

**PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS**

AGENDA ITEM SUMMARY

Meeting Date: May 2, 2017	<input checked="" type="checkbox"/> (X) Consent	<input type="checkbox"/> () Regular
Department	<input type="checkbox"/> () Workshop	<input type="checkbox"/> () Public Hearing
 Submitted By: <u>Environmental Resources Management</u>		
Submitted For: <u>Environmental Resources Management</u>		

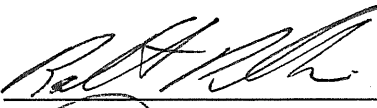
I. EXECUTIVE BRIEF

Motion and Title: Staff recommends motion to approve: Task Order No. 1377-01 to Contract (R2016-1377) with Olsen Associates, Inc. (Olsen) in an amount not to exceed \$166,585 providing for professional engineering, design, environmental surveys, reporting, and documentation to be used in preparation of a beach nourishment feasibility study for the North County Comprehensive Shore Protection Project (NCCSPP) Segment II shoreline.

Summary: The Board of County Commissioners approved the Contract with Olsen, a Jacksonville company, on September 27, 2016. Task Order No. 1377-01 authorizes Olsen to conduct a comprehensive investigation of the entire NCCSPP shoreline to evaluate the benefits of a beach fill project along the publicly accessible Segment II shoreline. The feasibility study is a prerequisite for securing Florida Department of Environmental Protection funding participation in the Segment II project area. Costs will be paid from the Beach Improvement Fund. The Small Business Enterprise (SBE) participation goal established by the SBE Ordinance (R2002-0064) is 15% overall. Olsen committed to an overall 10.0% SBE participation in the Contract. This Task Order has 3.3% SBE participation and is the first task order on this Contract. District 1 (DC)

Background and Justification: The NCCSPP combines two existing shore protection projects, the Juno Beach Shore Protection Project and the Jupiter Carlin Shore Protection Project. The inclusion of the shoreline between these projects, Segment II, is intended to both improve shore protection along the Segment II shoreline, and to improve the performance of the existing adjacent projects. The feasibility study will identify the scope and scale of a beach restoration project along this reach of shoreline and seek to quantify the anticipated benefits of the to-be-developed project.

- Attachments:**
- 1. Task Order No. 1377-01
 - 2. Contract (pages 1, 21, Exhibit B Fee Schedule)
 - 3. NCCSPP Project Location Map

Recommended by: 	8/29/17
Department Director	Date
Approved by: 	9/12/17
Deputy County Administrator	Date

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years	2017	2018	2019	2020	2021
Capital Expenditures	<u>\$166,585</u>	_____	_____	_____	_____
Operating Costs	_____	_____	_____	_____	_____
External Revenues	_____	_____	_____	_____	_____
Program Income (County)	_____	_____	_____	_____	_____
In-Kind Match (County)	_____	_____	_____	_____	_____
NET FISCAL IMPACT	<u>\$166,585</u>	_____	_____	_____	_____
# ADDITIONAL FTE POSITIONS (Cumulative)	_____	_____	_____	_____	_____
Is Item Included in Current Budget?	Yes <u>X</u>		No _____		

Budget Account No.: Fund 3652 Department 381 Unit M045
Object 3120 Program _____

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

C. Department Fiscal Review: S. Neumy

III. REVIEW COMMENTS

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

J. P. H. 4/10/17 J. S. Jacoby 4/11/17
OFMB ET 4/7 PAW 4/17 Contract Development and Control
4/11/17 JD

B. Legal Sufficiency:

Ad. C. 4/12/17
Assistant County Attorney

C. Other Department Review:

Department Director

TASK ORDER

TASK ORDER: 1377-01 CONSULTANT: Olsen Associates, Inc.

ACCOUNT ³⁶⁵² ~~000T-381-3652~~ - 5019-CJUC-023 M045-3120 CONTRACT: R2016-1377

[Fiscal approval of Budget Availability: L. Huang 3/28/17]

PROJECT MANAGER: Andrew Studt PHONE: 561-233-2539

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

PROJECT NAME: North County Comprehensive Shore Protection Project Segment II Feasibility Study

LOCATION/DISTRICT #: Jupiter, Juno Beach, Atlantic Ocean / District 1

TASK DESCRIPTION (use additional pages if necessary): The Consultant shall provide professional services for the Project as described in the attached proposal dated January 26, 2017.

DELIVERABLES: See scope of work.

TASK ORDER TYPE: FIXED PRICE

DUE DATE: March 2, 2018

TOTAL AMOUNT \$166,585.00

(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"/>	\$ _____	\$ _____	\$ _____	\$ _____	\$5,500.00

*certified as both an SBE and a State MBE

TOTAL SBE-M/WBE PARTICIPATION: \$ 5,500.00

CONSULTANT REP: [Signature] DATE: 3-21-2017

APPROVED AS TO TERMS AND CONDITIONS:

ERM DIRECTOR: [Signature] DATE: 3/29/17

APPROVED AS TO FORM AND LEGAL SUFFICIENCY:

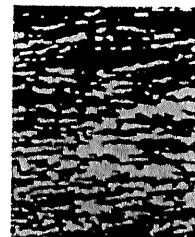
ASSISTANT COUNTY ATTORNEY: _____ DATE: _____

BOARD OF COUNTY COMMISSIONERS: _____ DATE: _____

Paulette Burdick, Mayor

January 26, 2017

Robert Robbins, Director
Palm Beach County
Dept. of Environmental Resources Management
2300 North Jog Road, 4th Floor
West Palm Beach, FL 33411-2743



olsen
associates, inc.
Coastal Engineering

Re: North County Comprehensive Shore Protection Project
Segment II Feasibility Study
Task Order 1377-01 Proposal

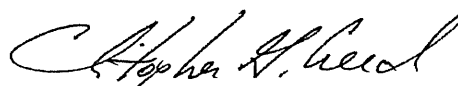
Mr. Robbins,

Attached please find a scope of work and cost summary for proposed Task Order 1377-01 of our existing annual services contract with Palm Beach County. This Task Order will cover costs for a beach nourishment project feasibility study for the North County Comprehensive Shore Protection Project Segment II shoreline.

