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August 9, 2022

Mr. Charlie Hunsicker, Director
Manatee County Government
Parks & Natural Resources Dept.
5502 33rd Avenue Drive West
Bradenton, FL 34209

Re: Work Assignment No. 20 - 2022 Physical Monitoring Services

Dear Charlie:

Aptim Environmental & Infrastructure, LLC (APTIM) is pleased to submit this proposal to assist Manatee County with the 2022 Physical Monitoring Services required by the Florida Department of Environmental Protection (FDEP) permits for Manatee County coastal projects.

The annual physical monitoring services include the permit required survey data and aerial photography collection and preparation of the survey report and engineering monitoring report submittals for the projects on Anna Maria Island, including the Central Beach Project (2014), Coquina Beach (2014) Project, the Cortez Groins Project (2016), Longboat Pass Geotextile Tube Project (2012), and the 2020 Anna Maria Island Beach Renourishment, Manatee County Shore Protection Project (2020). The specifics of these requirements are detailed in the approved physical monitoring plans and permits and described in the attached Scope of Services, Attachment 1.

The not-to-exceed fee to Manatee County for the proposed services is \$190,131 as detailed in Attachment 2, the Fee Schedule. The services proposed herein will be performed on a time and materials basis in accordance with this proposal and Agreement No. 18-TA002645JE between Manatee County and APTIM, dated October 9, 2018 as amended. The schedule is provided in Attachment 3.

Thank you for the opportunity to serve Manatee County. If you should have any questions, please call me.

Sincerely,

Doris Otero, Ph.D
Coastal Engineer
Aptim Environmental & Infrastructure, LLC

Nicole S. Sharp, PE
Coastal Market Lead
Aptim Environmental & Infrastructure, LLC

Enclosure: Attachments 1, 2 and 3

cc: Tom Pierro, PE, CPE
Mike Lowiec, APTIM
Debbie Neese, APTIM

**ATTACHMENT 1
ANNA MARIA ISLAND
2022 PHYSICAL MONITORING SERVICES
SCOPE OF SERVICES**

WORK ASSIGNMENT NO. 20

DRAFT

**ATTACHMENT 1
ANNA MARIA ISLAND
2022 PHYSICAL MONITORING SERVICES
SCOPE OF SERVICES**

WORK ASSIGNMENT NO. 20

INTRODUCTION

This scope of services includes the annual physical monitoring services required by Florida Department of Environmental Protection (FDEP) for the beach nourishment projects constructed on Anna Maria Island, including the 2020 Anna Maria Island Beach Renourishment, Manatee County Shore Protection Project (FDEP Permit No. 0039378-010-JC, Modification No. 0339378-018-JN) and the 2021 Coquina Beach Storm Damage Restoration Project (FDEP Permit No. 0298107-009-JN).

A brief summary of each of these projects follows:

In July 2020, the USACE began construction of the federal Shore Protection Project (SPP) along the Central Beach shoreline (R-12 to R-33.5) using the Passage Key Inlet ebb shoal as the sand source. This federally authorized Central Beach portion of the project was completed in October 2020. At the request of Manatee County, and as authorized by FDEP Permit Modification No. 0339378-018-JN, the USACE included the non-federal Coquina Beach Nourishment segment (R-33.5 to R-41.5) as “Additional Work” in the construction contract. Nourishment of the Coquina Beach segment was completed in November 2020. The USACE deemed the project complete on December 11, 2020.

The 2021 Coquina Beach Storm Damage Restoration Project was constructed by Cottrell Contracting Corporation (Cottrell) under contract with Manatee County between February 25, 2021, and March 16, 2021. The project was designed to replace the material lost due to the impacts of Hurricane Hermine (September 2016) and Hurricane Irma (September 2017). The project area extended along Coquina Beach from FDEP monuments R-33 to R-41 and utilized sand sourced from the maintenance dredging of Longboat Pass.

