

Repairs and Improvements
At
Zero Duval and Mallory Square
City of Key West, FL

BASIS OF ESTIMATE



Estimate ID:	16-009
Project Name:	Repairs and improvements at Zero Duval and Mallory Sq.
Class Estimate:	Class 1 for a 100% Design Submittal
Requested By:	Casey Long/CH2M HILL/West Palm Beach
Estimated By:	Jorge Abisambra/CH2M HILL/TPA
Estimator Phone:	813-281-7922
Estimated QC By:	Casey Long/CH2M HILL/WPB
Estimate Date:	March 10 th , 2016

Jorge Abisambra /TPA
Estimator

Purpose of Estimate

The purpose of this estimate is to provide the engineer's opinion on the probable cost for the City of Key West Repairs and Improvements to Zero Duval and Mallory Square, located in Key West, Florida.

General Project Description

Develop construction documents for competitive bidding of the proposed bulkhead repair and pile supported mooring dolphin and associated upland improvements. The improvements at Zero Duval include the partial demolition of the existing facilities in the area, the construction of a new steel sheet pile bulkhead, concrete cap, and soil anchors. Site restoration and restoration of the existing timber dock will also be required. The construction at Mallory Square involves the partial demolition of the T-Pier structure, installation of concrete drilled shafts, the construction of a new dolphin and structure, and re-installation of an existing fender.

Project Purpose and Need

This estimate is based on the new design by CH2MHILL offices in West Palm Beach and Jacksonville

Overall Costs

The following is a summary breakdown of the costs including contingency and escalation with an accuracy range per the AACE standard guidelines for a class 1 estimate. See Appendix "A" for cost estimate summary, Appendix "B" for bid item breakdown. At this level of 100% design a +10% and -5% accuracy contingency is recommended. The estimate range is as follows:

Low Range	Estimate Range	High Range
-5%	Total: \$1,644,374.00	+10%
\$1,562,155.00		\$1,808,811.00

Project Schedule

The estimate is based on working 5 days a week, 10 hour day shifts (5-10's). The estimate also assumes that the work will be carried out in the second half of 2016. No detail P-6 schedule is provided.

Markups/Allowances

The following typical contractor and owner's markups where applied to the Cost Estimate:

Contractor Indirect Cost	12%
Profit Mark Up	18%
Subcontracts Mark Up	18%
Contractor's Contingency	3.0%
Project Construction Contingency	15%
Builder's Risk	0.75%
Payment and Performance Bond	12/1000

These markups and allowances represent the contractor's normal cost of doing business, the engineer's cost to provide oversight on behalf of the owner during the work, and an amount to cover the uncertainties for the work. Definitions for each category are provided below:

- **CONTRACTOR INDIRECT COST:** Indirect costs: are also known as fixed costs. These costs are not directly related to a particular function or product. Indirect costs include taxes, administration, and personnel. Indirect costs are frequently referred to as general overhead expenses (for example, rent and utilities) of running a business, and general and administrative expenses (for example, officers' salaries, accounting department costs and personnel department costs, maintenance of equipment, support from the home office).
- **PROFIT MARKUP:** This factor involves how much money the contractor wants to make. It is based on general market conditions, competition, risk involved, weather conditions, and logistic involved.
- **SUBCONTRACTS MARKUP:** This markup is applied by the prime contractor to subcontractors who will provide special support.
- **CONTRACTOR CONTINGENCY:** A contingency is applied to the overall project to account for uncertainties in completing the project. The percent uncertainty is defined in general accordance with ASTM E2516-11 *Cost Estimate Classification System* for a Class 1 estimate.
- **ENGINEERING DESIGN AND CONSTRUCTION SUPPORT:** This fee covers engineering and construction above those cost covered by the Project Management Consultant (PMC). It covers cost to provide review of contractor submittals and provides oversight on behalf of the owner during setup and performance of the test pile program.

Escalation Rate

There is a 2 year escalation applied to this estimate on materials (1.5%/year); 1% on equipment and subcontracts (1.00%/year). Labor rates were manually changed to current labor rates applicable in Florida

Market Conditions

Costs are based on market conditions in the U.S. The current market conditions are drastically affecting the construction market. This is based upon recent bids in the U.S., and comparisons with Engineer's Estimates. Bids can be very erratic. Despite the estimator's best practices and adjustments, bids are being driven by current market conditions.

Estimate Classification

This cost estimate prepared is considered a Class 4 estimate, as defined by the American Association of Cost Engineering (AACE). It is considered accurate to -5% to +10%, based upon CH2M HILL engineering services.

The estimate is based on material, equipment, and labor pricing as of March 2016.

Estimate Methodology

This cost estimate is considered a **Cost-based estimate**, with portion of it being a **Historical bid-based estimate** based on an inspection condition report.

Historical bid-based methods are commonly used to develop Engineer's Estimates, and are appropriate when a design has advanced to the point where the quantification of units of work is possible. These methods apply historical unit costs to counts or measures of work items to determine a total cost for the item or project. Techniques such as historical bid pricing, historical percentage, and cost based estimating are also used to determine unit prices.

Cost-based estimate methods do not rely on historical bid data, but rather are based on determining, for an item or set of items, the contractor's cost for labor, equipment, materials and specialty subcontractor effort (if appropriate) needed to complete the work. A reasonable amount for contractor overhead and profit is then added. This method is preferable on unique projects or where geographical influences, market factors, and volatility of material prices can cause the use of historical bid-based methods to be unreliable. Also, since contractors generally utilize a cost-based estimating approach to prepare bids, this method can provide more accurate and defensible costs to support the decision for contract award/rejection and to support any future price negotiations with the contractor after contract award.

Quantity take offs and assumptions: A detailed takeoff was performed by CH2M HILL in April of 2015 from the supplied set of drawings in the reference document.

The crew productivity was assumed from typical experiences, and prices were quoted by specialty suppliers or taken from historical real projects recently executed in Florida.

Cost Resources

The following is a list of the various cost resources used in the development of the cost estimate.

- CH2M HILL historical data
- R.S. Means
- Estimator judgment
- Specialty vendors and suppliers

Labor Costs

Labor unit prices reflect a burdened rate, including workers compensation, FICA, unemployment taxes, Fringe Benefits, small tools & supplies, and travel allowance. Labor rates are based upon Florida and Texas Gulf Coast costs and per diem for specialty crafts when applicable.

Major Assumptions

The estimate is based on the assumption that the work will be done on a competitive bid basis, and the contractor will have a reasonable amount of time to complete the work by working five (5) days a week at 10 hours per day.

This estimate should be evaluated for market changes after 90 days of the issue date. It is assumed that most of the materials will be purchased and shipped locally. This estimate also assumes that all work will be executed by a local contractor under competitive bid conditions. Additional assumptions are as follows:

- Local sales taxes of 6.5% are applicable.
- Design and owner's risk of 15%
- Mobilization of a local contractor will from as far as Miami, including local contractors.
- The contractor shall accommodate emergency egress from the work area at all times. Contractor will have access and control of construction site during construction.
- Owner will coordinate with contractor and provide adequate notification when it is necessary to perform operations within the construction area.
- Contractor will accommodate owner access in the construction area in the event of an emergency.
- Specialty subcontractors will perform own relocation and improvements.
- Site access for the contractor and contractor staging areas are adequate for the contractor's needs.
- Estimate is based on bid-build delivery.

Excluded Costs

The cost estimate **excludes** the following costs:

- Soft costs for legal costs.
- Soft costs for design, construction management.
- No stand-by rate to cover the operational days was developed for the combination of crews on site if an unplanned standby happens.
- Material adjustment allowances above and beyond what is included at the time of the cost estimate.
- Builder's Risk premium.

Reference Documents

Reference documents prepared by CH2M HILL, dated 100% Submittal, June 4th, 2013.

Disclaimer

The opinions of cost (estimates) shown, and any resulting conclusions on project financial or economic feasibility or funding requirements, have been prepared for guidance in project evaluation and implementation from the information available at the time the opinion was prepared. The final costs of the project and resulting feasibility will depend on actual labor and material costs, competitive market conditions, actual site conditions, final project scope, implementation schedule, continuity of personnel and engineering, and other variable factors. The recent increases or decreases in material pricing may have a significant impact which is not predictable and careful review or consideration must be used in evaluation of material prices. As a result, the final project costs will vary from the opinions of cost presented herein. Because of these factors, project feasibility, benefit/cost ratios, risks, and funding needs must be carefully reviewed prior to making specific financial decisions or establishing project budgets to help ensure proper project evaluation and adequate funding.

APPENDIX A - Cost Estimate Summary

03/10/2016

14:44

16-113

Zero Duval & Mallory Square REV 2016

*** Jorge Abisambra

BID TOTALS

<u>Biditem</u>	<u>Description</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Bid Total</u>
ZERO DUVAL & MALLORY SQUARE REPAIRS IMPROVEMENTS					
2000100	Mobilization & Demobilization	1.000	LS	261,201.04	261,201.04
2000140	Environmental Protection & Turbidity Barrier	300.000	FT	79.08	23,724.00
***Subtotal Mob & Demob & Turbidity Barrier					\$284,925.04
ZERO DUVAL REPAIRS AND IMPROVEMENTS					
2000150	Demolition and Removal at Zero Duval (DS-100)	1.000	LS	44,586.09	44,586.09
2000160	Wood Deck Demolition/Reconstruction	350.000	SF	365.66	127,981.00
2000166	Sheet Piling (AZ14-770)	48.000	LF	5,268.93	252,908.64
2000174	Bulkhead Concrete Cap	48.000	LF	1,620.52	77,784.96
2000176	Backfill/Flowable Fill	40.000	CY	776.14	31,045.60
2000178	Drainage Pipe Extension & Repair	1.000	EA	40,369.21	40,369.21
2000180	Outfall Valve	1.000	EA	8,199.62	8,199.62
2000182	Site Restoration & Misc. General	1.000	LS	17,331.76	17,331.76
***Subtotal Zero Duval Repairs					\$600,206.88
MALLORY SQUARE REPAIRS AND IMPROVEMENTS					
2000190	Demolition and Removal of Work Area	1.000	LS	55,719.71	55,719.71
2000200	Piling 36" Diam Drilled Shaft	6.000	EA	58,933.71	353,602.26
2000210	Concrete Cap Mooring Dolphin	120.000	CY	2,276.49	273,178.80
2000220	Floating Fender: Remove, Store and Place Back	1.000	EA	15,930.38	15,930.38
***Subtotal Mallory Square Repairs					\$698,431.15
2000400	Project Close Out	1.000	LS	60,811.30	60,811.30
***Subtotal All Construction					\$1,644,374.37
Bid Total					=====> \$1,644,374.37

**Notes:

APPENDIX B – Estimate Information Summary

Estimate Recap Report

Project Information

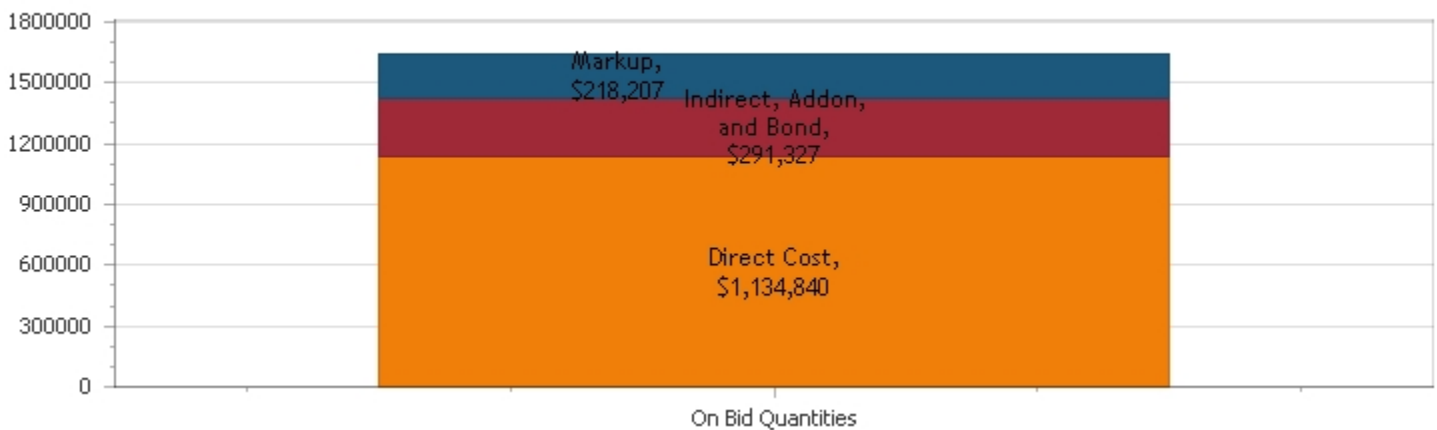
Estimate: 16-113 - Zero Duval & Mallory Square REV 2016
Project: 439197
Estimator In Charge: -
Owner: -
Engineer: -
Related Estimate: -

Bid Date: 08/01/2014
Review Date: -
Job Duration: 4 months
State: FL
Estimate Type: Estimate