This proposal includes a total estimated Task Order cost of \$166,585.00. Of this total amount, 3.3% is allocated to a Palm Beach County SBE certified firm. The total amount is a lump sum amount. There are no not-to-exceed amounts included in the proposal.

Please contact us should you have any additional questions regarding this submittal.

Sincerely yours,



Christopher G. Creed, P.E.
Vice President / Senior Engineer

Attachments

- Scope of Work
- Cost Summary Spreadsheets
- Sub-Consultant Proposal(s)

Task 1377-01: Scope of Work
NORTH COUNTY COMPREHENSIVE SHORE PROTECTION PROJECT
Segment II Feasibility Study

The CONSULTANT shall conduct a feasibility study for restoration of an area of the Atlantic Ocean shoreline in northern Palm Beach County. Specifically, the study will focus on evaluating and developing a programmatic beach restoration and maintenance project along the Segment II reach of the North County Comprehensive Shore Protection Project (NCCSPP), located between FDEP R-monuments R-19 and R-26. The purpose of the study will be to identify the scope and scale of a beach restoration project along this reach of shoreline. The study will seek to quantify the anticipated benefits of the to-be-developed project including protection to adjacent upland infrastructure and potential improved performance of beach fill projects, immediately north and south of the Segment II shoreline.

The study will evaluate existing beach and upland conditions; identify the scope and scale of project alternatives; evaluate the anticipated physical benefit and performance of each alternative; evaluate the economic benefits of the alternatives (from a long-term cost savings perspective) with the goal of identifying a preferred project plan; estimate the probable effects on nearshore hardbottom areas; and prepare a cost analysis and opinion of probable cost to construct the selected plan. The specifics of each task required to support this work are described below.

The objectives of a Segment II project will be to (1) improve shore protection along the Segment II shoreline, and (2) improve the performance for the adjacent Segment I (Jupiter Carlin) and Segment III (Juno Beach) beach fill projects and thereby reduce long-term maintenance costs for the project.

This study will be a comprehensive investigation of the entire NCCSPP shoreline (R-13 to R-38) to evaluate benefits of a beach fill project along the Segment II shoreline to the overall NCCSPP shoreline. This investigation will additionally include the ~7,000 feet of shoreline located immediately south of the southern NCCSPP limits (R-38 to R-45).

1.0 Historical Shoreline and Volumetric Change Analysis. Consultant shall review results of a shoreline change analysis completed through TO 1190-08 in combination with the most recently available survey data to develop a description of the physical characteristics of the project area beach and anticipated background shoreline and beach volume change conditions. The analyses will specifically include an evaluation of the Mean High Water Line (MHWL) and beach volumetric changes along the reach of shoreline between R-13 and R-45.

Task 1.0 – Deliverables: The Consultant will prepare and submit to Palm Beach County the following deliverables:

Task 1377-01: Scope of Work
NORTH COUNTY COMPREHENSIVE SHORE PROTECTION PROJECT
Segment II Feasibility Study

- Electronic copy (*.PDF) of a memorandum of findings that summarizes the historical shoreline analysis,
- Two (2) hardcopies of the memorandum of findings,
- Findings will ultimately be included in a final study report, to be provided in hardcopy and electronic formats.

2.0 Development of Project Alternatives. The CONSULTANT, in coordination with Palm Beach County, shall develop an array of project alternatives to be evaluated in Tasks 3.0 and 4.0. Project alternatives shall consider available beach and beach change information (Task 1.0) and previously constructed project design templates along the NCCSPP shoreline. A no-action alternative will be included. Draft project alternatives shall be submitted for PBC-ERM review. The final array of alternatives will incorporate PBC-ERM comments.

Task 2.0 – Deliverables: The Consultant will prepare and submit to Palm Beach County the following deliverables:

- Electronic copy (*.PDF) of a draft summary the project alternatives to be considered in subsequent analyses.
- Electronic copy (*.PDF) of a final summary of project alternatives which incorporates County comments on the draft memorandum.
- Two (2) hardcopies of the memorandum of findings,

3.0 Beach and Upland Storm Vulnerability Analysis. The CONSULTANT shall conduct a beach and upland storm vulnerability analysis. The analysis shall consider available beach and beach change information (Task 1.0), in combination with available storm surge and wave data, to conduct an analysis of the vulnerability of the Segment II upland to storm impacts. The purpose of this analysis will be to evaluate the physical benefits of the increased beach and/or dune widths along the Segment II shoreline (Task 2.0) to the upland ground/dunes and upland infrastructure, including Highway A1A. The analysis will utilize a cross-shore beach profile storm recession model (i.e., SBEACH or equivalent) at each of the 8 beach profiles (R-19 to R-26) along the Segment II shoreline. Project benefits will be evaluated through an assessment of probable reductions in low-frequency storm impacts as defined by storm surge and wave run-up penetration into the upland areas. The optimal Segment II beach configuration will be identified through the results of this analysis and those described in Task 4.0.

Task 3.0 – Deliverables: The Consultant will prepare and submit to Palm Beach County the following deliverables:

Task 1377-01: Scope of Work
NORTH COUNTY COMPREHENSIVE SHORE PROTECTION PROJECT
Segment II Feasibility Study

- Electronic copy (*.PDF) of a memorandum of findings that summarizes the beach and upland storm vulnerability analysis,
- Two (2) hardcopies of the memorandum of findings,
- Findings will ultimately be included in a final study report, to be provided in hardcopy and electronic formats.

