBE: 831,258.00  
SBE-M/WBE Participation: 71.0%  
Report Date & Filename: 04/07/25 T:\eer\engser\Consultants\Olsen-Foth 2023-2025\[history\_0090.xls]Sheet1