Estimate Summary

	On Bid Quantities	%
Direct Cost	1,134,840	69.01%
Indirect Cost	77,423	4.71%
Addons	194,172	11.81%
Bond	19,732	1.20%
Pass Through Cost	0	0.00%
Direct Markup	204,271	12.42%
Indirect Markup	13,936	0.85%
Markup Addons	0	0.00%
+ / - Adjustments	0	
Pass Through Adjustment	0	
Unbalancing Difference	0	0.00%
Rounding Difference	1	
Desired Bid	0.00	
Final Bid Total	1,644,374.37	100.00%
Final Markup (% Based on Cost)	218,207	15.30%

Takeoff vs Bid Quantity



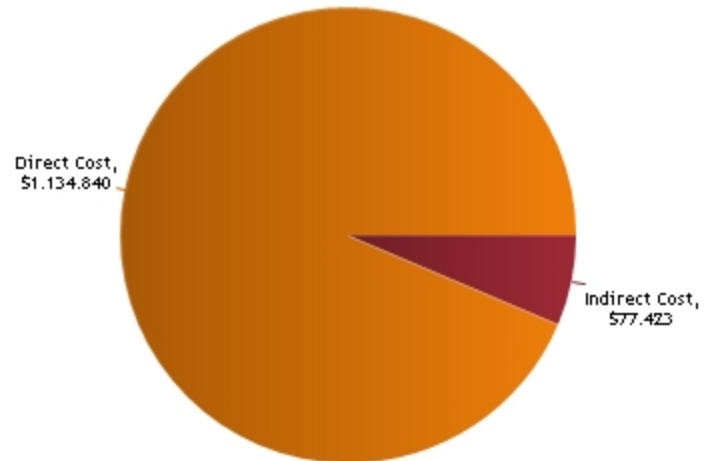
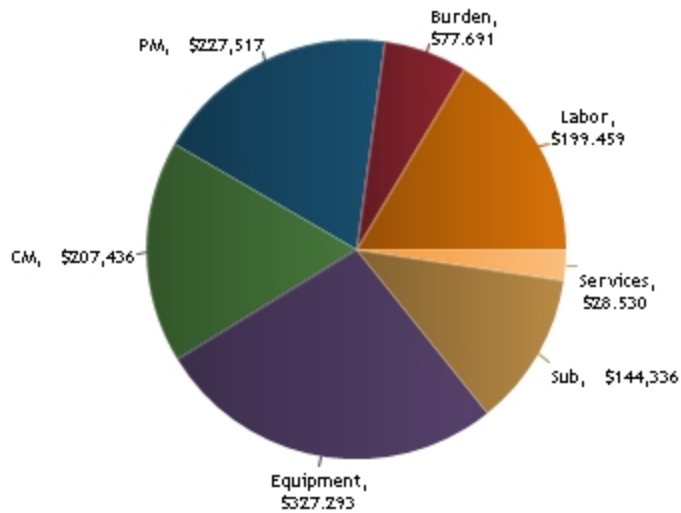
Other Totals

Total Sales Tax	\$21,869
Total Escalation	\$9,470
Labor % of Job Cost	19.43 %
Equipment % of Job Cost	22.95 %

Burden % of Direct Labor	27.92 %
Burden % of Indirect Labor	28.75 %
EOE % of Equipment	35.55 %
Current Minority %	0.00 %

Totals by Cost Type - Bid Quantities

	Direct	Indirect	Total	% of Total
Base Labor	172,055	27,405	199,459	16.45%
Burden	66,635	11,056	77,691	6.41%
Total Labor	238,690	38,461	277,151	22.86%
Inside Equipment	107,569	12,826	120,396	9.93%
Outside Equipment	80,342	10,208	90,550	7.47%
EOE	104,563	11,784	116,348	9.60%
Total Equipment	292,475	34,819	327,293	27.00%
Permanent Materials	227,517	0	227,517	18.77%
Construction Materials	203,293	4,143	207,436	17.11%
Subcontractors	144,336	0	144,336	11.91%
Services	28,530	0	28,530	2.35%
Design	0	0	0	0.00%
Quality	0	0	0	0.00%
Totals	1,134,840	77,423	1,212,262	100.00%



Sales Tax Summary

	Setup Tax %	Average Tax %	Total Taxes
Permanent Materials	6.50%	5.68%	12,051
Construction Materials	6.50%	2.10%	4,225
Inside Equipment	6.50%	0.00%	0
Outside Equipment	6.50%	6.50%	5,527
EOE	6.50%	0.01%	10
Subcontractors	0.00%	0.04%	56
Services	0.00%	0.00%	0
Design	0.00%	0.00%	0
Quality	0.00%	0.00%	0
Total Tax			21,869

Escalation Summary

	Average Escalation %	Total Escalation
Labor	0.00%	0
Inside Equipment	1.00%	1,192
Outside Equipment	0.00%	0
EOE	1.00%	1,150
Permanent Materials	1.50%	3,362
Construction Materials	1.00%	2,054
Subcontractors	1.20%	1,711
Services	0.00%	0
Design	0.00%	0
Quality	0.00%	0
Total Escalation		9,470

Labor Summary

	Direct	Indirect	Total
Hourly Labor (MH, MHS, MHR, MHRS)			
Manhours	4,463	750	5,213
Base Labor	156,413	24,914	181,327
Burden (Amount, % of Base Labor)	66,635	11,056	77,691
Premium	15,641	2,491	18,133
Total Labor	238,690	38,461	277,151
Daily Labor (DAY, DAYS, DY, DYS)			
None	0	0	0
Weekly Labor (WK, WKS, WEEK)			
None	0	0	0
Monthly Labor (MO, MON, MNTH, MMO, MMOS)			
None	0	0	0

Balanced Markup Calculation **Summary IS Current** **Last run 3/10/2016 2:43:00 PM**
Spread IS Current **Last run 3/10/2016 2:43:00 PM**

	Cost	Markup %	Markup \$
Labor	199,459	18.00%	35,903
Burden	77,691	18.00%	13,984
Permanent Materials	227,517	18.00%	40,953
Construction Materials	207,436	18.00%	37,338
Inside Equipment	120,396	18.00%	21,671
Outside Equipment	90,550	18.00%	16,299
EOE	116,348	18.00%	20,943
Subcontractors	144,336	18.00%	25,980
Services	28,530	18.00%	5,135
Design	0	18.00%	0
Quality	0	18.00%	0
Overrides	0	0.00%	0
Total	1,212,262	18.00%	218,207

Addons, Bond and Markup Summary **Dependent on Bid Summary**

	Total	%
Cost Addons		
Indirects	145,472	8.85 %
Builder's Risk	12,333	0.75 %
Contractor Contingency	36,368	2.21 %
Bond		
Bond	19,732	1.20 %
Markup		
Resource Markup	218,207	13.27 %
Fee	0	0.00 %
Total Markup	218,207	13.27 %
Markup, Addons, and Bond Total	432,112	26.28 %

Key Indicators **Dependent on Bid Summary**

	Result	Formula
% Labor w.r.t. Total Cost	19.43%	Total Labor / Total Cost
% Markup on Labor	78.73%	Actual Markup By Bid Qty / Total Labor
% Markup on Lab & Eqp	36.10%	Actual Markup By Bid Qty / Total Labor + Equip \$
% Direct / Indirect WrkHrs	595.00%	Direct Manhours / Indirect Manhours
Indirect Cost / Direct Cost	6.82%	Indirect Cost / Direct Cost
% Subs on Total Bid	8.78%	Total Subcontractors / Bid Total
% Sub on Total Cost	10.12%	Total Subcontractors / Total Cost
% Labor on Total Cost	0.19	Total Labor / Total Cost
% PM on Total Cost	0.16	Total Permanent Materials / Total Cost
% Equip on Total Cost	0.23	Total Equipment / Total Cost

Estimate Notes

*****Estimate created on: 03/15/2012 by User#: 612 - John O'Reilly
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APPENDIX C - Cost and Price Summary

CH2MHILL 16-113 Jorge Abisambra																Page 03/10/2016		1 15:35	
Zero Duval & Mallory Square REV 2016																			
ESTIMATE SUMMARY - COSTS & BID PRICES																			
Bid#	Client# Bid Description	Quantity	Unit	Manhours	Direct Labor	Perm Matl	Constr Matl	Equip- Ment	Sub- Contr	Direct Total	Indirect Charge	Total Cost	Total Cost Unit Price	Markup	-----Balanced Bid----- Total Unit Price		Bid Price	Bid Total	
ZERO DUVAL & MALLORY SQUARE REPAIRS IMPROVEMENTS																			
2000100	Mobilization & Demobilization	1.00	LS	300 300.00	16,188		38,796	22,057	103,224	180,264	46,276	226,540	226,540.42	34,661 15.3 %	261,202	261,201.69	C 261,201.04	261,201.04	
2000140	Environmental Protection & Turbidity Barr	300.00	FT	85 0.28	4,256		7,282	4,835		16,373	4,203	20,576	68.59	3,148 15.3 %	23,725	79.08	79.08	23,724.00	
ZERO DUVAL REPAIRS AND IMPROVEMENTS																			
2000150	Demolition and Removal at Zero Duval (DS-	1.00	LS	200 200.00	10,352	270	12,504	6,430	1,214	30,770	7,899	38,670	38,669.55	5,917 15.3 %	44,586	44,586.09	44,586.09	44,586.09	
2000160	Wood Deck Demolition/Reconstruction	350.00	SF	300 0.86	15,693		59,883	12,748		88,324	22,674	110,997	317.14	16,983 15.3 %	127,980	365.66	365.66	127,981.00	
2000166	Sheet Piling (AZ14-770)	48.00	LF	620 12.92	33,188	69,192	11,663	43,294	17,204	174,541	44,807	219,348	4,569.74	33,561 15.3 %	252,909	5,268.93	5,268.93	252,908.64	
2000174	Bulkhead Concrete Cap	48.00	LF	305 6.35	15,782	14,887	12,076	9,644	1,293	53,682	13,781	67,463	1,405.48	10,322 15.3 %	77,785	1,620.52	1,620.52	77,784.96	
2000176	Backfill/Flowable Fill	40.00	CY	75 1.88	3,882	8,345	6,787	2,411		21,426	5,500	26,926	673.14	4,120 15.3 %	31,045	776.14	776.14	31,045.60	
2000178	Drainage Pipe Extension & Repair	1.00	EA	153 152.50	7,891	7,816	1,752	4,822	5,579	27,860	7,152	35,012	35,012.25	5,357 15.3 %	40,369	40,369.21	40,369.21	40,369.21	
2000180	Outfall Valve	1.00	EA	25 25.00	1,294	3,243	318	804		5,659	1,453	7,112	7,111.54	1,088 15.3 %	8,200	8,199.62	8,199.62	8,199.62	
2000182	Site Restoration & Misc. General	1.00	LS	100 100.00	5,176		3,570	3,215		11,961	3,071	15,032	15,031.85	2,300 15.3 %	17,332	17,331.76	17,331.76	17,331.76	
MALLORY SQUARE REPAIRS AND IMPROVEMENTS																			
2000190	Demolition and Removal of Work Area	1.00	LS	200 200.00	11,012		8,600	18,842		38,454	9,872	48,326	48,325.75	7,394 15.3 %	55,720	55,719.71	55,719.71	55,719.71	
2000200	Piling 36" Diam Drilled Shaft	6.00	EA	1,000 166.67	55,058	71,036	22,807	94,211	921	244,033	62,646	306,680	51,113.25	46,923 15.3 %	353,602	58,933.71	58,933.71	353,602.26	
2000210	Concrete Cap Mooring Dolphin	120.00	CY	900 7.50	48,235	50,026	18,842	56,526	14,901	188,530	48,398	236,928	1,974.40	36,251 15.3 %	273,179	2,276.49	2,276.49	273,178.80	

ESTIMATE SUMMARY - COSTS & BID PRICES

Bid#	Client# Bid Description	Quantity	Unit	Manhours	Direct Labor	Perm Matl	Constr Matl	Equip- Ment	Sub- Contr	Direct Total	Indirect Charge	Total Cost	Total Cost Unit Price	Markup	-----Balanced Bid----- TotalUnit Price		Bid Price	Bid Total
2000220	Floating Fender: Remove, Store and Place	1.00	EA	50 50.00	2,753	2,702	828	4,711		10,994	2,822	13,816	13,816.43	2,114 15.3 %	15,930	15,930.38	15,930.38	15,930.38
2000400	Project Close Out	1.00	LS	150 150.00	7,929		26,114	7,925		41,968	10,774	52,742	52,741.69	8,070 15.3 %	60,811	60,811.30	60,811.30	60,811.30
Totals:				4,462	238,689	227,517	231,822	292,474	144,335	1,134,839	291,327	1,426,167 [1,426,168]		218,207	1,644,374			1,644,374.37 [15.3 %
Code between Balanced Bid & Bid Price: U=Unbalanced, F=Frozen, C=Closing Biditem (item to absorb unbalancing differences). [bracketed numbers represent adjusted quantities] ** in front of the Biditem indicates a Non-Additive item																		
Markup % is shown as a percentage of cost																		
9000067	GENERAL EXPENSES			750	38,461		4,143	34,819		77,423								
9000125	Risk & Contingency			750	38,461		4,143	34,819		77,423								
	Indirects	12.0000 % of TC									145,471							
	Builder's Risk	0.7500 % of JB									12,332							
	Contractor Contingency	3.0000 % of TC									36,367							
	Bond from Summary Table										19,732							
	INDIRECT TOTALS ==>			750	38,461		4,143	34,819		77,423	213,904					<= Subtotal		
	Fee	% of TC																
	Markup on Resource Costs													218,207				
	MARKUP TOTALS =====>													218,207			<= Subtotal	
***** TOTAL				JOB =====>	5,212	277,150	227,517	235,965	327,293	144,335	1,212,262	213,904	1,426,167	218,207	1,644,374			1,644,374.37