Summary

The 2022 monitoring will serve as the following annual monitoring events for the County’s projects:

- Year 1 - Anna Maria Island Beach Renourishment, Manatee County Shore Protection Project (2020)
 - Federal Shore Protection Project (SPP) - (R-12 to R-33.5)
 - Non-federal Coquina Beach Nourishment - (R-33.5 to R-41.5)
- Year 1 - 2021 Coquina Beach Storm Damage Restoration Project

The 2022 monitoring will follow the FDEP-Approved (July 2019) Physical Monitoring Plan for the Central Beach Nourishment Project (FDEP Permit No. 0039378-010-JC, Modification No. 0339378-018-JN), which requires collection of island wide profile surveys (R-1 to R-41). The

approved monitoring protocol for the 2021 Coquina Beach Storm Damage Restoration Project (FDEP Permit No. 0298107-009-JN) does not require a specific Physical Monitoring Plan, and instead requires that the reports incorporate topographic and bathymetric beach and offshore profile survey data as applicable from the island wide Anna Maria Island monitoring program. Pre- and post-construction bathymetric surveys of Longboat Pass were conducted and results submitted to FDEP in the 2021 Coquina Beach Storm Damage Restoration Project Post-Construction Engineering Report (CPE, August 2021); no additional surveys of Longboat Pass are required or proposed herein. While the 2022 physical monitoring described herein satisfies requirements for the 2020 Anna Maria Island Beach Renourishment, Manatee County Shore Protection Project (FDEP Permit No. 0039378-010-JC, Modification No. 0339378-018-JN) and the 2021 Coquina Beach Storm Damage Restoration Project (FDEP Permit No. 0298107-009-JN), the report for the 2021 Coquina Beach project will be prepared by CPE under a separate contract.

Aptim Environmental & Infrastructure, LLC (APTIM) and their sub-consultant, Coastal Protection Engineering LLC (CPE), will provide the following services for WA No. 20:

TASK 1: ISLAND-WIDE MONITORING SURVEY / SURVEY DATA TRANSMITTAL

In accordance with the Physical Monitoring Plan (July 2019), topographic and bathymetric surveys of the beach, offshore, and sand shoals areas must be conducted. The monitoring data is necessary in order for both Manatee County and FDEP to annually assess, with quantitative measurements, the performance of the projects. The monitoring process also provides the County and the FDEP information necessary to plan, design, and optimize subsequent projects.

Topographic & Bathymetric Surveys (Beach Profile Surveys)

Topographic and bathymetric profile surveys of the beach and offshore will be conducted in the summer of 2022. The monitoring surveys will include published FDEP reference monuments extending from R-1 to R-41+305. Additional profile lines shall be surveyed at a sufficient number of intermediate locations to accurately identify patterns of erosion and accretion within the area of erosion control structures (R-33 to R-41, inclusive). All profile surveys will extend a minimum of 3000 feet offshore of the FDEP monument or the -20 ft (NAVD) contour, whichever is closer to shore. All work activities and deliverables shall be conducted in accordance with the latest update of the Division of Water Resource Management *Monitoring Standards for Beach Erosion Control Projects, Sections 01000 and 01100*.

Passage Key Borrow Areas & Ebb Shoal Complex Bathymetric Surveys

Bathymetric surveys of the two borrow areas and the ebb shoal complex of Passage Key Inlet including any attachment bars will be conducted. Survey grid lines across the borrow areas and ebb shoal complex shall be spaced to provide sufficient detail for accurate volumetric calculations but not more than a maximum of 500 feet apart and shall extend a minimum of 500 feet outside the boundaries of the borrow site.

All work activities and deliverables shall be consistent with the Division of Water Resource Management *Monitoring Standards for Beach Erosion Control Projects, Section 01200*.

TASK 2: ENGINEERING MONITORING REPORT

APTIM will work with CPE to prepare and submit an engineering report for the Anna Maria Island Beach Renourishment, Manatee County Shore Protection Project (2020). The monitoring data will also be used by CPE for development of the required engineering report for Coquina Beach Storm Damage Restoration Project under separate contract with the County. All reporting and monitoring data will be submitted to the County and the FDEP within 90 days following completion of the monitoring survey.

A. Beach Nourishment Evaluation

The engineering monitoring report will comply with the project permits to summarize and discuss the survey data, the performance of the beach fill projects, and identify erosion and accretion patterns within the monitoring area. In addition, the report will include a comparative review of project performance to performance expectations and identification of adverse impacts attributable to the project. The report will specifically state the percentage of volume remaining and the project berm width or shoreline width remaining. The report will indicate the volume remaining both above and below the mean high-water line.

Appendices will include plots of the survey profiles and the report will include graphical representations of volumetric and shoreline position changes for the monitoring area. Results will be analyzed for patterns, trends, and changes between annual surveys and cumulatively since project construction.

ASSUMPTIONS

No additional data collection and analysis are assumed to be required and are not included in this scope of services.

