

March 16, 2017

Brynt Johnson, P.E.
Public Works Director
The City of Riviera Beach
2391 Ave L
Riviera Beach, Florida 33404

**Re: Proposal for Professional Consulting Services
Neighborhood Improvements – Singer Island
Structural designs**

Dear Mr. Johnson:

Erdman Anthony is pleased to submit this proposal for Professional Engineering Services to The City of Riviera Beach (Client) in connection with the subject project.

Understanding

Based on our understanding this revision to our current agreement for professional services associated with the Singer Island project is to design and prepare plans for six structures over the waterways in the neighborhood. There will be two alternative options to be issued as bid alternates.

1. Option 1 will be seawalls, with a culvert for water circulation, and earth fill.
2. Option 2 will be seawalls, with a culvert for water circulation, and earth fill. For the entrance there will be seawalls only on the outside of the travel lanes and the entire area between the structures will be filled to create an area for a future park.

Scope of Work and Deliverables

1. Geotechnical exploration

The geotechnical engineer will perform four SPT borings to a depth of 75' each. This effort includes maintenance of traffic and utility clearance. The analysis will include soil testing and corrosion analysis. The report will include their findings and recommendations regarding soil parameters. This task will be provided by our SBE subconsultant Radise International. See their proposal attached.

2. Seawall and culvert design

Design the seawall option, prepare plans and details for permitting and bidding. This task will be provided by our SBE subconsultant Alan Gerwig & Associates. See their proposal attached.

3. Maintenance of Traffic concept

Erdman Anthony's will prepare general traffic control concept sketches and instructions to demonstrate constructability. Detailed maintenance of traffic plans will be the responsibility of the contractor.

4. Utility plans

The utility plans that are being prepared by Erdman Anthony as part of our original work order will be expanded to include these six areas. Erdman Anthony will coordinate with the City and structural engineer regarding the

location and detailed route of the proposed water and force mains. Erdman Anthony will coordinate with the other known utilities in the neighborhood regarding their facilities and the need for conduits within the bridge structures.

5. Review of Subconsultant Submissions

Erdman Anthony will review subconsultant submissions for completeness with respect to the scope of work and will complete a cross check to confirm that there are no inconsistencies in design work completed by different consultants. Erdman Anthony will also review subconsultant submissions for conformance with their project specific Quality Work Plan (Peer Review) and will randomly spot check Subconsultant plans and calculations to endeavor to verify that subconsultant's own Quality Control process is delivering an acceptable quality level.

6. Permitting

Permit applications will be prepared for the Army Corps of Engineers and the Florida Department of Environmental Protection. A portion of this task will be provided by our SBE subconsultant Alan Gerwig & Associates. See their proposal attached.

7. Habitat Survey and Permit

Conduct a submerged resource survey to identify submerged resources by species, size and coverage in accordance with the NMFS Johnson's seagrass survey protocols. Prepare the permit applications including impact, minimization, field meeting with the agency, WRAP/UMAM analysis, and negotiating the credits required to offset the impacts. This task will be provided by our SBE subconsultant Scheda Ecological.

8. Optional Environmental Services

If needed, develop a mitigation plan to offset unavoidable impacts to seagrass resources. If needed, draft a coral relocation plan. These services may be desired by the City if the mitigation credits are deemed more costly than self-performing relocation efforts. This task will be provided by our SBE subconsultant Scheda Ecological.

9. Opinion of Probable Cost

Erdman Anthony's structural engineers will provide an opinion of probable cost for the City. Any opinions of cost will be based on standard engineering practice. Erdman Anthony has no control over the pricing in the marketplace and Erdman Anthony cannot guarantee that the City will obtain these costs at the time of bidding.

10. Project Management

Erdman Anthony will coordinate the design team and plans production efforts.