Spread Indirects On

TOTAL COST

Spread Markups On

TOTAL COST

Spread Addons&Bonds On

TOTAL COST

Bond Calculations			
Selected Bond Table: A		Description: Self-Perform	
Contract Amount		Rate per 1000	Bond Amount
First:	\$ 10,000,000	12.00	\$ 19,732.49

ESTIMATE SUMMARY - COSTS & BID PRICES

Bid#	Client#	Quantity	Unit		Direct	Perm	Constr	Equip-	Sub-	Direct	Indirect	Total	Total Cost	Markup	-----Balanced Bid-----		Bid	Bid
	Bid Description		Manhours		Labor	Matl	Matl	Ment	Contr	Total	Charge	Cost	Unit Price		Total	Unit Price	Price	Total

Next:	\$	10,000,000	12.00	\$	0.00													
Next:	\$	10,000,000	12.00	\$	0.00													
Next:	\$	10,000,000	12.00	\$	0.00													
Next:	\$	10,000,000	12.00	\$	0.00													
Remainder:			12.00	\$	0.00													
Subtotal:					\$	19,732.49												
Time Threshold 1:	0	Extended Time Rate 1:	0.0000 %	\$	0.00													
Time Threshold 2:	0	Extended Time Rate 2:	0.0000 %	\$	0.00													
Length of Job:	4	Total Bond Amount:		\$	19,732.49													

-----Estimate Notes-----

Bid Date:08/01/2014

Owner:Estimator in Charge:

Engineering Firm:

Desired Bid (if specified)=0.00

Sort:Hold Acct: NSubitem: NNonAdd: N

Last Summary on 03/10/2016 at 2:43 PM.

Last Spread on 03/10/2016 at 2:43 PM.

APPENDIX D - Detail Cost Report

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
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PARENT ITEM = 2000100

Description = Mobilization & Demobilization Unit = LS Takeoff Quan: 1.000 Engr Quan: 1.000

Updating valules from 2013 to 2016 in labor and materials.

labor use 3% ==> F= P(1+3/100)^3= 1.0927 factor

Listing of Sub-Biditems of Parent Item 2000100:

BID ITEM = 2000110

Description = Mobilization Land Item Unit = LS SCHEDULE: 1 100 Takeoff Quan: 1.000 Engr Quan: 1.000

219000 Misc Hauling/Trucking Quan: 1.00 LS Hrs/Shft: 10.00 Cal: 510 WC: CCISP

20 loads x 1 = 20 hours

5TRKFB Trucking - Flat Bed 20.00 HR 125.000 2,500 2,500

516005 Barrier Quan: 160.00 FT Hrs/Shft: 10.00 Cal: 510 WC: CCISP

if barricades are 20 ft long then:

street: 96 ft + 32+ 24= 152 ft ==> say 160ft

\$35.00/ft ==> 160*35= \$5,600.00

8 pieces

31TCPBAR Temp Precast Ba@106.5% 160.00 LF 35.000 6,024 6,024

540000 Temporary Construction Fence Quan: 160.00 LF Hrs/Shft: 10.00 Cal: 510 WC: CCISP

a 6 feet link fence will cost \$9.00/ ft. then can be sold installed at \$15/ft

if barricades are 20 ft long then:

street: 96 ft + 32+ 24= 152==> say 160 ft

31CHAINFENCE Temporary Chain@106.5% 160.00 LF 15.000 2,582 2,582

890005 Pile Crew Mobilization Quan: 1.00 LS Hrs/Shft: 10.00 Cal: 510 WC: CCISP

mob crew from Tampa Bay area, assume 2 shifts.

MARPIL	Marine Piling & Demo Crew	20.00	CH	Prod:	2.0000	S	Lab Pcs:	5.00	Eqp Pcs:	18.00
3WELD	Weld Supplies (1 man-Stick	2.00	DA	70.000			141			141
8211050	Fuel, Oil, Grease 50g/d	2.00	DA	200.000				404		404
8CRANEC200	Crane Manitowoc 777 20	1.00	20.00	HR	200.743			4,055		4,055
8DRILLR	***DRILLS - ROCK***	1.00	20.00	HR	17.500			354		354
8MAC-A-10	Compressor 185 CFM	1.00	20.00	HR	3.000			64		64
8MBC-Z-1	Barge Carpenter 12'X40	2.00	40.00	HR	6.500			277		277
8MBS-Z-17	Spud Barge 170x45' ABS	1.00	20.00	HR	55.000			1,172		1,172
8MBT-Z-12	Tug Push Boat 200 HP	1.00	20.00	HR	20.000			426		426
8MBW-Z-2	18' Aluminum Boat & O/	1.00	20.00	HR	3.000			64		64
8MCE-A-40	Bucket Clamshell 3 CYD	1.00	20.00	HR	5.000			107		107
8MDH-A-7	DELMAG D19 HAMMER	1.00	20.00	HR	10.000			213		213
8MFD-A-1	FAIRLEADS	1.00	20.00	HR	0.100			2		2
8MGN-Z-11	Generator 10 KW	1.00	20.00	HR	3.000			64		64
8MLT-A-1	Light Tower, Genie	1.00	20.00	HR	3.500			75		75
8MPE-A-11	Extractor Pile	1.00	20.00	HR	5.000			107		107
8MVP-A-11	FORD F150 SUPER 10	1.00	20.00	HR	6.500			138		138
8MWH-A-1	WINCH 3-DRUM RB-90	1.00	20.00	HR	10.000			213		213
8MWM-C-1	Welder Diesel 400 AMP	1.00	20.00	HR	2.500			53		53
8PILE26	Vibro Hammer 150 TN	1.00	20.00	HR	80.944			1,635		1,635
9ADMS11	Substance Crew 5	2.00	DA	750.000			1,515			1,515

Activity	Resource	Desc	Pcs	Quantity	Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub-Contract	Total
BID ITEM	= 2000110											
Description =	Mobilization			Land Item	Unit =	SCHEDULE: 1	100					
						LS	Takeoff	Quan:	1.000	Engr	Quan:	1.000
M105		Foreman - General Marine	1.00	20.00	MH	39.030	1,176					1,176
M165		M-Piledriver	1.00	20.00	MH	38.200	1,167					1,167
M170		M-Welder	1.00	20.00	MH	34.960	1,088					1,088
M190		M-Skilled Laborer	1.00	20.00	MH	31.960	947					947
OPCR100		Op Eng 1A- Crane 100-200	1.00	20.00	MH	36.580	1,128					1,128
\$16,583.26		100.0000 MH/LS		100.00	MH	[3976.06]	5,506		1,656	9,421		16,583

890006 Upland Crew Mob Quan: 1.00 LS Hrs/Shft: 10.00 Cal: 510 WC: CCISP

this is a support crew upland												
MARLAN		Up Land Support Crew		10.00	CH	Prod:	1.0000	S	Lab Pcs:	5.00	Eqp Pcs:	4.00
8211050		Fuel, Oil, Grease 50g/d		1.00	DA	200.000				202		202
8BHL480		BHL Cat 450E 1.75CY	1.00	10.00	HR	56.724				573		573
8CRANERT530		Crane Grove RT530E 30	1.00	10.00	HR	64.705				654		654
8MBC-Z-1		Barge Carpenter 12'X40	1.00	10.00	HR	6.500				69		69
8TRKPU10		Pickup 4x2 3/4 Ton Gas	1.00	10.00	HR	10.867				110		110
9ADMS11		Subsistence Crew 5		0.10	DA	750.000			76			76
9ADMT08		Craft Subsistence (\$120/D/		1.00	DA	480.000			485			485
M105		Foreman - General Marine	1.00	10.00	MH	39.030	588					588
M195		M-Laborer	2.00	20.00	MH	30.100	902					902
OPCR24		Op Eng 2- Crane 20-44T	1.00	10.00	MH	35.400	549					549
OPEXC3		Op Eng 3- Backhoe to 3Y	1.00	10.00	MH	35.390	549					549
\$4,755.94		50.0000 MH/LS		50.00	MH	[1870.22]	2,588		561	1,607		4,756

960015 Rigging Supplies Quan: 1.00 LS Hrs/Shft: 10.00 Cal: 510 WC: CCISP

a Lump sum amount to renew rigging artifacts for the equipment
31RIGGING Rigging Supplie@106.5% 1.00 LS 10,000.000 10,757 10,757

=====> Item Totals: 2000110 - Mobilization
\$43,200.90 150.0000 MH/LS 150.00 MH [5846.28] 8,094 24,079 11,028 43,201
43,200.900 1 LS 8,093.89 24,078.65 11,028.36 43,200.90

BID ITEM = 2000115 Land Item SCHEDULE: 1 100
Description = Demobilization Unit = LS Takeoff Quan: 1.000 Engr Quan: 1.000

219000 Misc Hauling/Trucking Quan: 1.00 LS Hrs/Shft: 10.00 Cal: 510 WC: CCISP

20 loads x 1 = 20 hours
5TRKFB Trucking - Flat Bed 20.00 HR 125.000 2,500 2,500

890005 Pile Crew Demoobilization Quan: 1.00 LS Hrs/Shft: 10.00 Cal: 510 WC: CCISP

mob crew from Tampa Bay area, assume 2 shifts.												
MARPIL		Marine Piling & Demo Crew		20.00	CH	Prod:	2.0000	S	Lab Pcs:	5.00	Eqp Pcs:	18.00
3WELD		Weld Supplies (1 man-Stick		2.00	DA	70.000			141			141
8211050		Fuel, Oil, Grease 50g/d		2.00	DA	200.000				404		404
8CRANEC200		Crane Manitowoc 777 20	1.00	20.00	HR	200.743				4,055		4,055
8DRILLR		***DRILLS - ROCK***	1.00	20.00	HR	17.500				354		354
8MAC-A-10		Compressor 185 CFM	1.00	20.00	HR	3.000				64		64
8MBC-Z-1		Barge Carpenter 12'X40	2.00	40.00	HR	6.500				277		277
8MBS-Z-17		Spud Barge 170x45' ABS	1.00	20.00	HR	55.000				1,172		1,172
8MBT-Z-12		Tug Push Boat 200 HP	1.00	20.00	HR	20.000				426		426
8MBW-Z-2		18' Aluminum Boat & O/	1.00	20.00	HR	3.000				64		64

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
BID ITEM = 2000115										
Description =	Demobilization		Land Item Unit =	SCHEDULE: 1 100 LS Takeoff Quan:			1.000	Engr Quan:		1.000
8MCE-A-40	Bucket Clamshell 3 CYD	1.00	20.00 HR	5.000				107		107
8MDH-A-7	DELMAG D19 HAMMER	1.00	20.00 HR	10.000				213		213
8MFD-A-1	FAIRLEADS	1.00	20.00 HR	0.100				2		2
8MGN-Z-11	Generator 10 KW	1.00	20.00 HR	3.000				64		64
8MLT-A-1	Light Tower, Genie	1.00	20.00 HR	3.500				75		75
8MPE-A-11	Extractor Pile	1.00	20.00 HR	5.000				107		107
8MVP-A-11	FORD F150 SUPERC 10	1.00	20.00 HR	6.500				138		138
8MWH-A-1	WINCH 3-DRUM RB-90	1.00	20.00 HR	10.000				213		213
8MWM-C-1	Welder Diesel 400 AMP	1.00	20.00 HR	2.500				53		53
8PILE26	Vibro Hammer 150 TN	1.00	20.00 HR	80.944				1,635		1,635
9ADMS11	Subsistance Crew 5		2.00 DA	750.000			1,515			1,515
M105	Foreman - General Marine	1.00	20.00 MH	39.030	1,176					1,176
M165	M-Piledriver	1.00	20.00 MH	38.200	1,167					1,167
M170	M-Welder	1.00	20.00 MH	34.960	1,088					1,088
M190	M-Skilled Laborer	1.00	20.00 MH	31.960	947					947
OPCR100	Op Eng 1A- Crane 100-200	1.00	20.00 MH	36.580	1,128					1,128
\$16,583.26	100.0000 MH/LS		100.00 MH	[3976.06]	5,506		1,656	9,421		16,583
890006	Upland Crew Demob		Quan:	1.00 LS	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
this is a support crew upland										
MARLAN	Up Land Support Crew		10.00 CH	Prod:	1.0000 S		Lab Pcs:	5.00	Eqp Pcs:	4.00
8211050	Fuel, Oil, Grease 50g/d		1.00 DA	200.000				202		202
8BHLD480	BHL Cat 450E 1.75CY	1.00	10.00 HR	56.724				573		573
8CRANERT530	Crane Grove RT530E 30	1.00	10.00 HR	64.705				654		654
8MBC-Z-1	Barge Carpenter 12'X40	1.00	10.00 HR	6.500				69		69
8TRKPU10	Pickup 4x2 3/4 Ton Gas	1.00	10.00 HR	10.867				110		110
9ADMS11	Subsistance Crew 5		0.10 DA	750.000			76			76
9ADMT08	Craft Subsistence (\$120/D/		1.00 DA	480.000			485			485
M105	Foreman - General Marine	1.00	10.00 MH	39.030	588					588
M195	M-Laborer	2.00	20.00 MH	30.100	902					902
OPCR24	Op Eng 2- Crane 20-44T	1.00	10.00 MH	35.400	549					549
OPEXC3	Op Eng 3- Backhoe to 3Y	1.00	10.00 MH	35.390	549					549
\$4,755.94	50.0000 MH/LS		50.00 MH	[1870.22]	2,588		561	1,607		4,756
====>	Item Totals: 2000115 - Demobilization									
\$23,839.20	150.0000 MH/LS		150.00 MH	[5846.28]	8,094		4,717	11,028		23,839
23,839.200	1 LS				8,093.89		4,716.95	11,028.36		23,839.20