3.1 Upland Dune Survey

The CONSULTANT, through a qualified survey subconsultant, shall collect topographic survey data along established control monuments within and immediately adjacent to the spatial limits of Segment II. The goal of this data collection effort is to quantify the position and elevation of the existing dune system and upland infrastructure. These data will be combined with existing beach profile survey data and utilized as input into subsequent numerical modeling task items. Data collection shall include control monuments R-18 to R-27 (10 transects). The seaward limit of each profile shall be either 50-feet seaward of the existing control monument or the existing +5 ft NAVD88 contour, whichever is farther seaward. The landward terminus of each profile shall be at least 6 feet west of the western edge of Highway A1A. Every effort will be made to survey the topography across the vegetated portion of the existing dune. Should the vegetated portion of the dune be inaccessible, however, the positions and elevations of the foredune, upper beach berm, and Highway A1A shall be measured. All significant breaks and changes in topography shall be described by the survey data, and the survey notes shall describe all changes in ground cover (sand, vegetation, concrete, rock, etc.).

Task 3.1 – Deliverables: The Consultant will prepare and submit to Palm Beach County the following deliverables:

- Electronic copy (*.PDF) of all survey field notes, XYZ data, and profile (range-elevation) plots at each control monument.
- These data and plots will be incorporated into the deliverable for Task 3.0.
- AutoCAD (*.DWG) files

4.0 Project Performance Analysis. The CONSULTANT shall conduct a project performance analysis. The purpose of this analysis will be to evaluate planform shoreline change and shoreline change response to the array of project configurations and associated fill volumes identified through Task 2.0. Variations in beach berm elevations and configurations associated with each alternative will not be evaluated. The goal will be to identify an

Task 1377-01: Scope of Work
NORTH COUNTY COMPREHENSIVE SHORE PROTECTION PROJECT
Segment II Feasibility Study

optimal project planform configuration that provides reasonable storm protection to the upland and A1A, results in decreased sand loss rates from adjacent beach fill projects, and avoids and/or minimizes adverse effects on nearshore hardbottom areas.

The shoreline between R-13 and R-45 will be studied. The work will include the assembly of historical shoreline positions and representative nearshore bathymetry; development of the scope and volume of beach fill alternatives; synthesis of available offshore wave data to identify representative wave parameters that contribute most to average annual sediment transport; computation of nearshore conditions for the representative offshore conditions that contribute most to alongshore sand transport; establishment of a one-line shoreline change model -- GENESIS, UNIBEST-CL+, or equivalent --; and simulation of an array of project alternative configurations.

The CONSULTANT shall use the one-line shoreline change model to compute wave-driven alongshore littoral transport potential and shoreline change along the study area for the without-project and with-project alternatives. The analysis shall consider beach width, planform evolution (including south of the NCCSPP limits, to R-45), overall sand loss rate from the project area -- Segments I, II and III, and the magnitude and rate of sand migration to areas south of the project.

The results of this analysis will be used along with those of the upland storm vulnerability analysis (Task 3.0) and cost analysis (Task 6.0) to identify a preferred project alternative.

Task 4.0 – Deliverables: The Consultant shall prepare and submit to Palm Beach County the following deliverables:

- Electronic copy (*.PDF) of a memorandum of findings that summarizes the project performance analysis,
- Two (2) hardcopies of the memorandum of findings,
- Findings will ultimately be included in a final study report, to be provided in hardcopy and electronic formats.

5.0 Hardbottom and Equilibrium Toe-of-Fill (ETOF) Analysis. The CONSULTANT shall estimate the Equilibrium Toe of Fill (ETOF) for the selected Segment II project configuration and scope identified in Tasks 3.0, 4.0, and 6.0. The purpose of this analysis will be to evaluate the likelihood and extent of project-related impacts to nearshore hardbottom areas along the Segment II shoreline following equilibration of the selected alternative. The ETOF will be superimposed upon available nearshore hardbottom

Task 1377-01: Scope of Work
NORTH COUNTY COMPREHENSIVE SHORE PROTECTION PROJECT
Segment II Feasibility Study

mapping data to quantify the acreage of nearshore hardbottom likely to be affected by the Segment II project.

The work shall include a methodology statement, the determination of the acreage of potentially impacted nearshore hardbottom (using available hardbottom mapping data), and the development of plan and sectional view map(s) detailing the location of the ETOF relative to the construction template and the Segment II shoreline. Findings will ultimately be included in a final feasibility report, to be provided in electronic format.

Task 5.0 – Deliverables: The Consultant will prepare and submit to Palm Beach County the following deliverables:

- Electronic copy (*.PDF) of a memorandum of findings that summarizes the hardbottom and equilibrium toe of fill (ETOF) analysis,
- Two (2) hardcopies of the memorandum of findings,
- Findings will ultimately be included in a final study report, to be provided in hardcopy and electronic formats.

6.0 Cost Analysis. The CONSULTANT shall prepare a cost analysis that includes a life-cycle cost for various project alternatives. This analysis will consider (a) any identifiable economic benefits related to longer renourishment intervals for the Segments I and III projects resulting from the construction of a project along Segment II, (b) costs associated with utilization of sand from offshore and upland sources, (c) comparison of with-project costs to those of a no-action alternative, and (d) probable costs associated with additional mitigation requirements for nearshore hardbottom impacts.

Task 6.0 – Deliverables: The Consultant will prepare and submit to Palm Beach County the following deliverables:

- electronic copy (*.PDF) of a memorandum of findings that summarizes the cost analysis,
- Two (2) hardcopies of the memorandum of findings,
- Findings will ultimately be included in a final study report, to be provided in hardcopy and electronic formats.