Assumptions

- The survey provided by the City will be used as the basis for this design. Should additional land surveying data be needed, the City will obtain that data.
- The culvert in the seawall option will be a minimum culvert to maintain circulation in the canals only. There is no flow requirement for these culverts.
- Permit application fees will be paid by the City.
- It is assumed that both options will be designed and plans will be developed together.
- Erdman Anthony may rely upon the accuracy and completeness of any information, requirements, reports, data, surveys, and instructions provided by Client unless the Proposal expressly states otherwise.
- Erdman Anthony shall use that degree of usual and customary professional skill and care ordinarily exercised by members of its profession under similar circumstances practicing in the same or similar locality at a similar time.

Our work product is our plans as printed, signed and sealed. Erdman Anthony agrees to release two dimensional CADD files to the Owner or other team members for their convenience and use. CADD files are not intended to replace the printed form of such documents. Erdman Anthony will be responsible for obtaining a standard release from the recipient of any CADD files. Our CADD files are working drawings and may contain information not shown on the final or permitted prints. Therefore, the recipient shall be solely responsible for comparing the CADD file with the printed documents designated by Erdman Anthony as final deliverables and determining the accuracy of such files. Should the recipient desire a “sanitized” version of the CADD file, that service can be provided to them at a nominal fee. Delivery of the electronic files is not a sale, and Erdman Anthony is not liable for any loss of profit or any consequential damages as a result of use or reuse of these files.

The Client understands that the design effort is a unique, one-of-a-kind, first time effort and not a product that has been repeatedly manufactured and refined in advance of construction and agrees that a contingency will be budgeted for changes and corrections during construction due to inconsistencies in the construction documents.

Schedule

Erdman Anthony will begin work on the project after receipt of a fully executed agreement. At that time we will prepare a schedule and provide it to you for your review and concurrence. This proposal anticipates that all design services will be complete by June 30, 2017; should the contract services extend past that date, the lump sum amounts shown may be adjusted for an escalation in rates.

Fees

Erdman Anthony proposes to complete the above described scope of services. The lump sum tasks shown will be billed for a lump sum fee and billed on a periodic basis as a percent complete based on the project manager’s assessment of the status of the project.

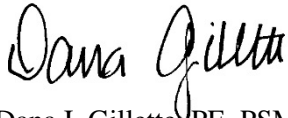
Task	Description	Fee
1	Geotechnical exploration	\$16,321
3	Seawall and culvert design	\$60,000
4	Maintenance of Traffic concept	\$10,000
5	Utility plans	\$16,000
6	Quality assurance review	\$5,000
7	Permitting	\$15,000
8	Habitat Survey and Permit	\$21,320
9	Optional Environmental Services	\$30,490
10	Cost Estimate	\$10,000
11	Project Management	<u>\$10,000</u>
	TOTAL	\$194,131

Brynt Johnson
RE: Singer Island
March 16, 2017
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Proposal Acceptance

This is a supplemental to our purchase order dated July 8, 2015 and subject to the conditions of our agreement dated May 6, 2015. Receipt of an original signed copy of this letter or a purchase order shall constitute Erdman Anthony's Authorization to Proceed with the work. We appreciate your time and consideration in reviewing our proposal. If you have any questions or require additional information, please contact me at 561-308-04546. We look forward to working with you and continuing our successful relationship.

Sincerely,
ERDMAN ANTHONY



Dana I. Gillette, PE, PSM, LEED AP
Principal Associate

Attachments: Radise proposal
Gerwig proposal

N:\60265-01-SingerIsland\Admin\Proposal\Rev 2 bridges\031617 version 3\singer island neighborhood rehab 031617.docx
© 2017, Erdman Anthony

<p><u>Accepted for Client By:</u></p> <p>SIGNATURE: _____</p> <p>NAME (PRINTED): _____</p> <p>TITLE: _____</p> <p>DATE: _____</p>



LAB CERTIFICATIONS

**USACOE Certified
QA Managers**



Validated

Approved



Certified

Certified

**CTQP CERTIFIED
TEAM**

May 16, 2016

Erdman Anthony

Attn: Ms. Dana Gillette, PE

1402 Royal Palm Beach Blvd., Suite 500
Royal Palm Beach, Florida 33414

Phone: (561) 753-9723

Cell: (561) 308-0546

Email: gilletted@erdmananthony.com

Proposal for Geotechnical Drilling and Laboratory Services
Neighborhood Improvement Project
Bulkhead Replacements
Riviera Beach, Florida

