

CONSTRUCTION COST ESTIMATE

For Budgeting



INNOVATIVE INFRASTRUCTURE SOLUTIONS

PROJECT NAME: Community Maritime Park Breakwater

CLIENT: CMPA

ESTIMATED BY: DKH

Date: 1/6/14

Reviewed By: TMW

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Mobilization	1	LS		\$50,000
2	Site Preparation / Protection	1	LS		\$35,000
3	Construction layout	1	LS		\$20,000
4	Steel Sheets w/ Coating	1,028,966	LB	\$ 0.65	\$668,828
5	Coal tar epoxy coating	46,702	SF	\$ 2.50	\$116,755
6	Cathodic Protection	1	LS		\$171,000
9	Installation of Sheets	174	Pair	\$ 2,000.00	\$348,000
10	Installation of Clean Fill in Crib	2,800	CY	\$ 25.00	\$70,000
11	Installation of Concrete Cap	850	CY	\$ 550.00	\$467,500
12	Handrails	820	LF	\$ 62.00	\$50,840
13	Navigation Warning Equipment	1	LS	\$ 12,000.00	\$12,000
14	Site Preparation / Protection Removal	1	LS	\$ 35,000.00	\$35,000
15	Site Repair - concrete and landscape	1	LS	\$ 20,000.00	\$20,000
16	Demobilization	1	LS	\$ 35,000.00	\$35,000
	Sub-Total				\$2,099,923
	Bond @ 2%				\$41,998
	Breakwater				\$2,141,921
	Previous Marina Bid - Hoar				\$775,000
17	40' Steel Sheets	748,340	LB	\$ 0.65	\$486,421
	Savings due to shorter sheets	\$668,828	486,421	\$182,407	
		SUBTOTAL			\$2,916,921
		CONTINGENCY @ 10%			\$291,692
		TOTAL CONSTRUCTION COST			\$3,208,613
		ENGINEERING			\$120,000
		SURVEYING			
		GEOTECHNICAL			
		TOTAL PROJECT COST			\$ 3,328,613



December 20, 2013

Mr. Tom Williams, PE
Baskerville-Donovan, Inc.
Via email: twilliams@baskervilledonovan.com

**SUBJECT: Geotechnical Exploration Proposal
Maritime Park Breakwater and Marina
Pensacola, Florida**

Dear Tom:

Larry M. Jacobs & Associates, Inc. (LMJ) sincerely appreciates the opportunity to submit the following proposal for providing a geotechnical exploration for the subject project. The purpose of this exploration is to determine the general subsurface conditions in the proposed breakwater and marina areas and use this information to provide recommendations for breakwater and marina design. The following sections outline our recommended scope of services, a cost estimate for providing these services, and the proposed terms and conditions.

PROJECT AND SITE DESCRIPTION

The proposed breakwater is planned to be located at the southwest corner of the Community Maritime Park in Pensacola, Florida. The proposed breakwater is planned to extend west from the southwest corner of the bulkhead approximately 218 feet and then turn to the northwest for approximately 196 feet. The breakwater is planned to have a concrete cap with a top of cap elevation of 8 feet. A post dredge survey was not available at the time of this proposal; however, we understand that the water depth is roughly 12 feet in the proposed breakwater area. A waterborne boring we drilled just to the north of the planned marina (B-12) encountered very poor conditions for lateral support, and the soil conditions underwater on the west side of the park were erratic.

