

WORK ORDER NUMBER 2018029-2

**SECTOR 5 (VERO BEACH) BEACH AND DUNE RESTORATION PROJECT
2019 PRE-CONSTRUCTION SEA TURTLE MONITORING SERVICES**

This Work Order Number 2018029-2 is entered into as of this ____ day of _____, 2019 pursuant to that certain Contract Agreement relating to Engineering and Biological support services for Sector 5 (Vero Beach) Beach and Dune Renourishment Project entered into as April 3, 2018 ("Agreement"), between Indian River County, a political subdivision of the State of Florida ("COUNTY") and Aptim Environmental & Infrastructure, Inc., n/k/a Aptim Environmental & Infrastructure, LLC, ("CONSULTANT").

The COUNTY has selected the Consultant to perform the professional services set forth on Exhibit 1, attached to this Work Order and made part hereof by this reference. The professional services will be performed by the Consultant for the fee schedule set forth in Exhibit 2, attached to this Work Order and made a part hereof by this reference. The Consultant will perform the professional services within the timeframe more particularly set forth in Exhibit 2, attached to this Work Order and made a part hereof by this reference all in accordance with the terms and provisions set forth in the Agreement. Pursuant to paragraph 1.3 of the Agreement, nothing contained in any Work Order shall conflict with the terms of the Agreement and the terms of the Agreement shall be deemed to be incorporated in each individual Work Order as if fully set forth herein.

IN WITNESS WHEREOF, the parties hereto have executed this Work Order as of the date first written above.

CONSULTANT
Aptim Environmental & Infrastructure, LLC

BOARD OF COUNTY COMMISSIONERS
OF INDIAN RIVER COUNTY

By: 
Thomas P. Pierro, P.E., D.CE

By: _____
Bob Solari, Chairman

Title: Director of Operations

Attest: Jeffrey R. Smith, Clerk of Court and
Comptroller

Date: 1/24/2019

By: _____
(Seal) Deputy Clerk

Approved:

By: _____
Jason E. Brown, County Administrator

Approved as to form and legal sufficiency:

By: _____
William K. DeBraul, Deputy County Attorney



Aptim Environmental & Infrastructure, LLC.
2481 NW Boca Raton Blvd.
Boca Raton, FL 33431
Tel: +1 561 391 8102
Fax: +1 561 391 9116
www.aptim.com

January 24, 2019

Ms. Kendra Cope
Indian River County
Sea Turtle Coordinator
1801 27th St, Building A
Vero Beach, FL 32960

**Subject: Indian River County, FL
2019 Sea Turtle Monitoring
Sector 5 – 2018029 – Work Order #2**

Dear Kendra:

This proposal outlines a scope of work for Aptim Environmental & Infrastructure, Inc. n/k/a Aptim Environmental & Infrastructure, LLC. (APTIM) to provide professional services to Indian River County (the County) for permit-required sea turtle monitoring for 2019 in support of the Sector 5 Beach and Dune Restoration Project. The sea turtle monitoring will be managed and coordinated by APTIM, and conducted by APTIM's approved subconsultant, Ecological Associates, Inc. (EAI). The cost was developed following the provisions of the Professional Services Agreement between Indian River County and APTIM, dated April 3, 2018, to provide engineering and biological support services for the Sector 5 Beach and Dune Renourishment Project (RFQ#2018029).

Scope of Work

APTIM will oversee the scope of work proposed by EAI and provide the necessary administrative coordination to the County. The 2019 sea turtle monitoring effort along the approximate 3.5 mile shoreline within the Section 5 Project Area will provide baseline data for the project. The project is anticipated to commence following the nesting season and will support long-term monitoring efforts for sea turtles along the County's beaches. EAI has provided the enclosed proposal and cost breakdown for sea turtle monitoring tasks and are summarized as follows:

Scope of Work

- Tasks 1-2: Mobilization and Management
- Tasks 3a-3b: Sea Turtle Nesting Surveys and Data Management
- Task 4: Nest Marking and Monitoring
- Task 5: Nighttime Lighting Evaluation
- Task 6: Late Season Nest Relocations
- Task 7a-7b: Reporting

Fee Proposal

The lump sum cost for this work is \$76,368.09.