Dear Ms. Gillette,

INTRODUCTION

RADISE International, LC (RADISE) is pleased to submit this proposal to provide geotechnical drilling and laboratory testing, and engineering services in regards to the Neighborhood Improvement Project Bulkhead Replacements planned in the Palm Beach Isles subdivision on Singer Island, in Riviera Beach, Florida.

Our estimate is based on information you provided to us via email, and our May 9, 2016, communication.

SCOPE OF WORK

The scope of work that we propose to undertake for the project will involve the following tasks:

1. Perform underground utility clearance through Sunshine State One Call of Florida.
2. Layout of the soil borings locations in the field.
3. Mobilization of a truck-mounted drill rig and crew to the project site.
4. Set up basic maintenance of traffic (MOT) at the work areas for traffic control and safety (i.e. signs and cones).
5. Perform 4 Standard Penetration Tests (SPT) borings to depths of 50 feet below the existing ground surface in the vicinities of the bulkheads & bridges.
6. Visual Classification of soil samples in accordance with the Unified Soil Classification System (USCS).

7. Laboratory testing of selected soil samples for index properties including but not limited to moisture content, fines content, grain size data and organic content.
8. Preparation of an engineering report providing the results of the SPT borings and soil laboratory testing, and providing recommendations relative to the existing conditions, and bulkhead walls including design recommendations and soil parameters for their replacement.

COMPENSATION

We have estimated the cost for the propose scope of work is a lump sum of \$16,321, which we would bill to you after submitting our report. We are available to begin upon your acceptance of this proposal and estimate the proposed scope of work would require 1 week for completion after the clearance of the underground utilities.

RADISE appreciates the opportunity to submit this proposal and look forward to the opportunity of working with you. In the event that you have any questions or would like to discuss the details of this proposal, please do not hesitate to give us a call at (561) 841-0103.

Sincerely,

RADISE International

Infrastructure Engineers • Software Developers



Thomas F. Mullin, P.E.

Vice President – Chief Engineer

Geotechnical Services Group Manager

FEE BREAKDOWN
Proposal for Geotechnical Engineering Services
Neighborhood Improvement Project - Bulkhead Replacements
Riviera Beach, Florida
RADISE Project No: 150810

25-Mar-16

		Qty	Unit Price	Unit	Total
A. FIELD EXPLORATION:					
FIELD MARKING AND UTILITY LOCATE/CLEARANCE COORDINATION OF BORINGS					
	Staff Engineer	6	\$85.00	Hour	\$510.00
SOIL BORINGS - 4 SPT's to 50 feet					
	Mobilize Equipment-Drill Rig (Truck) (<50 miles travel)	1	\$350.00	EA	\$350.00
	SPT Borings - Est. 4 to 50 feet				
	0 to 50 feet	200	\$10.00	LF	\$2,000.00
	51 to 75 feet	0	\$13.50	LF	\$0.00
	Casing				
	0 to 50 feet	200	\$6.50	LF	\$1,300.00
	51 to 75 feet	0	\$7.50	LF	\$0.00
	Grout Seal Boreholes				
	0 to 50 feet	200	\$4.00	LF	\$800.00
	51 to 75 feet	0	\$5.00	LF	\$0.00
	Traffic Control (Signs and Cones only) - Est. 3 days to complete	3	\$250.00	Day	\$750.00
	Soil and Water Sampling for Corrosion Series Tests	4	\$65.00	Hour	\$260.00
SUBTOTAL - FIELD EXPLORATION					\$5,970.00
B. LABORATORY SERVICES:					
	Final Soil Classification/Lab Assignments (Staff Engineer)	4	\$85.00	Hour	\$340.00
	Natural Moisture Tests	8	\$12.00	Test	\$96.00
	Full Grain Size Analysis including No. 200 sieve wash	4	\$65.00	Test	\$260.00
	Percent passing No. 200 sieve test	4	\$35.00	Test	\$140.00
	Organic content test	4	\$35.00	Test	\$140.00
	Atterberg Limit test	2	\$65.00	Test	\$130.00
	Corrosion Series Tests (2 for Soil Samples, 2 for Water Samples)	4	\$210.00	EA	\$840.00
SUBTOTAL - LABORATORY SERVICES					\$1,946.00
C. PROFESSIONAL SERVICES:					
	Principal Engineer (QA and Final Report Review)	3	\$195.00	Hour	\$585.00
	Senior Geotechnical Engineer (PM and Reporting)	20	\$155.00	Hour	\$3,100.00
	Project Engineer (Bulkhead/Sheet Piling analysis and design)	40	\$105.00	Hour	\$4,200.00
	Drafter/CADD Technician (location map and boring logs)	8	\$65.00	Hour	\$520.00
SUBTOTAL - PROFESSIONAL SERVICES					\$8,405.00
TOTAL PROJECT GEOTECHNICAL ENGINEERING SERVICES					\$16,321.00