BID ITEM = 2000120			Land Item	SCHEDULE: 1 100						
Description =	Transportation		Unit =	LS Takeoff Quan:		1.000	Engr Quan:		1.000	

219000	Misc Hauling/Trucking		Quan:	1.00 LS	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
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Miscellaneous trucking to mobilize equipment to the site and demob. smal cranes and loaders, traileres and containers.

20 loads x 4 hours = 80 hours

5TRKFB	Trucking - Flat Bed		80.00 HR	125.000			10,000			10,000
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890007	Marine Tugs		Quan:	1.00 LS	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
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rental tugging services to and from the site anywhere in Florida.

from google earth and assuming there are 238 nautical miles from Tampa to Key West.

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
BID ITEM = 2000120			Land Item	SCHEDULE: 1	100					
Description = Transportation			Unit =	LS	Takeoff	Quan:	1.000	Engr Quan:		1.000
at 4.5 knots then: 238 NM/4.5 NM/Hr= 53 hours one way.										
Round trip: 53*2= 106 hours ==>> 106/24= 4.41 days say 5 days plus 1 day wait = 6 days mob and 6 days demob for a total 12 days.										
=====										
rental tug can be as low as \$4,500/day without fuel, plus 1,000 gal/day= \$4,000.00/day										
total cost: \$8,500.00/day										
4TUGSERVICE	Tug Service		12.00 DAY	8,500.000				103,224		103,224
=====										
====> Item Totals:	2000120	- Transportation					10,000	103,224		113,224
\$113,224.00				[]			10,000.00	103,224.00		113,224.00
113,224.000		1 LS								

Total of Above Sub-Biditems

====> Item Totals:	2000100	- Mobilization & Demobilization								
\$180,264.10	300.0000 MH/LS	300.00 MH	[11692.56]	16,188		38,796	22,057	103,224		180,264
180,264.100		1 LS		16,187.78		38,795.60	22,056.72	103,224.00		180,264.10

BID ITEM = 2000140			Land Item	SCHEDULE: 1	100					
Description = Environmental Protection & Turbidity Bar			Unit =	FT	Takeoff	Quan:	300.000	Engr Quan:		300.000
call on the plans D-101										
430000	Silt Fence - Install		Quan:	1,000.00 LF	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
<u>LAB3</u>	Foreman + 2 Laborers		5.00	CH	Prod:	0.5000 S	Lab Pcs:	3.00	Eqp Pcs:	1.00
31ECSF	Silt Fence@106.5%		1,000.00	LF	1.000		1,076			1,076
8TRKPU70	Leased 4x2, 3/4 Ton Ga	1.00	5.00	HR	12.299			62		62
LFORMN	Laborer-Foreman	1.00	5.00	MH	29.250	220				220
LPWR	Laborer-Power Tools	2.00	10.00	MH	28.020	425				425
\$1,783.14	0.0150 MH/LF		15.00	MH	[0.469]	645	1,076	62		1,783
432000	Turbidity Barrier		Quan:	300.00 LF	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
<u>MARPIL</u>	Marine Piling & Demo Crew		10.00	CH	Prod:	1.0000 S	Lab Pcs:	5.00	Eqp Pcs:	18.00
3TRUBIDITYBA	Turbidity Barri@106.5%		300.00	LF	10.000		3,227			3,227
3WELD	Weld Supplies (1 man-Stick		1.00	DA	70.000		71			71
8211050	Fuel, Oil, Grease 50g/d		1.00	DA	200.000			202		202
8CRANEC200	Crane Manitowoc 777 20	1.00	10.00	HR	200.743			2,027		2,027
8DRILLR	***DRILLS - ROCK***	1.00	10.00	HR	17.500			177		177
8MAC-A-10	Compressor 185 CFM	1.00	10.00	HR	3.000			32		32
8MBC-Z-1	Barge Carpenter 12'X40	2.00	20.00	HR	6.500			138		138
8MBS-Z-17	Spud Barge 170x45' ABS	1.00	10.00	HR	55.000			586		586
8MBT-Z-12	Tug Push Boat 200 HP	1.00	10.00	HR	20.000			213		213
8MBW-Z-2	18' Aluminum Boat & O/	1.00	10.00	HR	3.000			32		32
8MCE-A-40	Bucket Clamshell 3 CYD	1.00	10.00	HR	5.000			53		53
8MDH-A-7	DELMAG D19 HAMMER	1.00	10.00	HR	10.000			107		107
8MFD-A-1	FAIRLEADS	1.00	10.00	HR	0.100			1		1
8MGN-Z-11	Generator 10 KW	1.00	10.00	HR	3.000			32		32
8MLT-A-1	Light Tower, Genie	1.00	10.00	HR	3.500			37		37
8MPE-A-11	Extractor Pile	1.00	10.00	HR	5.000			53		53
8MVP-A-11	FORD F150 SUPERC 10	1.00	10.00	HR	6.500			69		69

Activity	Desc	Quantity	Unit	Unit	Labor	Perm	Constr	Equip	Sub-	Total
Resource		Pcs		Cost		Material	Matl/Exp	Ment	Contract	
BID ITEM = 2000140										
Description =	Environmental Protection & Turbidity Bar			Unit =	FT	Takeoff	Quan:	300.000	Engr Quan:	300.000
8MWH-A-1	WINCH 3-DRUM RB-90	1.00	10.00 HR	10.000				107		107
8MWM-C-1	Welder Diesel 400 AMP	1.00	10.00 HR	2.500				27		27
8PILE26	Vibro Hammer 150 TN	1.00	10.00 HR	80.944				818		818
9ADMS11	Subsistence Crew 5		1.00 DA	750.000			758			758
M105	Foreman - General Marine	1.00	10.00 MH	39.030	588					588
M165	M-Piledriver	1.00	10.00 MH	38.200	584					584
M170	M-Welder	1.00	10.00 MH	34.960	544					544
M190	M-Skilled Laborer	1.00	10.00 MH	31.960	474					474
OPCR100	Op Eng 1A- Crane 100-200	1.00	10.00 MH	36.580	564					564
\$11,518.54	0.1666 MH/LF		50.00 MH	[6.627]	2,753		4,055	4,710		11,519

432005 Erosion Control - Hay Bales Quan: 400.00 EA Hrs/Shft: 10.00 Cal: 510 WC: CCISP

A bale size of 14"x18"x22" will weigh about 37 to 43 lbs. This is a safer bale weight for many people to handle

it means the length is 22"/12= 1.83 ft

if there are 600 ft =====> qty of bales are: 600/1.83=327 say 400 bales

LAB4	Foreman + 3 Laborers		5.00 CH	Prod:	0.5000 S	Lab Pcs:	4.00	Eqp Pcs:	1.00
31ECHB	Hay Bales@106.5%		400.00 EA	5.000		2,151			2,151
8TRKPU70	Leased 4x2, 3/4 Ton Ga	1.00	5.00 HR	12.299			62		62
LFORMN	Laborer-Foreman	1.00	5.00 MH	29.250	220				220
LPWR	Laborer-Power Tools	3.00	15.00 MH	28.020	638				638
\$3,071.41	0.0500 MH/EA		20.00 MH	[1.558]	858	2,151	62		3,071

=====> Item Totals:	2000140 - Environmental Protection & Turbidity Bar								
\$16,373.09	0.2833 MH/FT		85.00 MH	[10.268]	4,256	7,282	4,835		16,373
54.577	300 FT				14.19	24.27	16.12		54.58

BID ITEM = 2000150	Land Item	SCHEDULE: 1	100						
Description = Demolition and Removal at Zero Duval (DS	Unit =	LS	Takeoff Quan:	1.000	Engr Quan:	1.000			

1100 Remove Existing ticket building Quan: 1.00 LS Hrs/Shft: 10.00 Cal: 510 WC: CCISP

SEe Picture 1 and 3 in drawings:
this is complicated task. assume 2 days

MARLAN	Up Land Support Crew		20.00 CH	Prod:	2.0000 S	Lab Pcs:	5.00	Eqp Pcs:	4.00
8211050	Fuel, Oil, Grease 50g/d		2.00 DA	200.000			404		404
8BHL480	BHL Cat 450E 1.75CY	1.00	20.00 HR	56.724			1,146		1,146
8CRANERT530	Crane Grove RT530E 30	1.00	20.00 HR	64.705			1,307		1,307
8MBC-Z-1	Barge Carpenter 12'X40	1.00	20.00 HR	6.500			138		138
8TRKPU10	Pickup 4x2 3/4 Ton Gas	1.00	20.00 HR	10.867			219		219
9ADMS11	Subsistence Crew 5		0.10 DA	750.000		76			76
9ADMT08	Craft Subsistence (\$120/D/		2.00 DA	480.000		970			970
9RCRISK	Risk		1.00 LS	5,000.000		5,050			5,050
M105	Foreman - General Marine	1.00	20.00 MH	39.030	1,176				1,176
M195	M-Laborer	2.00	40.00 MH	30.100	1,803				1,803
OPCR24	Op Eng 2- Crane 20-44T	1.00	20.00 MH	35.400	1,099				1,099
OPEXC3	Op Eng 3- Backhoe to 3Y	1.00	20.00 MH	35.390	1,098				1,098
\$14,486.19	100.0000 MH/LS		100.00 MH	[3740.44]	5,176	6,095	3,215		14,486

1120 Removal storage box, locker, refrigerator storage box locker related Item 9 and 10

MARLAN	Up Land Support Crew		10.00 CH	Prod:	1.0000 S	Lab Pcs:	5.00	Eqp Pcs:	4.00
8211050	Fuel, Oil, Grease 50g/d		1.00 DA	200.000			202		202