Thank you for the opportunity to serve Indian River County. We look forward to continuing to provide professional services to the County. Please do not hesitate to call if you have any questions.

Sincerely,



Stacy Buck
Lead Marine Biologist
Aptim Environmental & Infrastructure, LLC.



Authorized Corporate Signature

Thomas Pierro

Printed Name

Director of Operations

Title

Enclosure

cc: Thomas Pierro, P.E. D.CE, APTIM
Jordon Cheifet, P.E., APTIM
Debbie Neese, APTIM

SPM REVISION: 2018 - REV 18 3
PROJECT NUMBER: 631004050



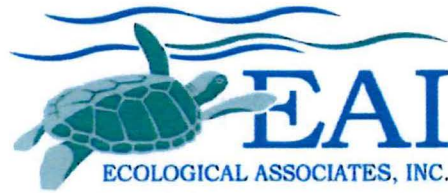
Sector 5 - 2018029 - Work Order #2
2019 Sea Turtle Monitoring
Indian River County, FL
Summary of Cost by Task

| Task Number | Task Name | Labor | Sub-contractors | Equipment | Materials | Mobilization/Travel | Totals |
|-------------|--|-------------|-----------------|-----------|-----------|---------------------|--------------|
| Task 1 | Sector 5 2019 Sea Turtle Monitoring | \$ 1,200.00 | \$ 75,168.09 | \$ - | \$ - | \$ - | \$ 76,368.09 |

Submitted By: Stacy Buck
Submitted To: Indian River County
Submission Date: 1/24/2019

| Labor Title | Labor Bill Rate | Sector 5 2019 Sea Turtle Monitoring Task 1 | |
|-----------------------------------|-----------------|--|---------------------|
| | | Labor Hours | Cost |
| Sr. Marine Biologist | \$ 150.00 | 8 | \$ 1,200.00 |
| Subcontractors | | | \$ 71,588.66 |
| 5% coordination of Subcontractors | | | \$ 3,579.43 |
| Equipment | - | - | \$ - |
| Materials | - | - | \$ - |
| Mobilization/Travel | - | - | \$ - |
| TOTAL | - | 8 | \$ 76,368.09 |

Submitted By: Stacy Buck
Submitted To: Indian River County
Submission Date: 1/24/2019



Ms. Stacy E. Buck
Senior Marine Biologist
APTIM
2481 NW Boca Raton Blvd.
Boca Raton, FL 33431

January 18, 2019

Dear Ms. Buck:

Ecological Associates, Inc. (EAI) is pleased to submit its Cost Proposal and Scope of Work for providing professional environmental services in support of Indian River County's Sector 5 Beach and Dune Restoration Project. The new task is for sea turtle monitoring along approximately 3.5 miles of beach within the Sector 5 Project Area during the 2019 sea turtle nesting season, as described in the Scope of Work presented below. This monitoring will provide baseline data for the project, anticipated to commence following the nesting season, and support long-term monitoring efforts for sea turtles along the County's beaches.

SCOPE OF WORK

A. Mobilization and Management (Tasks 1-2).

The Project Area extends approximately 3.5 miles from FDEP R-70 near Mariner Beach Lane to R-86 near Bay Oak Lane. Pre-existing survey zone boundaries will be verified and re-marked and project-specific data sheets and a database will be created. An EAI project manager will oversee all fieldwork and data management operations and consult with APTIM on permit requirements, as necessary. A project schedule, as well as field survey schedules, will be created and maintained throughout the life of the project. All equipment and supplies necessary to successfully implement this Scope of Work are available.