May 11, 2016

**Singer Island Structural Design Services
Island Drive and Grand Bahama Lane**

Seawall and Culvert Design: Design of seawall with culverts to replace existing structures at Island Dr. and Grand Bahaman Ln.

Design a system of seawalls to replace the existing structures spanning the Intracoastal Waterway. The existing structures consist of seawall containment structures creating small islands joined to the mainland by concrete spans. These will be demolished to the extent necessary to accommodate the installation of new seawalls extending east-west across the channel. The new seawall will be located approximately at the roadway right-of-way and the area between will be filled with earthen embankment. Culvert(s) will be installed through the two seawalls to connect the channel to allow flow back and forth between the north and south newly created dead end channel. The wall geometry will be established such that the tie-in to the existing seawall at the four corners will be within the City's roadway right-of-way.

Maintenance of traffic considerations are as follows:

Island Drive: Island Drive is a divided roadway. The existing structures will be replaced in pairs comprised of the two consecutive structures making up one lane of traffic being replaced simultaneously while traffic is utilizing the other two structures for ingress and egress to the affected community. Once the first phase walls and roadway are completed traffic will be shifted from the existing structures to the newly constructed roadway and the remaining two structures will be demolished and replaced. Only one lane of traffic will be open during construction which will require a temporary traffic signal to control the one lane – two way traffic.

Grand Bahama Ln.: The structures will be constructed in phases providing for partial removal of the existing structures leaving it open to one lane of traffic while the replacement walls are constructed in two phases. The first phase will include enough roadway width and possibly temporary steel sheet piling to accommodate one lane of traffic. When the first phase is completed traffic will be shifted to the new single lane roadway and the remaining

portion of the new roadway and wall will be completed. This MOT phasing will require that traffic be reduced to one lane during construction. A temporary traffic signal will be necessary to control the one way traffic.

Peer Review: Peer review of the structural design will be provided by Erdman Anthony's structural design staff.

Permitting: Army Corp of Engineers and Florida Department of Environmental Protection

Permits applications and drawings of the planned improvements will be prepared for the above reference agencies and submitted for review and approval.

Plan Submittals

All plans will be prepared on 11"x17" sheets.

Plan review submittals will be made at 60%, 90% and 100%.

Quantities and cost estimates will be provided with the 90% submittal for the project.

Project Assumptions:

1. No existing structural components will be utilized or remain in service as a result of this project.
2. Geotechnical: The geotechnical investigation for this project will be provided by others. The geotechnical investigation will provide the data and recommendations required for the design of the replacement structure foundations and seawalls.
3. Land surveying services will be provided by others.
4. The size and location of the culvert in the seawall replacement option will be sized by inspection and approved by the City.
5. MOT plans and utility relocation plans will be prepared by Erdman Anthony.
6. Permit application and review fees are not included.
7. Hydraulic analysis of the culvert connections are not part of the scope of this project.
8. Construction observation is not included.