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
BID ITEM = 2000150										
Description =	Demolition and Removal at Zero Duval (DS)		Unit =	LS	Takeoff	Quan:	1.000	Engr Quan:		1.000
8BHL480	BHL Cat 450E 1.75CY	1.00	10.00 HR	56.724				573		573
8CRANERT530	Crane Grove RT530E 30	1.00	10.00 HR	64.705				654		654
8MBC-Z-1	Barge Carpenter 12'X40	1.00	10.00 HR	6.500				69		69
8TRKPU10	Pickup 4x2 3/4 Ton Gas	1.00	10.00 HR	10.867				110		110
9ADMS11	Subsistence Crew 5		0.10 DA	750.000			76			76
9ADMT08	Craft Subsistence (\$120/D/		1.00 DA	480.000			485			485
M105	Foreman - General Marine	1.00	10.00 MH	39.030	588					588
M195	M-Laborer	2.00	20.00 MH	30.100	902					902
OPCR24	Op Eng 2- Crane 20-44T	1.00	10.00 MH	35.400	549					549
OPEXC3	Op Eng 3- Backhoe to 3Y	1.00	10.00 MH	35.390	549					549
\$4,755.94	50.0000 MH/LS		50.00 MH	[1870.22]	2,588		561	1,607		4,756
1150	Water Main Removal and plug		Quan:	1.00 LS	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
2UWC06	6" Water Gate V@106.5%		1.00 EA	250.000		270				270
42UTILITY	Utility Subcontractor		1.00 DA	1,200.000					1,214	1,214
\$1,484.64				[]		270			1,214	1,485
1200	Remove Subaqueous debri		Quan:	1.00 LS	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
removal per plan DS-100										
Item 12 and 13 cut exposed rebar										
MARLAN	Up Land Support Crew		10.00 CH	Prod:	1.0000 S	Lab Pcs:	5.00	Eqp Pcs:	4.00	
8211050	Fuel, Oil, Grease 50g/d		1.00 DA	200.000				202		202
8BHL480	BHL Cat 450E 1.75CY	1.00	10.00 HR	56.724				573		573
8CRANERT530	Crane Grove RT530E 30	1.00	10.00 HR	64.705				654		654
8MBC-Z-1	Barge Carpenter 12'X40	1.00	10.00 HR	6.500				69		69
8TRKPU10	Pickup 4x2 3/4 Ton Gas	1.00	10.00 HR	10.867				110		110
9ADMS11	Subsistence Crew 5		0.10 DA	750.000			76			76
9ADMT08	Craft Subsistence (\$120/D/		1.00 DA	480.000			485			485
M105	Foreman - General Marine	1.00	10.00 MH	39.030	588					588
M195	M-Laborer	2.00	20.00 MH	30.100	902					902
OPCR24	Op Eng 2- Crane 20-44T	1.00	10.00 MH	35.400	549					549
OPEXC3	Op Eng 3- Backhoe to 3Y	1.00	10.00 MH	35.390	549					549
\$4,755.94	50.0000 MH/LS		50.00 MH	[1870.22]	2,588		561	1,607		4,756
202031	Debri Disposal		Quan:	1.00 LS	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
trucking in key west: \$50.00/cy										
land fill fee: \$125/cy										
31DFBLDCY	Bldg Debris Dump Fee-cy		30.00 CY	125.000			3,788			3,788
5TRKCY	Trucking - CY		30.00 CY	50.000			1,500			1,500
\$5,287.50				[]			5,288			5,288
=====	Item Totals:	2000150	- Demolition and Removal at Zero Duval (DS							
\$30,770.21	200.0000 MH/LS		200.00 MH	[7480.88]	10,352	270	12,504	6,429	1,214	30,770
30,770.210	1 LS				10,352.16	270.24	12,503.95	6,429.46	1,214.40	30,770.21

BID ITEM = 2000160										
Description =	Wood Deck Demolition/Reconstruction		Unit =	SF	Takeoff	Quan:	350.000	Engr Quan:		350.000
1160	Removal Wood Decking		Quan:	1.00 EA	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
MARPIL	Marine Piling & Demo Crew		10.00 CH	Prod:	1.0000 S	Lab Pcs:	5.00	Eqp Pcs:	18.00	
3WELD	Weld Supplies (1 man-Stick		1.00 DA	70.000			71			71
8211050	Fuel, Oil, Grease 50g/d		1.00 DA	200.000				202		202

Activity	Desc	Quantity	Unit	Unit Cost	Labor	Perm	Constr	Equip	Sub-		
Resource		Pcs				Material	Matl/Exp	Ment	Contract	Total	
BID ITEM	= 2000160			Land Item	SCHEDULE: 1	100					
Description =	Wood Deck Demolition/Reconstruction			Unit =	SF	Takeoff	Quan:	350.000	Engr Quan:	350.000	
8CRANEC200	Crane Manitowoc 777 20	1.00	10.00	HR	200.743				2,027	2,027	
8DRILLR	***DRILLS - ROCK***	1.00	10.00	HR	17.500				177	177	
8MAC-A-10	Compressor 185 CFM	1.00	10.00	HR	3.000				32	32	
8MBC-Z-1	Barge Carpenter 12'X40	2.00	20.00	HR	6.500				138	138	
8MBS-Z-17	Spud Barge 170x45' ABS	1.00	10.00	HR	55.000				586	586	
8MBT-Z-12	Tug Push Boat 200 HP	1.00	10.00	HR	20.000				213	213	
8MBW-Z-2	18' Aluminum Boat & O/	1.00	10.00	HR	3.000				32	32	
8MCE-A-40	Bucket Clamshell 3 CYD	1.00	10.00	HR	5.000				53	53	
8MDH-A-7	DELMAG D19 HAMMER	1.00	10.00	HR	10.000				107	107	
8MFD-A-1	FAIRLEADS	1.00	10.00	HR	0.100				1	1	
8MGN-Z-11	Generator 10 KW	1.00	10.00	HR	3.000				32	32	
8MLT-A-1	Light Tower, Genie	1.00	10.00	HR	3.500				37	37	
8MPE-A-11	Extractor Pile	1.00	10.00	HR	5.000				53	53	
8MVP-A-11	FORD F150 SUPERC 10	1.00	10.00	HR	6.500				69	69	
8MWH-A-1	WINCH 3-DRUM RB-90	1.00	10.00	HR	10.000				107	107	
8MWM-C-1	Welder Diesel 400 AMP	1.00	10.00	HR	2.500				27	27	
8PILE26	Vibro Hammer 150 TN	1.00	10.00	HR	80.944				818	818	
9ADMS11	Subsistance Crew 5		1.00	DA	750.000			758		758	
M105	Foreman - General Marine	1.00	10.00	MH	39.030					588	
M165	M-Piledriver	1.00	10.00	MH	38.200	588				584	
M170	M-Welder	1.00	10.00	MH	34.960	544				544	
M190	M-Skilled Laborer	1.00	10.00	MH	31.960	474				474	
OPCR100	Op Eng 1A- Crane 100-200	1.00	10.00	MH	36.580	564				564	
\$8,291.59	50.0000 MH/EA		50.00	MH	[1988.03]	2,753		828	4,710	8,292	
389000	Treated Lumber & Timber			Quan:	350.00 SF	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
31PTWOOD	Dock Treated Wo@106.5%		350.00	SF	80.000			30,118		30,118	
389015	Timber Deck Installation			Quan:	350.00 SF	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
MARLAN	Up Land Support Crew			50.00	CH	Prod:	5.0000 S	Lab Pcs:	5.00	Eqp Pcs:	4.00
8211050	Fuel, Oil, Grease 50g/d		5.00	DA	200.000				1,010	1,010	
8BHL480	BHL Cat 450E 1.75CY	1.00	50.00	HR	56.724				2,865	2,865	
8CRANERT530	Crane Grove RT530E 30	1.00	50.00	HR	64.705				3,268	3,268	
8MBC-Z-1	Barge Carpenter 12'X40	1.00	50.00	HR	6.500				346	346	
8TRKPU10	Pickup 4x2 3/4 Ton Gas	1.00	50.00	HR	10.867				549	549	
9ADMS11	Subsistance Crew 5		35.00	DA	750.000			26,513		26,513	
9ADMT08	Craft Subsistence (\$120/D/		5.00	DA	480.000			2,424		2,424	
M105	Foreman - General Marine	1.00	50.00	MH	39.030	2,941				2,941	
M195	M-Laborer	2.00	100.00	MH	30.100	4,508				4,508	
OPCR24	Op Eng 2- Crane 20-44T	1.00	50.00	MH	35.400	2,746				2,746	
OPEXC3	Op Eng 3- Backhoe to 3Y	1.00	50.00	MH	35.390	2,746				2,746	
\$49,913.69	0.7142 MH/SF		250.00	MH	[26.717]	12,940		28,937	8,037	49,914	
====>	Item Totals:	2000160	- Wood Deck Demolition/Reconstruction								
\$88,323.48	0.8571 MH/SF		300.00	MH	[32.398]	15,693		59,883	12,747	88,323	
252.353	350 SF					44.84		171.09	36.42	252.35	

Listing of Sub-Biditems of Parent Item 2000166:

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
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BID ITEM = 2000170 Land Item SCHEDULE: 1 100
Description = Sheet Piling Unit = LF Takeoff Quan: 48.000 Engr Quan: 48.000

201040 Sheeting Template Supply Quan: 1.00 LS Hrs/Shft: 10.00 Cal: 510 WC: CCISP

Supply 50 LF of sheet pile template

and then switch to driving 30 linear feet of sheet piles/day

Here are the numbers we came up with.

AZ14-770 \$0.80/lb
Double Channel Waler \$250/ft
Tie Rods #11 Gr 75 is more readily available @ \$6.00/ft
Coating \$2.50.SF

Thanks
Alwyn McDowall, Civil Engineer-BDM Southeast
Skyline Steel

7380 Sand Lake Rd, Suite135 | Orlando, FL 32819 USA
Tel: +1.321.274.9283 Fax: +1.973.795.1491 Cell: +1.201.247.2992
31PILETEMPLA Sheet pile Temp@106.5% 1.00 LS 3,500.000 3,765 3,765

201054 Supply Sheet Piles AZ14-770 Quan: 48,078.00 LB Hrs/Shft: 10.00 Cal: 510 WC: CCISP

Sheet Piles AZ14-770
Wall H Length (FT) Unit width (2w) QTY (PAIRS) V-length (ft) Weight Single
(Lb/Ft) Total Weight
Vertical Length (-40.0) -2.0= 42 ft ==> Pay 45 ft
West Return 0 Pairs 0 0 53.42 0.00
0 Pairs 0 53.42 0.00
Front Wall 50 Pairs 5.05 10.00 45 53.42 48,078.00
East Return Pairs 0 53.42 0.00
Totals 50 10 48,078.00

Coat front face
10 30 6.1 Area (Ft^2/Ft) Total Area (SF)
1,830.00
2AZ14-770 AZ14-770 Sheet @106.5% 48,078.00 LB 0.850 44,175 44,175
2COATSHEETS Coat Sheet Pile@106.5% 1,830.00 SF 2.750 5,440 5,440
2SPCORNER Sheet Pile Corn@106.5% 1.00 EA 2,700.000 2,919 2,919
\$52,534.08 [] 52,534 52,534

201055 Drive Permanent Sheeting Quan: 48.00 LF Hrs/Shft: 10.00 Cal: 510 WC: CCISP

1 day to relocate and 3 days driving= total 4 days

MARPIL	Marine Piling & Demo Crew	40.00	CH	Prod:	4.0000 S	Lab Pcs:	5.00	Eqp Pcs:	18.00
3WELD	Weld Supplies (1 man-Stick)	4.00	DA	70.000		283			283
8211050	Fuel, Oil, Grease 50g/d	4.00	DA	200.000			808		808
8CRANEC200	Crane Manitowoc 777 20	1.00	40.00 HR	200.743			8,110		8,110
8DRILLR	***DRILLS - ROCK***	1.00	40.00 HR	17.500			707		707
8MAC-A-10	Compressor 185 CFM	1.00	40.00 HR	3.000			128		128
8MBC-Z-1	Barge Carpenter 12'X40	2.00	80.00 HR	6.500			554		554
8MBS-Z-17	Spud Barge 170x45' ABS	1.00	40.00 HR	55.000			2,343		2,343
8MBT-Z-12	Tug Push Boat 200 HP	1.00	40.00 HR	20.000			852		852
8MBW-Z-2	18' Aluminum Boat & O/	1.00	40.00 HR	3.000			128		128
8MCE-A-40	Bucket Clamshell 3 CYD	1.00	40.00 HR	5.000			213		213
8MDH-A-7	DELMAG D19 HAMMER	1.00	40.00 HR	10.000			426		426
8MFD-A-1	FAIRLEADS	1.00	40.00 HR	0.100			4		4
8MGN-Z-11	Generator 10 KW	1.00	40.00 HR	3.000			128		128
8MLT-A-1	Light Tower, Genie	1.00	40.00 HR	3.500			149		149

Activity	Desc	Quantity	Unit	Unit	Perm	Constr	Equip	Sub-	Total
Resource		Pcs		Cost	Labor	Material	Matl/Exp	Ment	Contract
BID ITEM = 2000170									
Description = Sheet Piling									
			Land Item	SCHEDULE: 1 100					
			Unit =	LF	Takeoff	Quan:	48.000	Engr Quan:	48.000
8MPE-A-11	Extractor Pile	1.00	40.00 HR	5.000				213	213
8MVP-A-11	FORD F150 SUPERC 10	1.00	40.00 HR	6.500				277	277
8MWH-A-1	WINCH 3-DRUM RB-90	1.00	40.00 HR	10.000				426	426
8MWM-C-1	Welder Diesel 400 AMP	1.00	40.00 HR	2.500				107	107
8PILE26	Vibro Hammer 150 TN	1.00	40.00 HR	80.944				3,270	3,270
9ADMS11	Substance Crew 5		4.00 DA	750.000			3,030		3,030
M105	Foreman - General Marine	1.00	40.00 MH	39.030	2,352				2,352
M165	M-Piledriver	1.00	40.00 MH	38.200	2,334				2,334
M170	M-Welder	1.00	40.00 MH	34.960	2,176				2,176
M190	M-Skilled Laborer	1.00	40.00 MH	31.960	1,894				1,894
OPCR100	Op Eng 1A- Crane 100-200	1.00	40.00 MH	36.580	2,255				2,255
\$33,166.55	4.1666 MH/LF		200.00 MH	[165.669]	11,012		3,313	18,842	33,167