B. Sea Turtle Nesting Surveys and Data Management (Tasks 3a-3b).

Daily morning sea turtle nesting surveys will be conducted beginning March 1, 2019 and will continue uninterrupted through September 30, 2019. Thereafter, daily surveys will continue if construction of the Sector 5 project is scheduled to occur in November. If construction will not occur in November, daily surveys will be discontinued and sea turtle monitoring will be performed three days per week until the last marked nest has been evaluated. *Late season surveys to check existing marked nests, perform*

reproductive success evaluations, and relocate new nests (August 28 through approximately December 10) will be charged at a daily rate.

Surveys will commence within 30 minutes of sunrise. Monitoring will be performed by EAI staff or Indian River County staff either on foot or using ATVs (*County staff have agreed to perform the surveys three days per week*). All emergences (turtle crawls) apparent from the previous night will be interpreted to determine which species of turtle came ashore and whether or not it nested. Crawls will be denoted as being above or below the previous high tide line. The approximate geographic location of each crawl will be determined by GPS (sub-meter accuracy). In addition to segregating crawls into nesting and non-nesting emergences (false crawls), each false crawl will be assigned to one of the following categories denoting the stage at which the nesting attempt was abandoned: no digging, abandoned body pit, or abandoned egg cavity. Any obstacles encountered by turtles during their crawls will be documented.

Disorientation Reporting. During the course of daily monitoring, any evidence of hatchling misorientation or disorientation from either marked or unmarked nests will be documented using FWC's electronic Marine Turtle Hatchling Disorientation Incident Report Form. Based on track evaluations, an estimate of the number of hatchlings disoriented will be recorded and light sources potentially responsible for the disorientation identified. Information concerning each incident will be forwarded by email to Indian River County so appropriate remedial action may be taken.

Stranding and Salvage. A requirement of FWC sea turtle permit holders conducting nesting surveys is to respond to the stranding of sick, injured and dead sea turtles within their survey area. These animals are examined, and if alive, transported to state-approved care facilities. A standard Sea Turtle Stranding and Salvage data form will be completed and submitted for each stranded animal encountered by EAI. This information will be transmitted to FWC in accordance with established guidelines.

State and Federal Authorizations. All sea turtle monitoring and related activities will be performed under FWC Marine Turtle Permit #19-261. Pending approval, this permit will be issued by FWC to EAI Senior Project Manager, Niki Desjardin. All persons engaged in monitoring performed by EAI for Indian River County will be listed on the permit.

All data will be subject to rigorous QA/QC protocols and stored in EAI's project-specific database. Monthly summary reports will be furnished to Indian River County. These reports will tabulate the dates and times of monitoring, names of monitoring personnel, numbers of sea turtle emergences by species, and numbers of nests marked and evaluated for reproductive success, as applicable. Monthly reports will be submitted to APTIM on the last day of the month following delivery of services (e.g., March report due no later than April 30).

C. Nest Marking and Monitoring (Task 4).

A representative sample of nests will be marked for determination of nest fate and reproductive success (not to exceed 100 nests total). Nests will be marked using a series of stakes and surveyor's tape. These nests will be monitored throughout their incubation period to determine nest fate (e.g., hatched, washed out, depredated, vandalized, etc.). After an appropriate incubation period, and in accordance with the FWC Handbook, nests will be excavated to determine reproductive success. Two measures of reproductive success will be calculated: hatching success (the percentage of eggs in the nest that hatch) and emerging success (the percentage of eggs in the nest that produce hatchlings which successfully escape from the nest).

D. Nighttime Lighting Evaluation (Task 5).

EAI will perform one comprehensive nighttime lighting evaluation within the Project Area during the early part of the nesting season (initial survey) to identify lights not in compliance with local lighting regulations. Each non-compliant light will be identified using a laser-sighted, sub-meter GPS and assigned a Problem Code based on the extent to which it illuminates the beach. A standard facility report (which will include County-specific data fields) will be prepared, identifying each facility and all non-compliant lights. The reports will also include a photo and map (aerial view) of the property, as well as recommendations for appropriate and cost-effective means for correcting each non-compliant light. Reports will be submitted to APTIM within 30 days of the survey.