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ATTACHMENT 2

MANATEE COUNTY, FLORIDA

FEE PROPOSAL FOR

**ANNA MARIA ISLAND
2022 PHYSICAL MONITORING SERVICES**

WORK ASSIGNMENT NO. 20

DRAFT

August 9, 2022

PREPARED BY:

Aptim Environmental & Infrastructure, LLC (APTIM)

**MANATEE COUNTY, FLORIDA
FEE PROPOSAL FOR
ANNA MARIA ISLAND
2022 PHYSICAL MONITORING SERVICES
WORK ASSIGNMENT NO. 20**

PROJECT PROPOSAL SUMMARY
PREPARED BY: Aptim Environmental & Infrastructure, LLC (APTIM)

TASK		DESCRIPTION	LABOR COSTS	SUBCONTRACTOR COSTS	EQUIPMENT COSTS	TRAVEL COSTS	TASK COST
1		ISLAND-WIDE MONITORING SURVEY / SURVEY DATA TRANSMITTAL	\$108,685	\$23,900	\$32,725	\$10,416	\$175,726
2		ENGINEERING MONITORING REPORT	\$14,405		\$0	\$0	\$14,405
		TOTAL COST	\$123,090	\$23,900	\$32,725	\$10,416	\$190,131
TOTAL PROJECT COST =							\$190,131

CONFIDENTIAL - PROPRIETARY INFORMATION

MANATEE COUNTY, FLORIDA
LABOR, EQUIPMENT & DIRECT COST RATES
Aptim Coastal Planning & Engineering, LLC. (APTIM)

LABOR RATES (HOURLY)

Principal Engineer	\$295
Senior Project Manager	\$265
Project Manager	\$165
Program Manager	\$185
Senior Coastal Engineer	\$185
Coastal Engineer III	\$165
Coastal Engineer II	\$125
Coastal Engineer I	\$110
Coastal Modeler II	\$130
Coastal Modeler I	\$115
Professional Surveyor & Mapper	\$145
Hydrographer	\$130
Surveyor	\$95
Survey Technician	\$80
Technician	\$60
Boat Captain	\$80
Senior Marine Biologist	\$150
Marine Biologist II	\$95
Marine Biologist I	\$85
Professional Geologist	\$130
Geologist III	\$135
Geologist II	\$95
Geologist I	\$80
Senior CAD Operator	\$170
CAD Operator	\$110
GIS Operator	\$110
Clerical	\$85

EQUIPMENT RATES (DAILY)

Survey Boat (24 ft. Privateer)	\$790
Survey Boat (28 ft. Parker)	\$1,050
Trimble Differential GPS	\$415
Digital Camera	\$10
Underwater Camera	\$32
X-STAR CHIRP 512i Seismic Profiler System	\$1,150
Geometric G-881 Magnetometer	\$215
Heave, Pitch, Roll Compensator	\$215
Sieve Analysis (per sample)	\$75
Speed of Sound Velocity Meter	\$63
Underwater Tide Gauge	\$175
Trimble RTK GPS	\$495
Fathometer	\$165
SCUBA Tanks (Nitrox)	\$19
Leitz Total Station w/ Data Collector	\$130
Hypack/DredgePack Navigation System	\$260
Nikon Level/Tripod/Rod	\$65

DIRECT COSTS

Meals	\$36
Lodging*	\$100
Misc. Expenses/ Expendables*	\$1

SCUBA DIVING SERVICES

Equipment and Insurance (per diver per day)	\$75
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* Miscellaneous expenses and lodging will be billed at cost. Miscellaneous expenses / expendables

MANATEE COUNTY, FLORIDA
FEE PROPOSAL FOR
ANNA MARIA ISLAND
2022 PHYSICAL MONITORING SERVICES

WORK ASSIGNMENT NO. 20
PREPARED BY: Aptim Environmental & Infrastructure, LLC (APTIM)