303022 Set Pile Template Quan: 1.00 EA Hrs/Shft: 10.00 Cal: 510 WC: CCISP

1 day									
MARPIL	Marine Piling & Demo Crew		10.00 CH	Prod:	1.0000 S	Lab Pcs:	5.00	Eqp Pcs:	18.00
3WELD	Weld Supplies (1 man-Stick	1.00	DA	70.000		71			71
8211050	Fuel, Oil, Grease 50g/d	1.00	DA	200.000			202		202
8CRANEC200	Crane Manitowoc 777 20	1.00	10.00 HR	200.743			2,027		2,027
8DRILLR	***DRILLS - ROCK***	1.00	10.00 HR	17.500			177		177
8MAC-A-10	Compressor 185 CFM	1.00	10.00 HR	3.000			32		32
8MBC-Z-1	Barge Carpenter 12'X40	2.00	20.00 HR	6.500			138		138
8MBS-Z-17	Spud Barge 170x45' ABS	1.00	10.00 HR	55.000			586		586
8MBT-Z-12	Tug Push Boat 200 HP	1.00	10.00 HR	20.000			213		213
8MBW-Z-2	18' Aluminum Boat & O/	1.00	10.00 HR	3.000			32		32
8MCE-A-40	Bucket Clamshell 3 CYD	1.00	10.00 HR	5.000			53		53
8MDH-A-7	DELMAG D19 HAMMER	1.00	10.00 HR	10.000			107		107
8MFD-A-1	FAIRLEADS	1.00	10.00 HR	0.100			1		1
8MGN-Z-11	Generator 10 KW	1.00	10.00 HR	3.000			32		32
8MLT-A-1	Light Tower, Genie	1.00	10.00 HR	3.500			37		37
8MPE-A-11	Extractor Pile	1.00	10.00 HR	5.000			53		53
8MVP-A-11	FORD F150 SUPERC 10	1.00	10.00 HR	6.500			69		69
8MWH-A-1	WINCH 3-DRUM RB-90	1.00	10.00 HR	10.000			107		107
8MWM-C-1	Welder Diesel 400 AMP	1.00	10.00 HR	2.500			27		27
8PILE26	Vibro Hammer 150 TN	1.00	10.00 HR	80.944			818		818
9ADMS11	Substance Crew 5		1.00 DA	750.000		758			758
M105	Foreman - General Marine	1.00	10.00 MH	39.030	588				588
M165	M-Piledriver	1.00	10.00 MH	38.200	584				584
M170	M-Welder	1.00	10.00 MH	34.960	544				544
M190	M-Skilled Laborer	1.00	10.00 MH	31.960	474				474
OPCR100	Op Eng 1A- Crane 100-200	1.00	10.00 MH	36.580	564				564
\$8,291.59	50.0000 MH/EA		50.00 MH	[1988.03]	2,753		828	4,710	8,292

305025 Sheet Pile Drilling Quan: 48.00 LF Hrs/Shft: 10.00 Cal: 510 WC: CCISP

Assume 3 day	drilling as a contingency for the contractor								
MARPIL	Marine Piling & Demo Crew		30.00 CH	Prod:	3.0000 S	Lab Pcs:	5.00	Eqp Pcs:	18.00
3WELD	Weld Supplies (1 man-Stick		3.00 DA	70.000		212			212
8211050	Fuel, Oil, Grease 50g/d		3.00 DA	200.000			606		606
8CRANEC200	Crane Manitowoc 777 20	1.00	30.00 HR	200.743			6,082		6,082
8DRILLR	***DRILLS - ROCK***	1.00	30.00 HR	17.500			530		530
8MAC-A-10	Compressor 185 CFM	1.00	30.00 HR	3.000			96		96
8MBC-Z-1	Barge Carpenter 12'X40	2.00	60.00 HR	6.500			415		415
8MBS-Z-17	Spud Barge 170x45' ABS	1.00	30.00 HR	55.000			1,757		1,757
8MBT-Z-12	Tug Push Boat 200 HP	1.00	30.00 HR	20.000			639		639
8MBW-Z-2	18' Aluminum Boat & O/	1.00	30.00 HR	3.000			96		96
8MCE-A-40	Bucket Clamshell 3 CYD	1.00	30.00 HR	5.000			160		160
8MDH-A-7	DELMAG D19 HAMMER	1.00	30.00 HR	10.000			320		320

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
BID ITEM = 2000170										
Description =	Sheet Piling			Land Item Unit =	SCHEDULE: 1 LF	100				
					Takeoff	Quan:	48.000	Engr Quan:		48.000
8MFD-A-1	FAIRLEADS	1.00	30.00 HR	0.100				3		3
8MGN-Z-11	Generator 10 KW	1.00	30.00 HR	3.000				96		96
8MLT-A-1	Light Tower, Genie	1.00	30.00 HR	3.500				112		112
8MPE-A-11	Extractor Pile	1.00	30.00 HR	5.000				160		160
8MVP-A-11	FORD F150 SUPERC 10	1.00	30.00 HR	6.500				208		208
8MWH-A-1	WINCH 3-DRUM RB-90	1.00	30.00 HR	10.000				320		320
8MWM-C-1	Welder Diesel 400 AMP	1.00	30.00 HR	2.500				80		80
8PILE26	Vibro Hammer 150 TN	1.00	30.00 HR	80.944				2,453		2,453
9ADMS11	Substance Crew 5		3.00 DA	750.000			2,273			2,273
M105	Foreman - General Marine	1.00	30.00 MH	39.030	1,764					1,764
M165	M-Piledriver	1.00	30.00 MH	38.200	1,751					1,751
M170	M-Welder	1.00	30.00 MH	34.960	1,632					1,632
M190	M-Skilled Laborer	1.00	30.00 MH	31.960	1,421					1,421
OPCR100	Op Eng 1A- Crane 100-200	1.00	30.00 MH	36.580	1,691					1,691
\$24,874.88	3.1250 MH/LF		150.00 MH	[124.252]	8,259		2,485	14,132		24,875
===== Item Totals: 2000170 - Sheet Piling										
\$122,631.88	8.3333 MH/LF		400.00 MH	[331.338]	22,023	52,534	10,390	37,684		122,632
2,554.831	48 LF				458.82	1,094.46	216.47	785.08		2,554.83

BID ITEM = 2000172				Land Item	SCHEDULE: 1	100				
Description =	Soil Anchor Tie backs			Unit =	EA	Takeoff	Quan:	4.000	Engr Quan:	4.000

201025 Supply Whaler System for Tiebacks Quan: 48.00 LF Hrs/Shft: 10.00 Cal: 510 WC: CCISP

Here are the numbers we came up with.

AZ14-770 \$0.80/lb
Double Channel Waler \$250/ft
Tie Rods #11 Gr 75 is more readily available @ \$6.00/ft
Coating \$2.50.SF

Thanks
Alwyn McDowall, Civil Engineer-BDM Southeast
Skyline Steel

7380 Sand Lake Rd, Suite135 | Orlando, FL 32819 USA
Tel: +1.321.274.9283 Fax: +1.973.795.1491 Cell: +1.201.247.2992

2WALER Waler System fo@106.5% 50.00 LF 250.000 13,512 13,512

201026 Install Waler System Quan: 48.00 LF Hrs/Shft: 10.00 Cal: 510 WC: CCISP

2 days for a subcontractor to do this task

MARTIE	Marine Tie Back Crew		20.00 CH	Prod:	2.0000 S	Lab Pcs:	6.00	Eqp Pcs:	9.00
8211050	Fuel, Oil, Grease 50g/d		2.00 DA	200.000			404		404
8BHL416	BHL Cat 416E 1CY	1.00	20.00 HR	28.006			566		566
8MAC-A-17	Atlas Copco 185 CFM Ai	1.00	20.00 HR	3.000			64		64
8MCH-Z-1	30TN RT CRANE 152HP	1.00	20.00 HR	35.200			750		750
8MCN-A-13	Container Steel 20'	1.00	20.00 HR	0.100			2		2
8MFW-A-1	Work Float	1.00	20.00 HR	2.000			43		43
8MGN-Z-17	Generator 8 KW	1.00	20.00 HR	2.000			43		43
8MLT-A-5	Light Tower	1.00	20.00 HR	2.500			53		53
8MVP-A-2	FORD F150 SUPERC 2	1.00	20.00 HR	6.500			138		138
8WELD400	Welder 400 AMP	1.00	20.00 HR	8.035			162		162
M170	M-Welder	1.00	20.00 MH	34.960	1,088				1,088
M180	M-Carpenter Helper	1.00	20.00 MH	30.070	901				901

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
BID ITEM = 2000172										
Description =	Soil Anchor Tie backs		Land Item Unit =	SCHEDULE: 1 EA	100					
				Takeoff Quan:			4.000	Engr Quan:		4.000
M195	M-Laborer	2.00	40.00 MH	30.100	1,803					1,803
OPCR24	Op Eng 2- Crane 20-44T	1.00	20.00 MH	35.400	1,099					1,099
OPEXC3	Op Eng 3- Backhoe to 3Y	1.00	20.00 MH	35.390	1,098					1,098
\$8,213.06	2.5000 MH/LF		120.00 MH	[89.843]	5,988			2,225		8,213
201029	Supply Tieback Hardware		Quan:	4.00 EA	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
4 SOIL ANCHORS AT 4*50 = 200 FT THEN: 200 FT*\$15= \$3000										
Here are the numbers we came up with.										
AZ14-770 \$0.80/lb Double Channel Waler \$250/ft Tie Rods #11 Gr 75 is more readily available @ \$6.00/ft Coating \$2.50.SF										
Thanks Alwyn McDowall, Civil Engineer-BDM Southeast Skyline Steel										
7380 Sand Lake Rd, Suite135 Orlando, FL 32819 USA Tel: +1.321.274.9283 Fax: +1.973.795.1491 Cell: +1.201.247.2992										
2NUTS	Nuts for #20 Ba@106.5%		4.00 EA	20.000		86				86
2PLATES&WAS	Plates and Wash@106.5%		4.00 EA	20.000		86				86
2PVCSELEEVE	PVC Sleeve and @106.5%		150.00 LF	5.000		811				811
2SP04	PT Thread Bar #@106.5%		200.00 LF	10.000		2,162				2,162
\$3,145.64				[]		3,146				3,146
201030	Install System/Soil Anchor		Quan:	4.00 EA	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
Phone Call with Tom Anderson, Schnabel, Orlando										
42SCHNABLE	Soil Anchor Subcontractor		4.00 EA	3,000.000				12,144		12,144
42SCHNABLEM	Schnabel Mob & Demob		2.00 EA	2,500.000				5,060		5,060
\$17,204.00				[]				17,204		17,204
303035	Floating Support for Soil Anchor Drillin		Quan:	4.00 EA	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
2 days to support Schnabel or whoever the specialty subcontractor is. the same amount of works										
MARLAN	Up Land Support Crew		20.00 CH	Prod:	2.0000 S	Lab Pcs:	5.00	Eqp Pcs:		4.00
8211050	Fuel, Oil, Grease 50g/d		2.00 DA	200.000				404		404
8BHL480	BHL Cat 450E 1.75CY	1.00	20.00 HR	56.724				1,146		1,146
8CRANERT530	Crane Grove RT530E 30	1.00	20.00 HR	64.705				1,307		1,307
8MBC-Z-1	Barge Carpenter 12'X40	1.00	20.00 HR	6.500				138		138
8MFW-A-1	Work Float		40.00 HR	2.000				85		85
8MFW-A-2	Work Float		40.00 HR	2.000				85		85
8TRKPU10	Pickup 4x2 3/4 Ton Gas	1.00	20.00 HR	10.867				219		219
9ADMS11	Subsistance Crew 5		0.40 DA	750.000			303			303
9ADMT08	Craft Subsistence (\$120/D/		2.00 DA	480.000			970			970
M105	Foreman - General Marine	1.00	20.00 MH	39.030	1,176					1,176
M195	M-Laborer	2.00	40.00 MH	30.100	1,803					1,803
OPCR24	Op Eng 2- Crane 20-44T	1.00	20.00 MH	35.400	1,099					1,099
OPEXC3	Op Eng 3- Backhoe to 3Y	1.00	20.00 MH	35.390	1,098					1,098
\$9,833.84	25.0000 MH/EA		100.00 MH	[935.11]	5,176		1,273	3,385		9,834
=====	Item Totals:	2000172	- Soil Anchor Tie backs							
\$51,908.73	55.0000 MH/EA		220.00 MH	[2013.22]	11,164	16,658	1,273	5,610	17,204	51,909
12,977.183	4 EA				2,791.12	4,164.46	318.15	1,402.46	4,301.00	12,977.18

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
BID ITEM = 2000172			Land Item	SCHEDULE: 1 100						
Description = Soil Anchor Tie backs			Unit = EA	Takeoff Quan:			4.000	Engr Quan:		4.000
Total of Above Sub-Biditems										
====> Item Totals:	2000166 - Sheet Piling (AZ14-770)									
\$174,540.61	12.9166 MH/LF		620.00 MH	[499.107]	33,188	69,192	11,663	43,294	17,204	174,541
3,636.263	48 LF				691.41	1,441.50	242.98	901.96	358.42	3,636.26