At the discretion of the CONSULTANT and with concurrence of Palm Beach County, deliverables for Tasks 3.0 through 6.0 may be combined into a single set of deliverable items.

Task 1377-01: Scope of Work
NORTH COUNTY COMPREHENSIVE SHORE PROTECTION PROJECT
Segment II Feasibility Study

7.0 Project Implementation Plan. The CONSULTANT shall develop an implementation plan for the Segment II project. This effort is intended to develop recommendations for an implementation strategy considering both physical and budget opportunities and limitations. The plan shall include discussion of funding sources and limitations; physical limitations associated with project construction; and future sand needs and availability. This aspect of the study will include close coordination with PBC staff.

Task 7.0 – Deliverables: The Consultant will prepare and submit to Palm Beach County the following deliverables:

- Electronic copy (*.PDF) of a memorandum of findings that summarizes the project implementation plan, and
- Two (2) hardcopies of the memorandum of findings.
- Findings will ultimately be included in a final study report, to be provided in hardcopy and electronic formats.

8.0 Report. The CONSULTANT shall prepare a draft report which incorporates the findings of all tasks described above. The report will be submitted to PBC-ERM staff for review and comment. CONSULTANT will incorporate comments and prepare a final report for submittal to PBC-ERM and FDEP.

Task 8.0 – Deliverables: The Consultant will prepare and submit to Palm Beach County the following deliverables:

- Electronic copy (MS Word format), of the draft engineering report
- Electronic copy (*.PDF) of the final engineering report,
- Two (2) hardcopies of the final engineering report.

Task 1377-01: Total Cost Summary
NORTH COUNTY COMPREHENSIVE SHORE PROTECTION PROJECT
Segment II Feasibility Study

Task		OAI Labor	OAI ODC's	Subconsultant (W/MBE)	Subconsultant	Total
1	Historical Shoreline and Volumetric Change Analysis	\$ 15,407.00	\$ -	\$ -	\$ -	\$ 15,407.00
2	Development of Project Alternatives	\$ 8,304.00	\$ -	\$ -	\$ -	\$ 8,304.00
3	Beach and Upland Storm Vulnerability Analysis	\$ 30,844.00	\$ -	\$ -	\$ 5,500.00	\$ 36,344.00
4	Project Performance Analysis	\$ 46,392.00	\$ -	\$ -	\$ -	\$ 46,392.00
5	Hardbottom and Equilibrium Toe-of-Fill (ETOF) Analysis	\$ 23,024.00	\$ -	\$ -	\$ -	\$ 23,024.00
6	Cost Analysis	\$ 12,680.00	\$ -	\$ -	\$ -	\$ 12,680.00
7	Project Implementation Plan	\$ 14,488.00	\$ -	\$ -	\$ -	\$ 14,488.00
8	Report	\$ 9,946.00	\$ -	\$ -	\$ -	\$ 9,946.00
TOTAL (Lump Sum)		\$ 161,085.00	\$ -	\$ -	\$ 5,500.00	\$ 166,585.00

Task 1377-01: Cost Details
NORTH COUNTY COMPREHENSIVE SHORE PROTECTION PROJECT
Segment II Feasibility Study

Task 1 Historical Shoreline and Volumetric Change Analysis																
LABOR CATEGORY	ADMIN/ MGMT	ENGR/ DESIGN	ANALYSIS/ MODELING	FIELD WORK	DIRECT LABOR				TOTAL HOURS	RATE	COST	ODC's		OUTSIDE SVS/SUB-CONTRACTORS		TOTAL
					TRAVEL	LIASON	REPORT PREP	QA/QC				ITEM	TOTAL	SERVICE	COST	
Principal									0	\$ 230.00	\$ -	IN-HOUSE SERVICES				
Principal II								2	2	\$ 205.00	\$ 410.00	TRAVEL				
Sr Engineer	4						4	8	16	\$ 174.00	\$ 2,784.00	PER DIEM				
Coastal Engr I			8				8		16	\$ 134.00	\$ 2,144.00	REPRODUCTION				
Coastal Engr II			24				32		56	\$ 110.00	\$ 6,160.00	LD TEL/FAX				
Coastal Engr III			25				8		33	\$ 101.00	\$ 3,333.00	FED EX				
CAD									0	\$ 68.00	\$ -	POSTAGE				
Admin. Asst.	4						4		8	\$ 72.00	\$ 576.00					
SUBTOTAL DIRECT LABOR											\$ 15,407.00	MISC				
												subtotal	\$ -	subtotal	\$ -	\$ 15,407.00
Task 2 Development of Project Alternatives																
LABOR CATEGORY	ADMIN/ MGMT	ENGR/ DESIGN	ANALYSIS/ MODELING	FIELD WORK	DIRECT LABOR				TOTAL HOURS	RATE	COST	ODC's		OUTSIDE SVS/SUB-CONTRACTORS		TOTAL
					TRAVEL	LIASON	REPORT PREP	QA/QC				ITEM	TOTAL	SERVICE	COST	
Principal									0	\$ 230.00	\$ -	IN-HOUSE SERVICES				
Principal II									0	\$ 205.00	\$ -	TRAVEL				
Sr Engineer	4	4						12	20	\$ 174.00	\$ 3,480.00	PER DIEM				
Coastal Engr I		24					12		36	\$ 134.00	\$ 4,824.00	REPRODUCTION				
Coastal Engr II									0	\$ 110.00	\$ -	LD TEL/FAX				
Coastal Engr III									0	\$ 101.00	\$ -	FED EX				
CAD									0	\$ 68.00	\$ -	POSTAGE				
Admin. Asst.									0	\$ 72.00	\$ -					
SUBTOTAL DIRECT LABOR											\$ 8,304.00	MISC				
												subtotal	\$ -	subtotal	\$ -	\$ 8,304.00
Task 3 Beach and Upland Storm Vulnerability Analysis																
LABOR CATEGORY	ADMIN/ MGMT	ENGR/ DESIGN	ANALYSIS/ MODELING	FIELD WORK	DIRECT LABOR				TOTAL HOURS	RATE	COST	ODC's		OUTSIDE SVS/SUB-CONTRACTORS		TOTAL
					TRAVEL	LIASON	REPORT PREP	QA/QC				ITEM	TOTAL	SERVICE	COST	
Principal									0	\$ 230.00	\$ -	IN-HOUSE SERVICES		Sea Diversified	\$ 5,500	
Principal II								4	4	\$ 205.00	\$ 820.00	TRAVEL				
Sr Engineer	4	8				4			16	\$ 174.00	\$ 2,784.00	PER DIEM				
Coastal Engr I		24	64				40	8	136	\$ 134.00	\$ 18,224.00	REPRODUCTION				
Coastal Engr II		8	40				24		72	\$ 110.00	\$ 7,920.00	LD TEL/FAX				
Coastal Engr III			8						8	\$ 101.00	\$ 808.00	FED EX				
CAD									0	\$ 68.00	\$ -	POSTAGE				
Admin. Asst.							4		4	\$ 72.00	\$ 288.00					
SUBTOTAL DIRECT LABOR											\$ 30,844.00	MISC				
												subtotal	\$ -	subtotal	\$ 5,500.00	\$ 36,344.00