Project Deliverables:

Four copies of the phase and final drawings will be submitted for review and comment.

Following the review and approval of the 100% submittal, final plans will be submitted in hard copy and electronically in pdf format. Four hard copies of the final plans will be provided, including one set signed and sealed.

Lump Sum Design Fees

Seawall and Culvert Design Fees

Island Drive Structures	\$30,000
Grand Bahama Lane Structures	\$30,000
Permitting	\$9,500

The above fees are based on both design options being contracted together.



June 15, 2016

Dana Gillette, PE
Erdman Anthony
5405 Okeechobee Blvd., Suite 200
West Palm Beach, FL 33417
GilletteD@erdmananthony.com

Re: BASIC SERVICES - SCOPE OF WORK & ASSOCIATED FEE ESTIMATE
Island Drive & Grand Bahama Lane Bridge Replacements
City of Riviera Beach, Palm Beach County, Florida
Scheda Proposal No. 003609.20.P

Dear Ms. Gillette:

Scheda Ecological Associates, Inc. (Scheda) is pleased to submit this scope of services and fee estimate to assist with the environmental permitting efforts for the replacement of six (6) bridges located along Island Drive & Grand Bahama Lane Bridge within the City of Riviera Beach. We understand that the work will consist of replacing the existing bridges with culverts and seawalls per the preliminary plans that were submitted to us. Scheda's tasks will include delineating all benthic resource areas (corals, seagrass, oyster reefs) within and adjacent to the project area, assistance with environmental permitting through Federal, state, and local regulatory agencies, and coordination with the regulatory agencies.

SCOPE OF SERVICES

Task Description

1. BENTHIC HABITAT SURVEY

Prior to conducting a site reconnaissance, all readily available existing permit, protected species, benthic resource data available for the project vicinity will be collected and reviewed. This data will be used to draft the environmental support document to be included in the environmental permit application packages and consist of the following:

- a. USGS 7.5-minute quadrangle mapping;
- b. South Florida Water Management District's Florida Land Use Cover and Forms, Classification Systems (FLUCFCS);
- c. Current aerial photography;
- d. Florida Master Site File review for known historic and archaeological sites;
- e. Protected Species data: Florida Native Areas Inventory (FNAI) via letter request, United States Fish and Wildlife Service, (USFWS), and Florida Fish and Wildlife Commission (FWC);
- f. National Wetland Inventory mapping (NWI).

Scheda will conduct a submerged resources survey over a one (1) day period by providing two (2) scientists that are each certified SCUBA divers. Scheda scientists will identify areas of submerged resources, by species type, size, and coverage, within the project area. The survey will be conducted in accordance with NMFS Johnson's seagrass survey protocols. Scheda will provide field equipment such as SCUBA gear, an underwater camera, and Trimble GPS unit. Upon

completion of the field survey, Scheda will provide a map depicting the boundaries of any identified protected submerged resource areas (i.e. seagrass beds, hard corals and octocorals, oyster reefs), the locations of any identified hardbottom areas, and photographs depicting the typical conditions of each identified resource area. A summary document detailing the results of the field effort will be included in the Environmental Support Document listed in Task 2 below. All shapefiles depicting the locations/boundaries of identified natural resource areas will be provided to the client.

2. ENVIRONMENTAL PERMIT APPLICATION SUPPORT

Scheda will support Erdman Anthony during the environmental permitting through the following efforts:

- a. Compiling the Purpose and Need statement in sufficient detail to support the permit application. This documentation will include the development of tables and or graphics sufficient to explain the City's position that bridge replacement is needed;
- b. Compiling the Impact Minimization text in sufficient detail to support the permit application;
- c. Drafting an Environmental Support Document, to be included in the permit application packages, that summarizes the environmental conditions on-site, impact avoidance/minimization efforts considered, and all associated figures (maps for land use, benthic resources, etc.);
- d. Lead one (1) on-site field review with the regulatory agencies;
- e. Complete a WRAP/UMAM analysis to determine the amount of functional loss for any impacts to seagrass resources and the amount of mitigation needed;
- f. Coordinate with regulatory agencies to determine the amount of credits needed to sufficiently offset project impacts; and
- g. Assist in the preparation of any environmental related RAI items that may be issued.