BID ITEM = 2000174			Land Item	SCHEDULE: 1 100						
Description = Bulkhead Concrete Cap			Unit = LF	Takeoff Quan:			48.000	Engr Quan:		48.000
Section: 4*4+0.667*1= 16.67 sf volume: 16.67*50= 833.50 CF ==>>> 833.5/27= 31cy add 10% waste ==>>> 34.1 cy REbar: 160lb/cy*31= 4960 lbs										

319010	Prepare/Fabricate Steel Wet Forms		Quan:	1.00 LS	Hrs/Shft:	10.00	Cal:	510	WC:	CCISP
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31FMCPU	Special Form Pu@106.5%	1.00 LS		3,500.000				3,765		3,765
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321015	Sheet Pile Cap - Form, Pour & Strip		Quan:	48.00 LF	Hrs/Shft:	10.00	Cal:	510	WC:	CCISP
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48 feet say 6 days										
MARLAN	Up Land Support Crew		60.00 CH	Prod:	6.0000 S	Lab Pcs:	5.00	Eqp Pcs:	4.00	
8211050	Fuel, Oil, Grease 50g/d		6.00 DA	200.000				1,212		1,212
8BHLD480	BHL Cat 450E 1.75CY	1.00	60.00 HR	56.724				3,437		3,437
8CRANERT530	Crane Grove RT530E 30	1.00	60.00 HR	64.705				3,921		3,921
8MBC-Z-1	Barge Carpenter 12*X40	1.00	60.00 HR	6.500				415		415
8TRKPU10	Pickup 4x2 3/4 Ton Gas	1.00	60.00 HR	10.867				659		659
9ADMS11	Subsistence Crew 5		4.80 DA	750.000			3,636			3,636
9ADMT08	Craft Subsistence (\$120/D/		6.00 DA	480.000			2,909			2,909
CARPJ	==> Carpenter Journeyman		4.00 MH	31.920	200					200
M100	==> Foreman - Carpenter		1.00 MH	34.720	54					54
M105	Foreman - General Marine	1.00	60.00 MH	39.030	3,529					3,529
M195	M-Laborer	2.00	120.00 MH	30.100	5,409					5,409
OPCR24	Op Eng 2- Crane 20-44T	1.00	60.00 MH	35.400	3,296					3,296
OPEXC3	Op Eng 3- Backhoe to 3Y	1.00	60.00 MH	35.390	3,295					3,295
\$31,971.30	6.3541 MH/LF		305.00 MH	[237.499]	15,782		6,545	9,644		31,971

325900	Supply 5000 PSI Marine Concrete		Quan:	31.00 CY	Hrs/Shft:	10.00	Cal:	510	WC:	CCISP
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Section: 4*4+0.667*1= 16.67 sf
volume: 16.67*50= 833.50 CF ==>>> 833.5/27= 31cy
add 10% waste ==>>> 34.1 cy

REbar: 160lb/cy*31= 4960 lbs										
2CR14	5000 PSI Marine@106.5%	34.00 CY		296.000		10,879				10,879
5CONCPCY	Cubic Yard Charge	34.00 CY		5.000			170			170
\$11,048.93				[]		10,879	170			11,049

380010	Superstructure Rebar Front Wall		Quan:	4,960.00 LBS	Hrs/Shft:	10.00	Cal:	510	WC:	CCISP
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Section: 4*4+0.667*1= 16.67 sf
volume: 16.67*50= 833.50 CF ==>>> 833.5/27= 31cy
add 10% waste ==>>> 34.1 cy

REbar: 160lb/cy*31= 4960 lbs										
2REBARHANGE	Rebar Hanger@106.5%	2.00 EA		500.000		1,081				1,081

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
BID ITEM = 2000174			Land Item	SCHEDULE: 1 100						
Description =	Bulkhead Concrete Cap		Unit =	LF	Takeoff	Quan:	48.000	Engr Quan:		48.000
2RR02	Gr 60 Rebar@106.5%	1.03	5,108.80 LB	0.480		2,651				2,651
2RR10	Rebar Supports@106.5%	1.03	5,108.80 LB	0.050		276				276
4REBAR	Rebar Sub	1.03	5,108.80 LB	0.250					1,293	1,293
\$5,300.42				[]		4,008			1,293	5,300
380012	Concrete Pumping		Quan:	1.00 DA	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
5CONCP28M	Concrete Concrete Pump 28		16.00 HR	95.000			1,520			1,520
5CONCPCY	Cubic Yard Charge		34.00 CY	2.250			77			77
\$1,596.50				[]			1,597			1,597
====>	Item Totals: 2000174 - Bulkhead Concrete Cap									
\$53,681.93	6.3541 MH/LF		305.00 MH	[237.499]	15,782	14,887	12,076	9,644	1,293	53,682
1,118.374	48 LF				328.79	310.14	251.59	200.93	26.93	1,118.37

BID ITEM = 2000176			Land Item	SCHEDULE: 1 100						
Description =	Backfill/Flowable Fill		Unit =	CY	Takeoff	Quan:	40.000	Engr Quan:		40.000
203000	Backfill - Flowable Fill		Quan:	40.00 CY	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
Vol1= 0.833 ft*4ft*41ft= 136 ft3 vol2= 2.6ft*7ft*41ft= 746.2 ft3 vol3= (0.83*4*10.2ft+2.6*7*10.2)/2= 109ft3 total= 991 ft3 =====> 36.7 CY =====> SAY 40cy =====										
OLD SECTION: (for comparison and to show the changes from the original design) Section area: 3.5 * (-7-(+3.3))= 3.5*10.3= 36.05 sf Volume: 36.05*50= 1,802 cf = 67 cy waste 15% =====> 77 cy										
2CR15FLOWABL	Flowable Fill K@106.5%	1.15	46.00 CY	145.000		7,210				7,210

203010	Install Flowable Fill		Quan:	40.00 CY	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
MARLAN	Up Land Support Crew		10.00 CH	Prod:	1.0000 S	Lab Pcs:	5.00	Eqp Pcs:	4.00	
8211050	Fuel, Oil, Grease 50g/d		1.00 DA	200.000			202			202
8BHLD480	BHL Cat 450E 1.75CY	1.00	10.00 HR	56.724			573			573
8CRANERT530	Crane Grove RT530E 30	1.00	10.00 HR	64.705			654			654
8MBC-Z-1	Barge Carpenter 12'X40	1.00	10.00 HR	6.500			69			69
8TRKPU10	Pickup 4x2 3/4 Ton Gas	1.00	10.00 HR	10.867			110			110
9ADMS11	Subsistence Crew 5		4.00 DA	750.000		3,030				3,030
9ADMT08	Craft Subsistence (\$120/D/		1.00 DA	480.000		485				485
M105	Foreman - General Marine	1.00	10.00 MH	39.030	588					588
M195	M-Laborer	2.00	20.00 MH	30.100	902					902
OPCR24	Op Eng 2- Crane 20-44T	1.00	10.00 MH	35.400	549					549
OPEXC3	Op Eng 3- Backhoe to 3Y	1.00	10.00 MH	35.390	549					549
\$7,710.19	1.2500 MH/CY		50.00 MH	[46.756]	2,588	3,515	1,607			7,710

203015	Supply Concrete Slab Behind Wall		Quan:	5.00 CY	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
top surface for concrete slab:										
50ft*7.5ft*4"/12"/ft= 125 cf =====> 5 cy										
conctingecy 20%= =====> 6 cy										
2CR15-NORMAL	5000 PSI Normal@106.5%	1.20	6.00 CY	175.000		1,135				1,135

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
BID ITEM = 2000176			Land Item	SCHEDULE: 1 100						
Description = Backfill/Flowable Fill			Unit =	CY	Takeoff	Quan:	40.000	Engr Quan:		40.000
203016	Place Concrete		Quan:	40.00 CY	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
MARLAN	Up Land Support Crew		5.00 CH	Prod:	0.5000 S	Lab Pcs:	5.00	Eqp Pcs:	4.00	
8211050	Fuel, Oil, Grease 50g/d		0.50 DA	200.000				101		101
8BHL480	BHL Cat 450E 1.75CY	1.00	5.00 HR	56.724				286		286
8CRANERT530	Crane Grove RT530E 30	1.00	5.00 HR	64.705				327		327
8MBC-Z-1	Barge Carpenter 12'X40	1.00	5.00 HR	6.500				35		35
8TRKPU10	Pickup 4x2 3/4 Ton Gas	1.00	5.00 HR	10.867				55		55
9ADMS11	Subsistance Crew 5		4.00 DA	750.000			3,030			3,030
9ADMT08	Craft Subsistence (\$120/D/		0.50 DA	480.000			242			242
M105	Foreman - General Marine	1.00	5.00 MH	39.030	294					294
M195	M-Laborer	2.00	10.00 MH	30.100	451					451
OPCR24	Op Eng 2- Crane 20-44T	1.00	5.00 MH	35.400	275					275
OPEXC3	Op Eng 3- Backhoe to 3Y	1.00	5.00 MH	35.390	275					275
\$5,370.06	0.6250 MH/CY		25.00 MH	[23.378]	1,294		3,272	804		5,370
====>	Item Totals: 2000176 - Backfill/Flowable Fill									
\$21,425.37	1.8750 MH/CY		75.00 MH	[70.134]	3,882	8,345	6,787	2,411		21,425
535.634	40 CY				97.05	208.63	169.68	60.27		535.63

BID ITEM = 2000178			Land Item	SCHEDULE: 1 100						
Description = Drainage Pipe Extension & Repair			Unit =	EA	Takeoff	Quan:	1.000	Engr Quan:		1.000
321015	Out Flow Pipe - Form, Pour & Strip		Quan:	3.00 DA	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
3 days per out flow										
MARLAN	Up Land Support Crew		30.00 CH	Prod:	3.0000 S	Lab Pcs:	5.00	Eqp Pcs:	4.00	
8211050	Fuel, Oil, Grease 50g/d		3.00 DA	200.000				606		606
8BHL480	BHL Cat 450E 1.75CY	1.00	30.00 HR	56.724				1,719		1,719
8CRANERT530	Crane Grove RT530E 30	1.00	30.00 HR	64.705				1,961		1,961
8MBC-Z-1	Barge Carpenter 12'X40	1.00	30.00 HR	6.500				208		208
8TRKPU10	Pickup 4x2 3/4 Ton Gas	1.00	30.00 HR	10.867				329		329
9ADMS11	Subsistance Crew 5		0.30 DA	750.000			227			227
9ADMT08	Craft Subsistence (\$120/D/		3.00 DA	480.000			1,454			1,454
CARPJ	==> Carpenter Journeyman		2.00 MH	31.920	100					100
M100	==> Foreman - Carpenter		0.50 MH	34.720	27					27
M105	Foreman - General Marine	1.00	30.00 MH	39.030	1,764					1,764
M195	M-Laborer	2.00	60.00 MH	30.100	2,705					2,705
OPCR24	Op Eng 2- Crane 20-44T	1.00	30.00 MH	35.400	1,648					1,648
OPEXC3	Op Eng 3- Backhoe to 3Y	1.00	30.00 MH	35.390	1,647					1,647
\$14,394.84	50.8333 MH/DA		152.50 MH	[1899.993]	7,891		1,682	4,822		14,395
325900	Supply 5000 PSI Marine Concrete		Quan:	12.00 CY	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		

volume: 3.5*6*6+ 3.5*10*6 = 336 CF ==>>> 336/27= 12cy
add 10% waste ==>>> 14 cy

REbar: 160lb/cy*12= 1,991 lbs
totals for 2 structures:
24 cy concrete ==>>> 28 cy
rebar: 3,982 lbs

2CR14	5000 PSI Marine@106.5%	14.00 CY	296.000		4,480					4,480
5CONCPCY	Cubic Yard Charge	14.00 CY	5.000				70			70
\$4,549.56			[]		4,480		70			4,550

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
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BID ITEM = 2000178 Land Item SCHEDULE: 1 100
Description = Drainage Pipe Extension & Repair Unit = EA Takeoff Quan: 1.000 Engr Quan: 1.000

380010 Superstructure Rebar Out Flow Pipe Quan: 1,991.00 LBS Hrs/Shft: 10.00 Cal: 510 WC: CCISP

volume: 3.5*6*6+ 3.5*10*6 = 336 CF =====> 336/27= 12cy
add 10% waste =====> 14 cy

REbar: 160lb/cy*12= 1,991 lbs
2REBARHANGE Rebar Hanger@106.5% 2.00 EA 500.000 1,081 1,081
2RR02 Gr 60 Rebar@106.5% 1.03 2,050.73 LB 0.480 1,064 1,064
2RR10 Rebar Supports@106.5% 1.03 2,050.73 LB 0.050 111 111
4REBAR Rebar Sub 1.03 2,050.73 LB 0.250 519 519
\$2,774.70 [] 2,256 519 2,775