Task 1377-01: Cost Details
NORTH COUNTY COMPREHENSIVE SHORE PROTECTION PROJECT
Segment II Feasibility Study

Task 4 Project Performance Analysis																	
DIRECT LABOR												ODC's		OUTSIDE SVS/SUB-CONTRACTORS		TOTAL	
LABOR CATEGORY	ADMIN/ MGMT	ENGR/ DESIGN	ANALYSIS/ MODELING	FIELD WORK	TRAVEL	LIASON	REPORT PREP	QA/QC	TOTAL HOURS	RATE	COST	ITEM	TOTAL	SERVICE	COST		
Principal									0	\$ 230.00	\$ -	IN-HOUSE SERVICES					
Principal II								8	8	\$ 205.00	\$ 1,640.00	TRAVEL					
Sr Engineer	4	32				4		20	60	\$ 174.00	\$ 10,440.00	PER DIEM					
Coastal Engr I		64	80				40	8	192	\$ 134.00	\$ 25,728.00	REPRODUCTION					
Coastal Engr II			24						24	\$ 110.00	\$ 2,640.00	LD TEL/FAX					
Coastal Engr III			16				40		56	\$ 101.00	\$ 5,656.00	FED EX					
CAD									0	\$ 68.00	\$ -	POSTAGE					
Admin. Asst.							4		4	\$ 72.00	\$ 288.00						
SUBTOTAL DIRECT LABOR											\$ 46,392.00	MISC					
													subtotal	\$ -	subtotal	\$ -	\$ 46,392.00
Task 5 Hardbottom and Equilibrium Toe-of-Fill (ETOF) Analysis																	
DIRECT LABOR												ODC's		OUTSIDE SVS/SUB-CONTRACTORS		TOTAL	
LABOR CATEGORY	ADMIN/ MGMT	ENGR/ DESIGN	ANALYSIS/ MODELING	FIELD WORK	TRAVEL	LIASON	REPORT PREP	QA/QC	TOTAL HOURS	RATE	COST	ITEM	TOTAL	SERVICE	COST		
Principal									0	\$ 230.00	\$ -	IN-HOUSE SERVICES					
Principal II								4	4	\$ 205.00	\$ 820.00	TRAVEL					
Sr Engineer	4		4			4	8	16	36	\$ 174.00	\$ 6,264.00	PER DIEM					
Coastal Engr I			16				16	8	40	\$ 134.00	\$ 5,360.00	REPRODUCTION					
Coastal Engr II		16	40				30		86	\$ 110.00	\$ 9,460.00	LD TEL/FAX					
Coastal Engr III									0	\$ 101.00	\$ -	FED EX					
CAD							8		8	\$ 68.00	\$ 544.00	POSTAGE					
Admin. Asst.	4						4		8	\$ 72.00	\$ 576.00						
SUBTOTAL DIRECT LABOR											\$ 23,024.00	MISC					
													subtotal	\$ -	subtotal	\$ -	\$ 23,024.00
Task 6 Cost Analysis																	
DIRECT LABOR												ODC's		OUTSIDE SVS/SUB-CONTRACTORS		TOTAL	
LABOR CATEGORY	ADMIN/ MGMT	ENGR/ DESIGN	ANALYSIS/ MODELING	FIELD WORK	TRAVEL	LIASON	REPORT PREP	QA/QC	TOTAL HOURS	RATE	COST	ITEM	TOTAL	SERVICE	COST		
Principal									0	\$ 230.00	\$ -	IN-HOUSE SERVICES					
Principal II								4	4	\$ 205.00	\$ 820.00	TRAVEL					
Sr Engineer	4		8				8	8	28	\$ 174.00	\$ 4,872.00	PER DIEM					
Coastal Engr I			20				30		50	\$ 134.00	\$ 6,700.00	REPRODUCTION					
Coastal Engr II									0	\$ 110.00	\$ -	LD TEL/FAX					
Coastal Engr III									0	\$ 101.00	\$ -	FED EX					
CAD									0	\$ 68.00	\$ -	POSTAGE					
Admin. Asst.							4		4	\$ 72.00	\$ 288.00						
SUBTOTAL DIRECT LABOR											\$ 12,680.00	MISC					
													subtotal	\$ -	subtotal	\$ -	\$ 12,680.00