3. MEETING ATTENDANCE

Scheda will attend the following environmental permitting related meetings:

- One (1) pre-application meeting with FDEP;
- One (1) pre-application meeting with USACE and NMFS;
- Two (2) request for additional information (RAI) clarification meeting with either of these regulatory agencies.

FEE ESTIMATE

The fee estimate totals **\$21,320.00** and will be considered a lump sum fee estimate, which will not be exceeded without prior written authorization from the client. The project will be billed monthly based upon the percentage completion of the fee.

Please note that the following assumptions were used in developing this lump sum fee estimate. If additional work time is required due to the inaccuracy of these assumptions or future changes in scope, the client will be notified prior to the work being performed. Written authorization will be obtained from the client prior to performing the work.

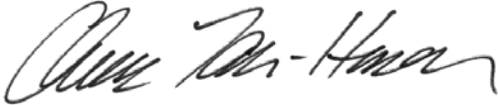
1. Survey, engineering, and geotechnical services are to be provided by others.
2. The survey areas will be limited to a 50-ft swath surrounding the six (6) bridge sites.
3. All permit fees will be provided by others.
4. This scope does not include compensatory mitigation or relocation of benthic resources

(corals, seagrass, oyster reefs). These tasks shall be covered under Optional Services.

If these terms and conditions are satisfactory, please authorize the work by signing below and returning one copy to our office within 30 days of the date first written above. Upon receipt of such signature, this document shall constitute a binding Agreement.

Thank you for the opportunity to provide this scope and fee. Please contact me at (561) 865-7749 if you have any questions or require additional information.

Sincerely,
Scheda Ecological Associates, Inc.



Claus Hansen, MS
Interim Southeast Florida Regional Manager

The above terms are accepted as stated on this _____ day of _____, 2016.

Signature _____ Title _____

Printed _____

Witness _____



June 15, 2016

Dana Gillette, PE
Erdman Anthony
5405 Okeechobee Blvd., Suite 200
West Palm Beach, FL 33417
GilletteD@erdmananthony.com

Re: OPTIONAL SERVICES - SCOPE OF WORK & ASSOCIATED FEE ESTIMATE
Island Drive & Grand Bahama Lane Bridge Replacements
City of Riviera Beach, Palm Beach County, Florida
Scheda Proposal No. 003609.20.P

Dear Ms. Gillette:

Scheda Ecological Associates, Inc. (Scheda) is pleased to submit this scope of services and fee estimate to assist with the environmental permitting efforts for the replacement of six (6) bridges located along Island Drive & Grand Bahama Lane Bridge within the City of Riviera Beach. We understand that the work will consist of replacing the existing bridges with culverts and seawalls per the preliminary plans that were submitted to us. Scheda's optional services tasks will include the development of a seagrass mitigation plan should impacts to seagrass resources be unavoidable, development of a coral relocation plan if coral impacts are unavoidable, and leading tree permitting activities should impacts to native, specimen-sized tree species are unavoidable.

SCOPE OF SERVICES

Task Description

O1. TREE PERMITTING

A tree survey will be completed with the goal of obtaining the necessary information to issue a tree removal/relocation permit application from the City of Riviera Beach. These tasks will include:

- a. Conduct a 100% tree survey on the project area to document the species and size class of all native, specimen trees.
- b. Draft a Tree Survey Summary memo that includes tree count and location data for all trees that meet County relocation/removal size standards.
- c. Complete and submit the tree removal/relocation permit application to the City.
- d. Complete calculations for tree impact mitigation (if required).
- e. Coordinate with City Urban Forestry staff as necessary.