PROPOSED SCOPE OF SERVICES

The following proposed scope of services is based on the information supplied and our experience in the area with similar projects. We propose to perform the following:

- ▼ Locate the borings at the site using GPS.
- ▼ Obtain the required FDEP/COE permits for work in state waters. Note that this permit typically takes 30 days to obtain.
- ▼ Clear registered utilities at the site with the Sunshine network before drilling. Private or non-registered utilities will be the responsibility of the client to clear.
- ▼ Mobilize a waterborne drilling platform and drill team to the site. The borings will be drilled by driving a casing and using the "mud" jetting technique with a Bentonite drilling mud. This drilling method may encounter difficulties if large amounts of shell and/or ballast rock are present, and borings may need to be offset several times before penetrating surficial obstructions. We have budgeted for a day of drilling per boring with an allowance (2 days) for additional time spent offsetting borings due to obstructions or for other delays due to drilling conditions.
- ▼ Drill three Standard Penetration Test (SPT) borings in the proposed breakwater area as deep as practical with our equipment or roughly 50-60 feet below the drilling platform (roughly 2 feet above the water surface).
- ▼ Drill five SPT borings in the pier areas to a depth of 40-50 feet below the drilling platform. Note that additional borings may be advised if the conditions are erratic and poor soils are encountered.



- ▼ Perform a visual classification and laboratory testing of the soil samples obtained during our exploration. Laboratory testing will include wash #200 sieve, Atterberg limits and natural moisture content to evaluate and document basic properties and correlate the samples with the extensive laboratory test data we already have on the marine clay.
- ▼ Analyze the test data to develop geotechnical engineering recommendations for the project.

A qualified, professional geotechnical engineer licensed in the state of Florida will manage the project, and the results of the exploration will be presented in a report that will address the following:

- ▼ Existing site characteristics.
- ▼ Exploration, testing, and sampling methods.
- ▼ Subsurface soils encountered and soil classifications.
- ▼ Depth to groundwater at the time of drilling.
- ▼ A discussion of laboratory test results
- ▼ Recommendations for breakwater design including a value engineered sheet pile design or recommended earth pressures and allowable bearing pressures for a non-conventional design.
- ▼ Recommendations for marina pier design including recommended pile types, sizes, and embedment depths and corresponding allowable pile capacities.
- ▼ Lateral pile deflections under the anticipated design lateral loads.
- ▼ Recommend pile installation and verification procedures.

ESTIMATED COST

Attached as **Figure #1** is our itemized cost breakdown for this project. We estimate the cost of the scope of services in this proposal to be **\$24,830.00 to \$29,130.00**. This proposal assumes that the boring locations are accessible with our waterborne drilling platform, we have right of entry to the site, and that we will not experience excessive delays due to debris at borehole locations or for other reasons outside of our control beyond what was budgeted for in this proposal. If such conditions are encountered that may cause the cost of the exploration to exceed the budget figure, we will notify the client and obtain approval for the additional work before proceeding. Our drill crew will carry Longshore and Harbor Worker's Compensation Insurance when working on the water.

AUTHORIZATION

To authorize us to proceed with this project, please complete, sign, and return a copy of the attached **Agreement for Professional Services (Figure #2)** to our office. If the authorization for this work is faxed or emailed to initiate the work, the original signed authorization is needed for our records, which can be forwarded by return mail.

LMJ appreciates the opportunity to present you with this proposal, and we look forward to working with you again on this project. If you have any questions or comments, please do not hesitate to call.

Respectfully Yours,

LARRY M. JACOBS & ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read 'Keith V. Jacobs', is written over a horizontal line.

Keith V. Jacobs, PE
Principal Engineer

Attachments

Figure #1

LMJ COST BREAKDOWN**CLIENT:** Mr. Tom Williams, PE w/ BDI, Inc.**PROJECT:** Maritime Breakwater and Marina

UNIT FEE	EST. QTY	EST. COST RANGE
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FIELD TESTING/DRILLING SERVICES

MOBILIZATION OF WATERBORNE DRILLING PLATFORM	\$1,000.00 /EA	1	1,000.00	1,000.00
WATERBORNE DRILLING	\$1,150.00 /DY	8 - 10	9,200.00	11,500.00
WATERBORNE DRILLING PLATFORM RENTAL	\$1,000.00 /DY	8 - 10	8,000.00	10,000.00
2-MAN CREW MILEAGE	\$0.75 /MI			
DIFFICULT MOVING/DRILLING TIME	\$125.00 /HR			
OBTAIN UNDISTURBED/SHELBY TUBE/BULK SAMPLE	\$78.00 /EA			
ENGINEERING TECHNICIAN (LOCATE BORINGS & CLEAR UTILITIES)	\$53.00 /HR			
FDEP/COE PERMIT	\$100.00 /EA	1	100.00	100.00
FIELD TESTING/DRILLING TOTAL			\$18,300.00	\$22,600.00

