

**WORK ORDER NUMBER 2018029-5**

**SECTOR 5 (CITY OF VERO BEACH) BEACH AND DUNE RESTORATION PROJECT  
2020 IMMEDIATE POST CONSTRUCTION BIOLOGICAL MONITORING AND FY  
20/21 LGFR APPLICATION**

This Work Order Number 2018029-5 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. (“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: \_\_\_\_\_

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

August 8, 2019

Ms. Kendra Cope  
Coastal Resources Coordinator  
Indian River County Public Works  
1801 27<sup>th</sup> Street  
Vero Beach, FL 32960

**Subject: Indian River County, FL  
Sector 5 – 2018029 – Work Order #5  
LGFR and Immediate Post-Construction Environmental Monitoring**

Dear Kendra:

This proposal outlines a scope of work for Aptim Environmental & Infrastructure, LLC (APTIM), to provide professional services to Indian River County (the County) in support of the Sector 5 Beach and Dune Restoration Project. The scope of work described herein is to support the County with the following items:

1. Submittal of the Sector 5 2020-21 Local Government Funding Request (LGFR)
2. To conduct the Immediate Post-Construction Nearshore Hardbottom Biological Monitoring
3. To conduct the Immediate Post-Construction Sea Turtle Monitoring

The tasks to perform this work are listed below and described on the following pages. A breakdown of the hours and expenses to develop the cost is attached. The scope and fee 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 in support of the Sector 5 Beach and Dune Restoration Project (RFQ#2018029).

#### **Task 1: Sector 5 2020-21 LGFR**

In order to distribute state funds for shore protection and inlet management projects, the Florida Department of Environmental Protection (FDEP) requests that local sponsors submit an annual LGFR for their projects. The FDEP modified the LGFR application based on the updated 62B-36 Rule which was effective August 5, 2013 and fully implemented in 2014.

#### Task 1: Scope of Work

This scope of work details the tasks required to assist the County with preparing and submitting the 2020-2021 LGFR to the FDEP and responding to both the FDEP's Application Review and Project Assessment for Indian River County's Sector 5 Beach and Dune Restoration Project. The FDEP's ranking methodology document will serve as a guide for the responses we formulate on behalf of the County.

### Task 1: Deliverable

APTIM will provide the draft LGFR application to the County for review and comment prior to submittal to the FDEP. If FDEP requests additional information, APTIM will respond and provide additional information in conjunction with and on behalf of the County as needed. Once initial project rankings and initial project assessments are provided by FDEP, we will review the initial project assessment on behalf of the County and, if warranted, provide the County with a draft letter to the FDEP identifying the areas within the applications that may provide additional points to the County.

### Task 1: Schedule

APTIM will submit the LGFR application by the deadline.

### Task 1: Cost

The lump sum cost for this task is \$8,702.00.

## **Task 2: Immediate Post-Construction Nearshore Hardbottom Biological Monitoring**

The Biological Monitoring Plan developed for the Sector 5 project during permitting requires post-construction biological monitoring of the hardbottom resources adjacent to the project area to monitor for potential secondary impacts. The scope for this task is based on the FDEP-approved Biological Monitoring Plan (0363427-001-JC). The post-construction nearshore hardbottom monitoring shall include:

- 1) Hardbottom edge mapping
- 2) Monitoring permanent transects

### Task 2: Scope of Work

#### 1) Hardbottom Edge Mapping:

APTIM shall map the position of the nearshore hardbottom edge for the entire Sector 5 project area, including 1000 feet north (updrift) and 2000 feet south (downdrift) of the project area (R-69 to R-88) for a length of approximately 3.6 miles. A buoy with a Differential Global Positioning System (DGPS) antenna linked to a topside laptop computer running HYPACK navigational software will be towed by divers to record the position of the nearshore hardbottom edge. The divers will follow the inshore contour of the most prominent hardbottom-sand border. The purpose of the survey is to provide a comparison for pre- and all subsequent post-construction edge delineations.