O2. RESOURCE MITIGATION PLANS

Should impacts to observed seagrass or coral resources be unavoidable, this task will cover the activities needed to permit compensatory seagrass mitigation and/or coral mitigation through the relocation of the coral specimens.

Seagrass Mitigation

Scheda will coordinate with Federal, State, and local regulatory agencies to develop a compensatory mitigation plan that will offset all unavoidable impacts to seagrass resources. The

mitigation plan will include details on the seagrass resources being impacted, estimated functional loss (calculated using UMAM), mitigation strategy (filling prop scars, monetary compensation, etc.), and proposed "lift" at the mitigation site. The plan will be submitted to the regulatory agencies for review and approval.

Coral Relocation

Scheda will draft a Coral Relocation Plan that will be reviewed and approved by the regulatory agencies. This plan will include details of the coral relocation methodology and location of the permanent coral recipient site, as well as any additional compensatory measures that may be required following discussions with the regulatory agencies. Scheda will conduct the coral relocation activities in accordance with the Coral Relocation Plan. Scheda biologists/divers will identify and relocate all corals within the direct impact footprint of the project. Scheda will provide all necessary equipment to properly relocate the corals, including a vessel, SCUBA equipment, coral tags, hand tools, and a Trimble hand-held GPS unit to locate each coral at the recipient site. All corals will be removed by hand. At the recipient site, coral transplants will be mapped and photo-documented for future reference and monitoring. A reference photograph of each relocated coral will be taken and all relocated corals will be identified by species, depth and a unique ID.

An initial baseline (time zero, post-transplant) monitoring report will be prepared that summarizes the relocation effort and establishes baseline conditions for future reference. This report will include: total number of colonies transplanted by species, total estimated area (cm²) of coral relocated by species, a map showing location (geo-referenced), ID codes and depths of relocated coral colonies, issues/problems identified during relocation, and reference photographs of relocated coral colonies. The report will be submitted to USACE, NMFS, FDEP, and Palm Beach County ERM (if required). Subsequent monitoring of the relocated corals will be completed at intervals of 6 months, 12 months, 18 months, 24 months, 30 months, and 36 months (or as scheduled in the permits). Scheda will provide all staff and equipment necessary to document the condition of attachment, growth of coral colonies, and colony health (in terms of pigment loss or coral bleaching, tissue loss, presence or absence of disease, observed bio-fouling, and re-growth of coral tissue over cement base, substrate or previous lesions). A written report summarizing the monitoring event and including photo-documentation of conditions at the transplant site will be provided to NMFS, USACE, FDEP, and Palm Beach County (if required).

FEE ESTIMATE

The fee estimate totals **\$30,490.00** and will be considered a lump sum fee estimate, which will not be exceeded without prior written authorization from the client. The project will be billed monthly based upon the percentage completion of the fee.

Please note that the following assumptions were used in developing this lump sum fee estimate. If additional work time is required due to the inaccuracy of these assumptions or future changes in scope, the client will be notified prior to the work being performed. Written authorization will be obtained from the client prior to performing the work.

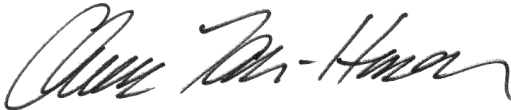
1. Survey, engineering, and geotechnical services are to be provided by others.
2. All permit fees will be provided by others.

- 3. This scope of services does not include "on-the-ground" seagrass restoration activities. It is assumed that seagrass mitigation options are available that the Client can fund but not physically partake in.

If these terms and conditions are satisfactory, please authorize the work by signing below and returning one copy to our office within 30 days of the date first written above. Upon receipt of such signature, this document shall constitute a binding Agreement.

Thank you for the opportunity to provide this scope and fee. Please contact me at (561) 865-7749 if you have any questions or require additional information.

Sincerely,
Scheda Ecological Associates, Inc.



Claus Kyhn - Hansen, MS
Interim Southeast Florida Regional Manager

The above terms are accepted as stated on this _____ day of _____, 2016.

Signature _____ Title _____
Printed _____
Witness _____