E. Late Season Nest Relocations (Task 6)

If construction occurs in November 2019, EAI will relocate nests from the Project Area beginning 65 days prior to the start of construction (beginning as early as August 28). All nests will be relocated before 9am and will be moved to an adjacent beach location with conditions appropriate for sea turtle nest incubation and hatching (no known erosion or lighting problems). *Nest relocations will be billed at \$152.70 per nest (Based on data provided by Indian River County, EAI estimates 15 nests requiring relocation).*

F. Reporting (Tasks 7a-7b).

1. **Nesting Season Summary:** A series of tables and figures showing nesting activity by month, numbers of marked nests, and fates of marked nests as well as results of reproductive success analyses will be prepared and submitted to APTIM within 90 days of the completion of all monitoring activities.
2. **Summary Spreadsheet of Sea Turtle Nesting Activity:** At the end of the 2019 nesting season, a permit-required Excel spreadsheet summarizing all nesting activity and reproductive success will be prepared and submitted electronically to APTIM, JCP Compliance, and FWC (*spreadsheet is only required if nest relocations are performed in advance of construction activities*).

EAI will submit its monthly billings for the services described above to APTIM in accordance with the fees and schedules set forth in Attachment A. No deposit or advance mobilization fees are required.

Ecological Associates, Inc. appreciates the opportunity to be of continued service to APTIM. Should you have any questions regarding the enclosed Scope of Work or associated costs, I can be reached at (772) 334-3729.

Sincerely,



Niki Desjardin
Senior Project Manager

c: Stan DeForest/President

ATTACHMENT A
ECOLOGICAL ASSOCIATES, INC.
P.O. BOX 405
JENSEN BEACH, FLORIDA 34958

COST PROPOSAL – January 18, 2019

PROJECT NAME: Sector 5 Sea Turtle Monitoring Program - 2019
(Project No. 19-3019)

CLIENT: Ms. Stacy E. Buck
2481 NW Boca Raton Blvd.
Boca Raton, FL 33431
Phone: (561) 361-3185 * Email: Stacy.Buck@APTIM.com

PROJECT DESCRIPTION: Sea turtle monitoring and ancillary professional services in support of the Sector 5 Beach and Dune Restoration Project, as described in EAI's Scope of Work dated January 18, 2019.

PROJECT DURATION: March 2019 – February 2020.

PROJECT COSTS: All services will be provided at the fixed rates specified below (*except where noted*), inclusive of all time and materials required to perform the Scope of Work.

| Task | Description | Cost |
|------------------------------|---|--------------------|
| 1 | Mobilization | \$1,540.00 |
| 2 | Project management | \$3,105.00 |
| 3a | Daily sea turtle monitoring and data management (March 1 – August 27) | \$23,552.32 |
| 3b | Sea turtle monitoring and data management (August 28 – December 10). (<i>Daily rate; estimate 105 days at \$256.68 per day</i>) | \$26,951.40 |
| 4 | Nest marking and monitoring and determination of nest fate and reproductive success (<i>Per nest rate; not to exceed 100 nests</i>) | \$5,920.00 |
| 5 | Nighttime lighting survey and report | \$2,874.44 |
| 6 | Late season nest relocations (<i>Per nest rate; estimate 15 nests at \$152.70 per nest</i>) | \$2,290.50 |
| 7a | Summary of sea turtle nesting and reproductive success data (<i>tables and figures only</i>) | \$1,295.00 |
| 7b | FDEP permit-required sea turtle monitoring Excel spreadsheet (<i>to be prepared only if nest relocations are performed</i>) | \$4,060.00 |
| TOTAL (not to exceed) | | \$71,588.66 |

TERMS: All terms and conditions related to this Scope of Work will be governed under EAI's Work Agreement with APTIM for Environmental and Biological Support Services dated February 9, 2018.