#### 2) Monitoring Permanent Transects:

Twenty (20) transects were established along the length of project influence, which includes 1000 feet north (updrift) and 2000 feet south (downdrift). This includes nine (9) biological monitoring transects and eleven (11) sediment only transects. All transects were established perpendicular to the shoreline and extend from the nearshore hardbottom edge to a maximum distance of 50 meters seaward. APTIM will conduct the immediate post-construction biological survey of the hardbottom using quadrat assessments, sediment measurements and video/photo documentation as detailed in the Biological Monitoring Plan.

Up to nine (9) 0.5-m<sup>2</sup> quadrats will be sampled along each transect to quantify the benthic community. Sediment data will be collected using line-intercept and 1-m interval sediment depth measurements, and video documentation will also be collected for the length of each transect. It is anticipated that the effort to

delineate the hardbottom edge and monitor the transects will take up to eight (8) field days.

The data will be compiled and incorporated into a GIS database and *in situ* data will be entered into an Access database. Time to complete data entry, reduction, analyses, and report production is included in the cost estimate to address the data management and reporting requirements for those 8 days of field operations.

#### Task 2: Deliverable

Raw data will be provided to FDEP and the County within 45 days of completion of the survey. This includes a PDF of the scanned datasheets, excel spreadsheets with quadrat data, interval sediment depth measurements and line-intercept data, shapefiles of the hardbottom edge survey, video and photo documentation. Additionally, APTIM will provide a map of the project area and adjacent hardbottom resources with the hardbottom edge delineation and monitoring transects overlaid onto recent, clear aerial photographs (in digital format).

An immediate post-construction biological monitoring report will be generated for submittal to the County and regulatory agencies.

#### Task 2: Schedule

The immediate post-construction monitoring event will take place during summer 2020. Raw data from field operations will be submitted to the County and FDEP within 45 days and the monitoring report will be submitted within 90 days of completion of the survey.

#### Task 2: Cost

The lump sum cost for this task is \$77,875.30.

### **Task 3: Immediate Post-Construction Sea Turtle and Shorebird Monitoring**

The Sector 5 immediate post-construction sea turtle and shorebird monitoring will be managed and coordinated by APTIM, and conducted by APTIM's approved subconsultant, Ecological Associates, Inc. (EAI).

#### Task 3: Scope of Work

APTIM will oversee the scope of work proposed by EAI and provide the necessary administrative coordination to the County. The 2020 sea turtle monitoring effort along the approximate 3.5 mile shoreline within the Sector 5 Project Area addresses permit-required post-construction sea turtle and shorebird monitoring. The monitoring will comply with all applicable conditions set forth in the regulatory permits and related authorizations for the project. EAI has provided the enclosed proposal and cost breakdown for sea turtle monitoring tasks, which are summarized as follows:

- A. Mobilization and Management
- B. Sea Turtle Monitoring and Data Management
- C. Nest Marking and Monitoring
- D. Nesting Shorebird Monitoring
- E. Post-Construction Escarpment Surveys
- F. Lighting Surveys
- G. Reporting

Task 3: Deliverable

EAI will submit a nesting season summary report within 90 days of completion of all monitoring activities. Additionally, an Excel spreadsheet summarizing all nesting activity and reproductive success will be prepared and submitted electronically to JCP Compliance and FWC.

Task 3: Schedule

The sea turtle and shorebird monitoring will commence in February 2020.

Task 3: Cost

The lump sum cost for this task is \$99,154.36.

**Summary**

The total lump sum cost to perform the proposed work described herein for Sector 5 – 2018029 – Work Order #5 is \$185,731.66. Please refer to Exhibit 2, attached to the end of this proposal, for a summary of the costs and labor hours of each Task. APTIM will proceed with the tasks upon receipt of a signed work order from Indian River County.