2022 PHYSICAL MONITORING SERVICES	Labor Cost Per Task	LABOR COSTS										SUB-CONTRACTOR COST		
		Program Manager (Hours)	Senior Project Manager (Hours)	Coastal Engineer II (Hours)	Coastal Engineer I (Hours)	Professional Surveyor & Mapper (Hours)	Surveyor (Hours)	Surveyor (Hours)	Survey Technician (Hours)	Survey Technician (Hours)	GIS Operator (Hours)	CAD Operator (Hours)	Clerical (Hours)	Coastal Protection Engineering (CPE) (Lump Sum)
1. ISLAND-WIDE MONITORING SURVEY / SURVEY DATA TRANSMITTAL	\$108,685													
a. Planning		1	2			10	8	8	10	10				
b. Mobilization and Travel			1				8	8	12	12				
c. Beach Profiles			1			10	48	48	68	68				
d. Borrow Area & Ebb Shoal Complex Bathymetric Surveys			1			64	160	160	72	72				
e. Reduction and Reporting		1	2			20	35	35	40	40		88	2	
2. ENGINEERING MONITORING REPORT	\$14,405													
a. Beach Nourishment		4		18	40		1	1			4			
b. Borrow Area & Ebb Shoal Complex		1		10	8		1	1						
c. Production and Submittal		1		12	12	1					2		6	
	Total =	8	7	40	60	105	261	261	202	202	6	88	8	\$22,762
	Rate =	\$185	\$265	\$125	\$110	\$145	\$95	\$95	\$80	\$80	\$110	\$110	\$85	5%
	Cost =	\$1,480	\$1,855	\$5,000	\$6,600	\$15,225	\$24,795	\$24,795	\$16,160	\$16,160	\$660	\$9,680	\$680	\$23,900
TOTAL LABOR COST =		\$123,090												

CONFIDENTIAL - PROPRIETARY INFORMATION

**MANATEE COUNTY, FLORIDA
FEE PROPOSAL FOR
ANNA MARIA ISLAND**

2022 PHYSICAL MONITORING SERVICES

WORK ASSIGNMENT NO. 20

PREPARED BY: Aptim Environmental & Infrastructure, LLC (APTIM)

2022 PHYSICAL MONITORING SERVICES		EQUIPMENT COSTS					
		Equipment Cost Per Task	Survey Boat (24 ft. Privateer) (Days)	Trimble RTK GPS (Days)	Fathometer (Days)	Heave, Pitch, Roll Compensator (Days)	Hypack/Dred gePack Navigation System (Days)
1. ISLAND-WIDE MONITORING SURVEY / SURVEY DATA TRANSMITTAL		\$65,450					
a. Planning							
b. Mobilization and Travel							
c. Beach Profiles			5	5	5	5	5
d. Borrow Area & Ebb Shoal Complex Bathymetric Surveys			12	12	12	12	12
e. Reduction and Reporting							
2. ENGINEERING MONITORING REPORT		\$0					
a. Beach Nourishment							
b. Borrow Area & Ebb Shoal Complex							
c. Production and Submittal							
		Total =	17	17	17	17	17
		Rate =	\$790	\$495	\$165	\$215	\$260
		Cost =	\$13,430	\$8,415	\$2,805	\$3,655	\$4,420
TOTAL EQUIPMENT COST =		\$32,725					

CONFIDENTIAL - PROPRIETARY INFORMATION

**MANATEE COUNTY, FLORIDA
FEE PROPOSAL FOR
ANNA MARIA ISLAND**

2022 PHYSICAL MONITORING SERVICES

WORK ASSIGNMENT NO. 20

PREPARED BY: Aptim Environmental & Infrastructure, LLC (APTIM)

2022 PHYSICAL MONITORING SERVICES		DIRECT COSTS		
		Direct Cost Per Task	Mileage	Meals Lodging
1. ISLAND-WIDE MONITORING SURVEY / SURVEY DATA TRANSMITTAL	\$20,832			
a. Planning				
b. Mobilization and Travel				
c. Beach Profiles				20 20
d. Borrow Area & Ebb Shoal Complex Bathymetric Surveys				36 36
f. Reduction and Reporting				
2. ENGINEERING MONITORING REPORT	\$0			
a. Beach Nourishment				
b. Borrow Area & Ebb Shoal Complex				
c. Production and Submittal				
		Total =	0	56 56
		Rate =	\$0.445	\$36 \$150
		Cost =	\$0	\$2,016 \$8,400
TOTAL DIRECT COST =		\$10,416		

CONFIDENTIAL - PROPRIETARY INFORMATION

**ATTACHMENT 3
ANNA MARIA ISLAND
2022 PHYSICAL MONITORING SERVICES**

MANATEE COUNTY, FLORIDA

**SCHEDULE
WORK ASSIGNMENT NO. 20**

Monitoring surveys shall be conducted in summer 2022 pending County approval and barring any unforeseen circumstances. These monitoring surveys shall serve as the annual monitoring survey for the Central Beach and Coquina Beach nourishment projects and the Cortez Groins project. An engineering report and the monitoring data will be submitted to the FDEP JCP Compliance Officer within 90 days following the completion of the monitoring survey.

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