Task 1377-01: Cost Details
NORTH COUNTY COMPREHENSIVE SHORE PROTECTION PROJECT
Segment II Feasibility Study

Task 7 Project Implementation Plan																	
DIRECT LABOR												ODC's		OUTSIDE SVS/SUB-CONTRACTORS		TOTAL	
LABOR CATEGORY	ADMIN/ MGMT	ENGR/ DESIGN	ANALYSIS/ MODELING	FIELD WORK	TRAVEL	LIASON	REPORT PREP	QA/QC	TOTAL HOURS	RATE	COST	ITEM	TOTAL	SERVICE	COST		
Principal									0	\$ 230.00	\$ -	IN-HOUSE SERVICES					
Principal II								4	4	\$ 205.00	\$ 820.00	TRAVEL					
Sr Engineer	4					4	10	8	26	\$ 174.00	\$ 4,524.00	PER DIEM					
Coastal Engr I			16			10	30		56	\$ 134.00	\$ 7,504.00	REPRODUCTION					
Coastal Engr II									0	\$ 110.00	\$ -	LD TEL/FAX					
Coastal Engr III							8		8	\$ 101.00	\$ 808.00	FED EX					
CAD							8		8	\$ 68.00	\$ 544.00	POSTAGE					
Admin. Asst.							4		4	\$ 72.00	\$ 288.00						
SUBTOTAL DIRECT LABOR											\$ 14,488.00		MISC				
													subtotal	\$ -	subtotal	\$ -	\$ 14,488.00
Task 8 Report																	
DIRECT LABOR												ODC's		OUTSIDE SVS/SUB-CONTRACTORS		TOTAL	
LABOR CATEGORY	ADMIN/ MGMT	ENGR/ DESIGN	ANALYSIS/ MODELING	FIELD WORK	TRAVEL	REPORT PREP	Report Revisions	QA/QC	TOTAL HOURS	RATE	COST	ITEM	TOTAL	SERVICE	COST		
Principal									0	\$ 230.00	\$ -	IN-HOUSE SERVICES					
Principal II								2	2	\$ 205.00	\$ 410.00	TRAVEL					
Sr Engineer	4					4	4	4	16	\$ 174.00	\$ 2,784.00	PER DIEM					
Coastal Engr I						24	12		36	\$ 134.00	\$ 4,824.00	REPRODUCTION					
Coastal Engr II									0	\$ 110.00	\$ -	LD TEL/FAX					
Coastal Engr III						8			8	\$ 101.00	\$ 808.00	FED EX					
CAD						8			8	\$ 68.00	\$ 544.00	POSTAGE					
Admin. Asst.	4					4			8	\$ 72.00	\$ 576.00						
SUBTOTAL DIRECT LABOR											\$ 9,946.00		MISC				
													subtotal	\$ -	subtotal	\$ -	\$ 9,946.00



Sea Diversified, Inc.

21 N.W. 2nd Street
Delray Beach, Florida 33444
Phone: 561-243-4920
Facsimile: 561-243-4957

1900 S. Harbor City Blvd, Ste 110
Melbourne, Florida 32901
Phone: 321-984-7268
Facsimile: 321-984-7270

January 25, 2017

Mr. Steven C. Howard, P.E., D.CE
Olsen Associates, Inc.
2618 Herschel Street
Jacksonville, FL 32204

*Sent via electronic mail 01/25/17
(SHoward@Olsen-Associates.com)*

**Re: Proposal for Professional Services
Palm Beach County Segment III
Upland Beach Profiles from R-18 to R-27
Jupiter-Carlin to Juno Beach
Palm Beach County, Florida
Sea Diversified P.N. 17-2519**

Dear Mr. Howard:

Per your request, Sea Diversified, Inc. (SDI) is pleased to provide the following proposal for professional services pertaining to the referenced project. The scope of work shall encompass upland beach profile surveys to quantify the position and elevation of the existing dune system and upland infrastructure, from Florida Department of Environmental Protection (FDEP) Range Monuments R-18 to R-27, within the spatial limits of "Segment II" in Palm Beach County, Florida. It is noted that this data, "will be combined with existing beach profile survey data and utilized as input into subsequent numerical modeling task items". The survey scope of work and fee estimate shall be in accordance with your e-mail request dated January 24, 2017, which is summarized as follows:

General:

SDI shall provide supervision, field / office support staff and equipment to perform the scope of work described, herewith. All work shall be conducted to the highest level of industry standards and under the responsible charge of a Professional Surveyor and Mapper registered in the State of Florida. All work shall meet or exceed the Standards of Practice set forth by the Florida Board of Professional Surveyors and Mappers in Chapter 5J-17, Florida Administrative Code, pursuant to Section 472.027, Florida Statutes.

Horizontal and Vertical Data:

Horizontal Datum: Feet, relative to the Florida State Plane Coordinate System, East Zone, North American Datum of 1983 (NAD83)
Vertical Datum: Feet, relative to the North American Vertical Datum of 1988 (NAVD88)

Upland Beach Profile Surveys:

Topographic beach profile data of the existing dune system shall be collected at the FDEP R-Monuments R-18 through R-27, for a total of ten (10) upland beach profiles. Data collection shall extend seaward either fifty (50) feet seaward of the existing control monument or the existing positive five (+5) foot NAVD88 contour, whichever is further seaward. The landward terminus of each profile shall be at least six (6) feet west of the western limit of Highway A1A. Every effort will be made to survey the topography across the vegetated portion of the existing dune. Should the vegetated portion of the dune be inaccessible, however, the positions and elevations of the foredune, upper beach berm, both sides, and the center of Highway A1A shall be measured. All significant changes in topography shall be described by the survey data, and the survey notes shall describe all changes in ground cover (sand, vegetation, concrete, rock, etc).