LABORATORY TESTING SERVICES

WATER CONTENT	\$16.00 /EA			
SIEVE ANALYSIS	\$53.00 /EA			
WASH #200 SIEVE	\$37.00 /EA			
PERMEABILITY (INCL. UNIT WEIGHT & MOISTURE CONTENT)	\$100.00 /EA			
ATTERBERG LIMITS TEST	\$90.00 /EA			
CONSOLIDATION TEST	\$475.00 /EA			
BASIC PROPERTIES TESTING ALLOWANCE			1,000.00	1,000.00
LABORATORY TESTING TOTAL			\$1,000.00	\$1,000.00

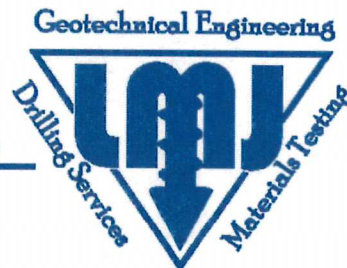
ENGINEERING SERVICES

SENIOR PRINCIPAL GEOTECHNICAL ENGINEER	\$125.00 /HR			
PRINCIPAL GEOTECHNICAL ENGINEER	\$100.00 /HR	50	5,000.00	5,000.00
PROJECT ENGINEER	\$95.00 /HR			
PROJECT MANAGER	\$90.00 /HR			
CAD TECHNICIAN	\$53.00 /HR	10	530.00	530.00
ENGINEERING TOTAL			\$5,530.00	\$5,530.00

**TOTAL ESTIMATED COST RANGE**

\$24,830.00	\$29,130.00
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Since 1976



AN AGREEMENT FOR PROFESSIONAL SERVICES

CLIENT: Mr. Tom Williams, PE
Baskerville-Donovan, Inc.
Via email: twilliams@baskervilledonovan.com

DATE: December 20, 2013
Phone #: 850.438.9661

SUBJECT: Geotechnical Exploration Proposal
Maritime Park Breakwater and Marina

The attached letter forwards our cost proposal for performing a Geotechnical Exploration for the subject project. We have estimated the cost for our services as described and under the conditions presented in the attached letter to be: **\$24,830.00 to \$29,130.00.**

We look forward to working with you on this project. Please have the party responsible for payment of our services **FILL IN THE BOXED SECTION** of this form, **SIGN YOUR AUTHORIZATION** and **RETURN ONE ORIGINAL** of this form to our office to activate our services including the distribution of our report. ***If the authorization for this work is faxed to initiate the work, we will still need the signed original authorization for our records, which can be forwarded by return mail.*** If you have any questions or comments, please feel free to call.

THE TERMS AND CONDITIONS ON PAGE TWO OF THIS FORM ARE PART OF THIS AGREEMENT.

FOR: LARRY M. JACOBS & ASSOCIATES, INC.

BY: _____

(President)

TERMS: ☒ Net 30 Days

Herein constitutes my authorization to proceed with and obligates payment for the subject services referenced above in the proposal and if necessary personally guarantees said payment. Invoices are due when rendered. *Invoices shall be considered past due if not paid within 30 days after the invoice date*, unless a previous agreement for extended time for payment has been arranged, and Larry M. Jacobs & Associates, Inc. (LMJ) may without waiving any claim or right against Client, and without liability whatsoever to the Client, terminate the performance of the service. Retainers shall be credited on the final invoice. A service charge will be charged at 1.5% (or the legal rate) per month on the past due balance(s). In the event any portion or all of an account remains unpaid 90 days after billing the Client agrees to pay cost of collection, including all credit bureau, collection agency, and/or reasonable attorney's fees.