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

Sincerely,



\_\_\_\_\_  
Authorized Corporate Signature

\_\_\_\_\_  
Thomas P. Pierro, P.E., D.CE

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Director of Operations

\_\_\_\_\_  
Title

Stacy Buck  
Lead Marine Biologist  
Aptim Environmental & Infrastructure, LLC

cc: Thomas Pierro, P.E., D.CE, APTIM  
Jordon Cheifet, PE, CFM, APTIM

**EXHIBIT 2**

**Indian River County, Florida  
Sector 5 - 2018029 - Work Order #5**

**LGFR Application, Immediate Post-Construction Nearshore Hardbottom Biological Monitoring and Sea Turtle & Shorebird Monitoring**

**Summary of Cost by Task**

Task Number	Task Name	Labor	Equipment	Materials	Travel	Subcontractors	Total
Task 1	LGFR Application	\$ 8,702.00	\$ -	\$ -	\$ -	\$ -	\$ 8,702.00
Task 2	Immediate Post-Construction Nearshore Hardbottom Biological Monitoring	\$56,822.00	\$14,246.30	\$2,175.00	\$ 4,632.00	\$ -	\$ 77,875.30
Task 3	Immediate Post-Construction Sea Turtle & Shorebird Monitoring	\$ 2,025.00				\$ 97,129.36	\$ 99,154.36
<b>Totals =</b>		<b>\$67,549.00</b>	<b>\$14,246.30</b>	<b>\$2,175.00</b>	<b>\$ 4,632.00</b>	<b>\$ 97,129.36</b>	<b>\$ 185,731.66</b>

**Indian River County, Florida  
Sector 5 - 2018029 - Work Order #5**

**LGFR Application, Immediate Post-Construction Nearshore Hardbottom Biological Monitoring and Sea Turtle & Shorebird Monitoring**

**Summary of Labor Hours and Cost**

Labor Title	Labor Bill Rate	LGFR Application		Hardbottom Biological Monitoring		Post-Construction Sea Turtle & Shorebird Monitoring		Totals	
		Task 1		Task 2		Task 3		Labor Hours	Cost
		Labor Hours	Cost	Labor Hours	Cost	Labor Hours	Cost		
Principal Engineer/Sr Proj Mngr	\$ 250.00	4	\$ 1,000.00		\$ -		\$ -	4	\$ 1,000.00
Sr Coastal Engineer/Proj Mngr	\$ 165.00	16	\$ 2,640.00		\$ -		\$ -	16	\$ 2,640.00
Coastal Engineer I	\$ 105.00	16	\$ 1,680.00		\$ -		\$ -	16	\$ 1,680.00
Senior Marine Biologist	\$ 135.00	24	\$ 3,240.00	96	\$ 12,960.00	15	\$ 2,025.00	135	\$ 18,225.00
Marine Biologist II	\$ 95.00		\$ -	364	\$ 34,580.00		\$ -	364	\$ 34,580.00
Senior CAD Operator	\$ 140.00		\$ -	1	\$ 140.00		\$ -	1	\$ 140.00
GIS Operator	\$ 105.00		\$ -	8	\$ 840.00		\$ -	8	\$ 840.00
Boat Captain	\$ 80.00		\$ -	100	\$ 8,000.00		\$ -	100	\$ 8,000.00
Bookkeeper	\$ 80.00		\$ -	2	\$ 160.00		\$ -	2	\$ 160.00
Clerical	\$ 71.00	2	\$ 142.00	2	\$ 142.00		\$ -	4	\$ 284.00
Subcontractors	-	-	\$ -	-	\$ -	-	\$ 97,129.36	-	\$ 97,129.36
Equipment	-	-	\$ -	-	\$ 14,246.30	-	\$ -	-	\$ 14,246.30
Materials	-	-	\$ -	-	\$ 2,175.00	-	\$ -	-	\$ 2,175.00
Other ODCs	-	-	\$ -	-	\$ 4,632.00	-	\$ -	-	\$ 4,632.00
Mobilization/Travel	-	-	\$ -	-	\$ -	-	\$ -	-	\$ -
<b>TOTAL</b>	-	<b>62</b>	<b>\$ 8,702.00</b>	<b>573</b>	<b>\$ 77,875.30</b>	<b>15</b>	<b>\$ 99,154.36</b>	<b>650</b>	<b>\$ 185,731.66</b>