**Proposal for Professional Services
Palm Beach County Segment III
Upland Beach Profiles from R-18 to R-27
Jupiter-Carlin to Juno Beach
Palm Beach County, Florida
January 25, 2017
Page 2 of 2**

Profile data will be collected using either conventional differential leveling or Real-time Kinematic Differential Global Positioning techniques. Data points will be collected at a maximum interval of twenty-five (25) feet and at all grade breaks (exceeding one-foot) and material changes along the profile. The reference baseline shall be recorded as range 0.0 along the profile with positive ranges extending seaward of the monument and negative ranges extending landward of the baseline.

Data Processing and Final Deliverables:

Upon completion of field survey activities, data will be edited and reduced to the project datum and formatted as required for modeling and chart preparation. Final data, reduced to an x,y,z, ASCII format will be imported to a CADD environment and translated to Digital Terrain Model (DTM) for preparation of cross-section plots.

Final deliverables shall include the following:

- Electronic copy of survey field notes - Adobe (.PDF) format
- Electronic data files - ASCII, (.xyz) format
- Electronic cross-section plots - Adobe (.PDF) format

Cost:

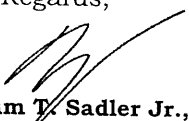
Upland Beach Profiles from R-18 to R-27:

\$ 5,500.00 Lump Sum

(one-time survey event, including personnel, equipment, data collection, processing and digital deliverables)

Should you have questions or require additional information please do not hesitate to contact us at your convenience. We appreciate this opportunity to assist you with this project and look forward to hearing from you soon.

Best Regards,


William T. Sadler Jr., P.E., P.S.M.
President
Sea Diversified, Inc.

Cost Breakdown
Sea Diversified, Inc.
Upland Beach Profiles from R-18 to R-27
Jupiter-Carlin to Juno Beach
SDI P.N. 17-2519
January 25, 2017

Topographic Beach Profiles

R-18 to R-27 (10 Profiles)

Description	Reg Hours	Reg Rate	OT Hours	OT Rate	Unit	Total
3-Person Hydrographic Survey Crew	0	\$250.00		\$375.00	CH	\$0.00
3-Person GPS Survey Crew	16	\$215.00		\$322.50	CH	\$3,440.00
Computer / CADD Operator	16	\$90.00		\$135.00	PH	\$1,440.00
Survey Manager	4	\$95.00		\$142.50	PH	\$380.00
Professional Surveyor and Mapper	2	\$120.00		\$180.00	PH	\$240.00
Project Manager	0	\$150.00		\$225.00	PH	\$0.00
Total Cost:						\$5,500.00

Olsen Associates, Inc.
Continuing Contract for Coastal and Marine Engineering

Contract (R2016-1377) dated September 27, 2016 for a period of two years expires on September 26, 2018.
SBE-M/WBE Goal 38.0% (28% State MBE/Woman; 6% SBE/White; 4% SBE/Woman)

Task Order summary:

TASK NUMBER	TOTAL/ SBE and/or MWBE AMOUNT	TASK DUE DATE	TASK DESCRIPTION	APPROVED BY/DATE
1377-01	166,585.00 5,500.00	1/15/2018	North County Comprehensive Shore Protection Project Segment II Feasibility Study	BCC

ATTACHMENT 2

R2016-1377

**CONTRACT FOR PROFESSIONAL CONSULTANT SERVICES
BETWEEN PALM BEACH COUNTY AND
OLSEN ASSOCIATES, INC.**

This Contract is made as of SEP 27 2016, by and between Palm Beach County, a Political Subdivision of the State of Florida, by and through its Board of Commissioners, hereinafter referred to as the COUNTY, and Olsen Associates, Inc., 2618 Herschel Street, Jacksonville, FL 32204, an engineering firm, a corporation, authorized to do business in the State of Florida, hereinafter referred to as the CONSULTANT, whose Federal I.D. Number is 59-2223174.

In consideration of the mutual promises contained herein, the COUNTY and the CONSULTANT agree as follows:

ARTICLE 1 - SERVICES

The CONSULTANT's responsibility under this Contract is to provide professional coastal and marine engineering services and incidental services as more specifically set forth in the Scope of Work attached hereto as Exhibit "A". In the event services are required to be performed that are not described in Exhibit "A", but are within the general scope of services, the COUNTY and the CONSULTANT hereby reserve the right to negotiate task orders covering the desired services.

The CONSULTANT shall conduct professional services in accordance with Chapters 471 and 472, Florida Statutes and other applicable local, state and federal standards. The CONSULTANT shall conduct topographic and hydrographic survey work in compliance with the most current U.S. Army Corps of Engineers "Technical Requirements for Surveying, Mapping and Photogrammetric Services", the most current U.S. Army Corps of Engineers "Engineering Design: Hydrographic Surveying," EM 1110-2-1003, and the most current Florida Department of Environmental Protection specifications for topographic (section 02000) and bathymetric (section 02100) surveying.

ARTICLE 2 - PERIODS OF SERVICE AND SCHEDULES

This Contract commences on the day and year first written above and ends two years later. At the option of the COUNTY, the Contract can be renewed for an additional one-year period.

Reports and other work items shall be delivered or completed according to schedules established in each task order.

The period of service shall continue until completion of all phases or any outstanding additional service authorizations issued within the period of the Contract, unless otherwise terminated as provided herein.

ARTICLE 3 - ASSIGNMENT OF WORK

IN WITNESS WHEREOF, the Board of County Commissioners of Palm Beach County, Florida has made and executed this Contract on behalf of the COUNTY and CONSULTANT has hereunto set its hand the day and year above written.