PROPERTY OWNER:

Name _____ Phone #: (____) _____
Address _____ Fax #: (____) _____
City, State _____ Zip Code _____ Email: _____

PARTY RESPONSIBLE FOR PAYMENT (If different than Client):

Name _____ Phone #: (____) _____
Address _____ Fax #: (____) _____
City, State _____ Zip Code _____ Email: _____

CLIENT'S NAME: _____

AUTHORIZED BY: _____
(Please Print or Type) _____ Title _____ Date _____

Signature: _____
(Must be signed by a Principal or Officer of the Company)

Figure #2

TERMS AND CONDITIONS

Larry M. Jacobs & Associates, Inc. (LMJ) its officers, stockholders, and employees, hereinafter referred to as the Geotechnical Engineer of Record (GER), shall perform the services outlined in this agreement for the stated fee agreement.

Access To Site and Hidden Utilities

Unless otherwise stated, the GER will have access to the site for activities necessary for the performance of the services. The GER will take precautions to minimize damage due to these activities, but has not included in the fee the cost of restoration of any resulting damage. The GER shall not be responsible for damage to hidden utilities. It is the Clients' responsibility to provide the GER with the locations of said hidden utilities.

Fee

The total fee shall be understood to be an estimate, based on an agreed upon Scope of Services, and shall not be exceeded without approval of the Client.

Indemnification

The Client shall indemnify and hold harmless the GER and all of its personnel from and against any and all claims, damages, losses and expenses (including reasonable attorneys fees) arising out of or resulting from the performance of the services, provided that any such claims, damage, loss or expense is caused in whole or in part by the negligent act of omission, and/or strict liability of the Client, anyone directly or indirectly employed by the Client (except the GER) or anyone for whose acts any of them may be liable.

Hidden Conditions

A geotechnical condition is hidden if it is not encountered in the planned geotechnical investigation which incorporates currently accepted standards of Geotechnical Engineering. If the GER has reason to believe that such a condition may exist, the client shall authorize and pay for all costs associated with the investigation of such a condition and, if necessary, all costs necessary to correct said condition. If (1) the client fails to authorize such investigation or correction after due notification, or (2) the GER has no reason to believe that such a condition exists, the client is responsible for all risks associated with this condition, and the GER shall not be responsible for the existing condition or any resulting damages to persons or property. The GER shall also not be responsible for the release or aggravation of any hazardous materials encountered by the geotechnical investigation.

Risk Allocations

In recognition of the relative risks, rewards and benefits of the project to both the Client and the GER, the risks have been allocated so that the Client agrees that, to the fullest extent permitted by law, the GER's total liability to the Client, for any and all injuries, claims, losses, expenses, damages or claim expenses arising out of this agreement, from any cause or causes, shall not exceed the total amount of \$50,000, the amount of the GER's fee (whichever is greater) or other amount agreed upon when added under special conditions. Such causes, include, but are not limited to the GER's negligence, errors, omissions, strict liability, breach of contract or breach of warranty.

Termination of Services

This agreement may be terminated upon 10 days written notice by either party should the other fail to perform his obligations hereunder. In the event of termination, the Client shall pay the GER for all services, rendered to the date of termination, all reimbursable expenses, and reimbursable termination expenses.

Ownership Documents

All documents produced by the GER under this agreement shall remain the property of the GER and may not be used by this Client for any other endeavor without the written consent of the GER.

Applicable Law

Unless otherwise specified, the laws of the principal place of business of the GER shall govern this agreement.

Mediation

In an effort to resolve any conflicts that arise during the design or construction of the project or following the completion of the project, the Client and the GER agree that all disputes between them arising out of or relating to this agreement shall be submitted to non-binding mediation unless the parties mutually agree otherwise.