ATTEST:

Sharon R. Bock, Clerk & Comptroller

By: *Sharon R. Bock*

Deputy Clerk



WITNESS:

Heather Kalka

Signature

Heather Kalka

Name (type or print)

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY:

By: *Anne Delmont*
Assistant County Attorney

APPROVED AS TO TERMS
AND CONDITIONS:

By: *Robert Robbins*
Robert Robbins, Director
Dept. of Environmental Resources Mgmt.

R2016-1377

PALM BEACH COUNTY SEP 27 2016
BOARD OF COUNTY COMMISSIONERS:

By: *Mary Lou Berger*

Mary Lou Berger, Mayor

CONSULTANT:

Olsen Associates, Inc.

Company Name

Christopher G. Creed

Signature

Christopher G. Creed, P.E.

Typed Name

Vice President

Title

(corporate seal)

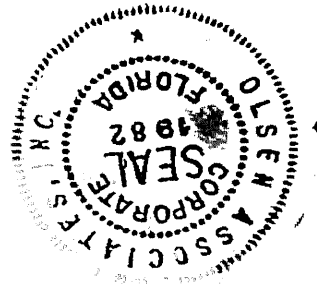


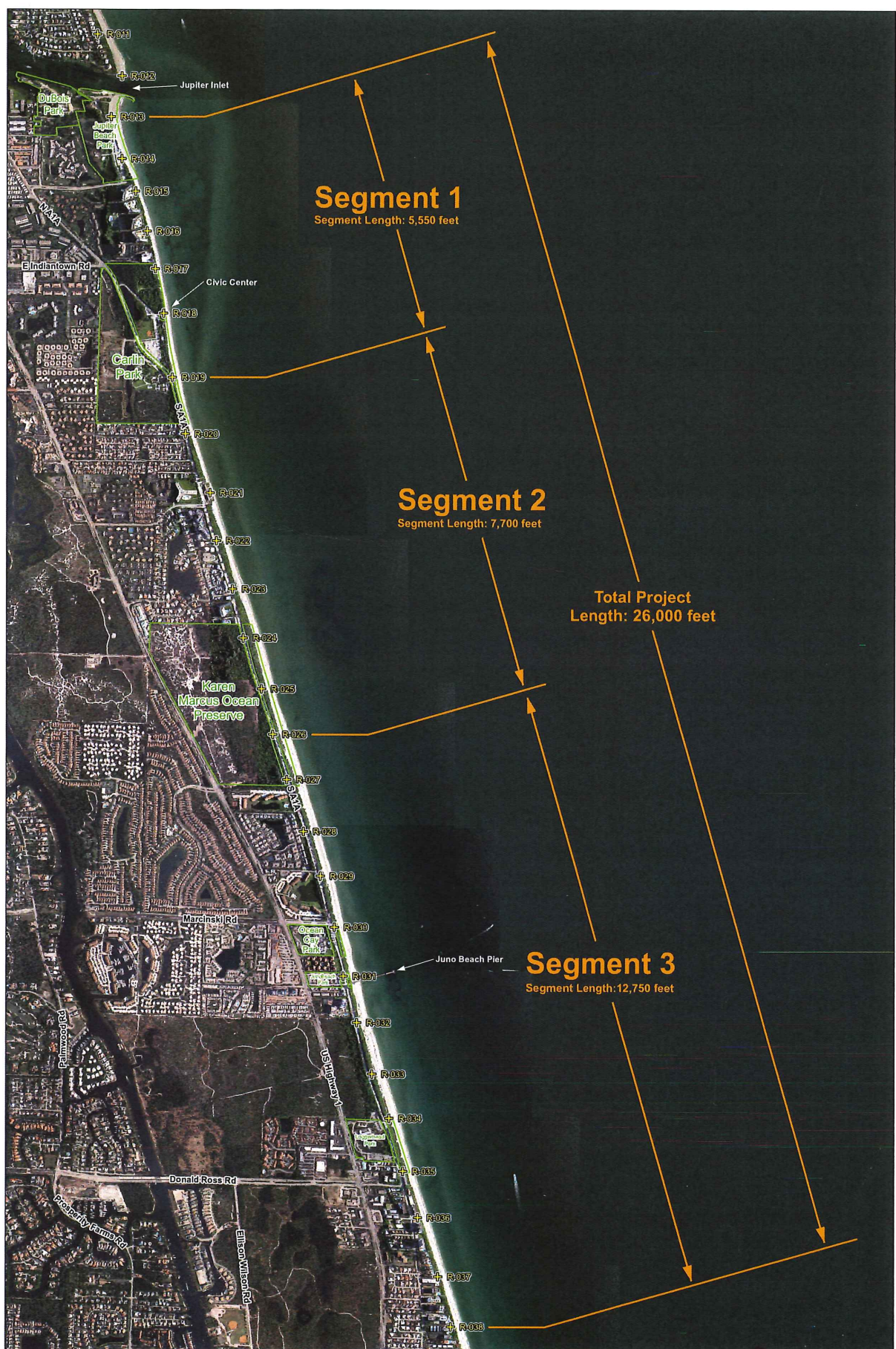
EXHIBIT B

OLSEN ASSOCIATES, INC.

LABOR RATES

2016

	Base Labor Rate (Multiplier of 2.72)	Burdened Rate
Principal	\$84.56	\$230
Principal II	\$75.37	\$205
Senior Engineer	\$63.97	\$174
Coastal Engineer I	\$49.26	\$134
Coastal Engineer II	\$40.44	\$110
Coastal Engineer III	\$37.13	\$101
CADD Technician	\$25.00	\$68
Administrative Assistant	\$26.47	\$72



Palm Beach County Department of
Environmental Resources Management
2300 North Jog Road, 4th Floor
West Palm Beach, Florida 33411-2741
(561) 233-2400

North County Comprehensive Shore Protection Project

6/1/2016