406900 Supply 54 in HDPE Storm Drainage Pipe Quan: 1.00 EA Hrs/Shft: 10.00 Cal: 510 WC: CCISP

2HDPE 54" HDPE@106.5% 10.00 LF 100.000 1,081 1,081

406910 Diver Support to Cut Existing SSP Quan: 1.00 EA Hrs/Shft: 10.00 Cal: 510 WC: CCISP

42DIVERS Diving Subcontractor 2.00 DA 2,500.000 5,060 5,060

=====> Item Totals: 2000178 - Drainage Pipe Extension & Repair
\$27,860.08 152.5000 MH/EA 152.50 MH [5699.98] 7,891 7,816 1,752 4,822 5,579 27,860
27,860.080 1 EA 7,891.05 7,816.41 1,751.65 4,822.14 5,578.83 27,860.08

BID ITEM = 2000180 Land Item SCHEDULE: 1 100
Description = Outfall Valve Unit = EA Takeoff Quan: 1.000 Engr Quan: 1.000

259100 F&I Gate valve @ Inlets Quan: 1.00 EA Hrs/Shft: 10.00 Cal: 510 WC: CCISP

Outfall Valve \$3000.00
plus 1/2 day to install it.
MARLAN Up Land Support Crew 5.00 CH Prod: 0.5000 S Lab Pcs: 5.00 Eqp Pcs: 4.00
2DF154 Frame & Grate@106.5% 1.00 EA 3,000.000 3,243 3,243
8211050 Fuel, Oil, Grease 50g/d 0.50 DA 200.000 101 101
8BHL480 BHL Cat 450E 1.75CY 1.00 5.00 HR 56.724 286 286
8CRANERT530 Crane Grove RT530E 30 1.00 5.00 HR 64.705 327 327
8MBC-Z-1 Barge Carpenter 12'X40 1.00 5.00 HR 6.500 35 35
8TRKPU10 Pickup 4x2 3/4 Ton Gas 1.00 5.00 HR 10.867 55 55
9ADMS11 Subsistence Crew 5 0.10 DA 750.000 76 76
9ADMT08 Craft Subsistence (\$120/D/ 0.50 DA 480.000 242 242
M105 Foreman - General Marine 1.00 5.00 MH 39.030 294 294
M195 M-Laborer 2.00 10.00 MH 30.100 451 451
OPCR24 Op Eng 2- Crane 20-44T 1.00 5.00 MH 35.400 275 275
OPEXC3 Op Eng 3- Backhoe to 3Y 1.00 5.00 MH 35.390 275 275
\$5,658.74 25.0000 MH/EA 25.00 MH [935.12] 1,294 3,243 318 804 5,659

=====> Item Totals: 2000180 - Outfall Valve
\$5,658.74 25.0000 MH/EA 25.00 MH [935.12] 1,294 3,243 318 804 5,659
5,658.740 1 EA 1,294.04 3,242.93 318.15 803.62 5,658.74

BID ITEM = 2000182 Land Item SCHEDULE: 1 100
Description = Site Restoration & Misc. General Unit = LS Takeoff Quan: 1.000 Engr Quan: 1.000

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
BID ITEM = 2000182			Land Item	SCHEDULE: 1 100						
Description =	Site Restoration & Misc. General		Unit =	LS	Takeoff	Quan:	1.000	Engr Quan:		1.000
980010	Final Site Restoration		Quan:	1.00 LS	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
MARLAN	Up Land Support Crew		20.00 CH	Prod:	2.0000 S	Lab Pcs:	5.00	Eqp Pcs:	4.00	
8211050	Fuel, Oil, Grease 50g/d		2.00 DA	200.000				404		404
8BHL480	BHL Cat 450E 1.75CY	1.00	20.00 HR	56.724				1,146		1,146
8CRANERT530	Crane Grove RT530E 30	1.00	20.00 HR	64.705				1,307		1,307
8MBC-Z-1	Barge Carpenter 12'X40	1.00	20.00 HR	6.500				138		138
8TRKPU10	Pickup 4x2 3/4 Ton Gas	1.00	20.00 HR	10.867				219		219
9ADMS11	Subsistence Crew 5		0.10 DA	750.000				76		76
9ADMT08	Craft Subsistence (\$120/D/		2.00 DA	480.000				970		970
9RCRISK	Risk		1.00 LS	2,500.000				2,525		2,525
M105	Foreman - General Marine	1.00	20.00 MH	39.030	1,176					1,176
M195	M-Laborer	2.00	40.00 MH	30.100	1,803					1,803
OPCR24	Op Eng 2- Crane 20-44T	1.00	20.00 MH	35.400	1,099					1,099
OPEXC3	Op Eng 3- Backhoe to 3Y	1.00	20.00 MH	35.390	1,098					1,098
\$11,961.19	100.0000 MH/LS		100.00 MH	[3740.44]	5,176		3,570	3,215		11,961
=====	Item Totals: 2000182 - Site Restoration & Misc. General									
\$11,961.19	100.0000 MH/LS		100.00 MH	[3740.44]	5,176		3,570	3,215		11,961
11,961.190	1 LS				5,176.08		3,570.35	3,214.76		11,961.19

BID ITEM = 2000190			Land Item	SCHEDULE: 1 100						
Description =	Demolition and Removal of Work Area		Unit =	LS	Takeoff	Quan:	1.000	Engr Quan:		1.000
202031	Debris Disposal		Quan:	1.00 LS	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
trucking in key west: \$50.00/cy land fill fee: \$125/cy										
31DFBLDCY	Bldg Debris Dump Fee-cy		30.00 CY	125.000				3,788		3,788
5TRKCY	Trucking - CY		30.00 CY	50.000				1,500		1,500
\$5,287.50				[]				5,288		5,288
630016	Demolition and Removal of Deck & Piles		Quan:	1.00 LS	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		

Assume to last 4 days										
MARPIL	Marine Piling & Demo Crew		40.00 CH	Prod:	4.0000 S	Lab Pcs:	5.00	Eqp Pcs:	18.00	
3WELD	Weld Supplies (1 man-Stick		4.00 DA	70.000				283		283
8211050	Fuel, Oil, Grease 50g/d		4.00 DA	200.000				808		808
8CRANEC200	Crane Manitowoc 777 20	1.00	40.00 HR	200.743				8,110		8,110
8DRILLR	***DRILLS - ROCK***	1.00	40.00 HR	17.500				707		707
8MAC-A-10	Compressor 185 CFM	1.00	40.00 HR	3.000				128		128
8MBC-Z-1	Barge Carpenter 12'X40	2.00	80.00 HR	6.500				554		554
8MBS-Z-17	Spud Barge 170x45' ABS	1.00	40.00 HR	55.000				2,343		2,343
8MBT-Z-12	Tug Push Boat 200 HP	1.00	40.00 HR	20.000				852		852
8MBW-Z-2	18' Aluminum Boat & O/	1.00	40.00 HR	3.000				128		128
8MCE-A-40	Bucket Clamshell 3 CYD	1.00	40.00 HR	5.000				213		213
8MDH-A-7	DELMAG D19 HAMMER	1.00	40.00 HR	10.000				426		426
8MFD-A-1	FAIRLEADS	1.00	40.00 HR	0.100				4		4
8MGN-Z-11	Generator 10 KW	1.00	40.00 HR	3.000				128		128
8MLT-A-1	Light Tower, Genie	1.00	40.00 HR	3.500				149		149
8MPE-A-11	Extractor Pile	1.00	40.00 HR	5.000				213		213
8MVP-A-11	FORD F150 SUPERC 10	1.00	40.00 HR	6.500				277		277
8MWH-A-1	WINCH 3-DRUM RB-90	1.00	40.00 HR	10.000				426		426
8MWM-C-1	Welder Diesel 400 AMP	1.00	40.00 HR	2.500				107		107

Activity Resource	Desc	Pcs	Quantity	Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub-Contract	Total
BID ITEM = 2000190				Land Item	SCHEDULE: 1 100						
Description =	Demolition and Removal of Work Area			Unit =	LS	Takeoff Quan:		1.000	Engr Quan:		1.000
8PILE26	Vibro Hammer 150 TN	1.00	40.00	HR	80.944				3,270		3,270
9ADMS11	Subsistance Crew 5		4.00	DA	750.000			3,030			3,030
M105	Foreman - General Marine	1.00	40.00	MH	39.030	2,352					2,352
M165	M-Piledriver	1.00	40.00	MH	38.200	2,334					2,334
M170	M-Welder	1.00	40.00	MH	34.960	2,176					2,176
M190	M-Skilled Laborer	1.00	40.00	MH	31.960	1,894					1,894
OPCR100	Op Eng 1A- Crane 100-200	1.00	40.00	MH	36.580	2,255					2,255
\$33,166.55	200.0000 MH/LS		200.00	MH	[7952.12]	11,012		3,313	18,842		33,167
=====	Item Totals: 2000190 - Demolition and Removal of Work Area										
\$38,454.05	200.0000 MH/LS		200.00	MH	[7952.12]	11,012		8,600	18,842		38,454
38,454.050	1 LS					11,011.69		8,600.30	18,842.06		38,454.05

BID ITEM = 2000200				Land Item	SCHEDULE: 1 100						
Description =	Piling 36" Diam Drilled Shaft			Unit =	EA	Takeoff Quan:		6.000	Engr Quan:		6.000
ITEM	LENGTH	QTY	TOTAL								
Casing	38	6	228	FT							
Concrete											
ITEM	LENGTH	QTY	Diam (ft)	Area (ft^2)	Volume (ft^3)	Vol (cy)			Total Vol (cy)		
Pile	52	6	36	7.07	367.57	13.61	81.68	cy			
Rebar	2467						14,802.00	lbs			

303022 Set Pile Template Quan: 6.00 EA Hrs/Shft: 10.00 Cal: 510 WC: CCISP

MARPIL	Marine Piling & Demo Crew		20.00	CH	Prod:	2.0000 S	Lab Pcs:	5.00	Eqp Pcs:	18.00
3WELD	Weld Supplies (1 man-Stick		2.00	DA	70.000		141			141
8211050	Fuel, Oil, Grease 50g/d		2.00	DA	200.000			404		404
8CRANEC200	Crane Manitowoc 777 20	1.00	20.00	HR	200.743			4,055		4,055
8DRILLR	***DRILLS - ROCK***	1.00	20.00	HR	17.500			354		354
8MAC-A-10	Compressor 185 CFM	1.00	20.00	HR	3.000			64		64
8MBC-Z-1	Barge Carpenter 12'X40	2.00	40.00	HR	6.500			277		277
8MBS-Z-17	Spud Barge 170x45' ABS	1.00	20.00	HR	55.000			1,172		1,172
8MBT-Z-12	Tug Push Boat 200 HP	1.00	20.00	HR	20.000			426		426
8MBW-Z-2	18' Aluminum Boat & O/	1.00	20.00	HR	3.000			64		64
8MCE-A-40	Bucket Clamshell 3 CYD	1.00	20.00	HR	5.000			107		107
8MDH-A-7	DELMAG D19 HAMMER	1.00	20.00	HR	10.000			213		213
8MFD-A-1	FAIRLEADS	1.00	20.00	HR	0.100			2		2
8MGN-Z-11	Generator 10 KW	1.00	20.00	HR	3.000			64		64
8MLT-A-1	Light Tower, Genie	1.00	20.00	HR	3.500			75		75
8MPE-A-11	Extractor Pile	1.00	20.00	HR	5.000			107		107
8MVP-A-11	FORD F150 SUPERC 10	1.00	20.00	HR	6.500			138		138
8MWH-A-1	WINCH 3-DRUM RB-90	1.00	20.00	HR	10.000			213		213
8MWM-C-1	Welder Diesel 400 AMP	1.00	20.00	HR	2.500			53		53
8PILE26	Vibro Hammer 150 TN	1.00	20.00	HR	80.944			1,635		1,635
9ADMS11	Subsistance Crew 5		2.00	DA	750.000		1,515			1,515
M105	Foreman - General Marine	1.00	20.00	MH	39.030	1,176				1,176
M165	M-Piledriver	1.00	20.00	MH	38.200	1,167				1,167
M170	M-Welder	1.00	20.00	MH	34.960	1,088				1,088
M190	M-Skilled Laborer	1.00	20.00	MH	31.960	947				947
OPCR100	Op Eng 1A- Crane 100-200	1.00	20.00	MH	36.580	1,128				1,128
\$16,583.26	16.6666 MH/EA		100.00	MH	[662.677]	5,506		1,656	9,421	16,583

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
BID ITEM = 2000200			Land Item	SCHEDULE: 1 100						
Description =	Piling 36" Diam Drilled Shaft		Unit =	EA	Takeoff	Quan:	6.000	Engr Quan:		6.000
305010	Caissons - CSL Tubes		Quan:	936.00 LF	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
2CSLTUBES	CSL Tubes@106.5%		936.00 EA	5.000		5,059				5,059
305050	Caisson - Drilling		Quan:	312.00 LF	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
MARPIL	Marine Piling & Demo Crew		180.00 CH	Prod:	18.0000 S	Lab Pcs:	5.00	Eqp Pcs:	18.00	
3WELD	Weld Supplies (1 man-Stick		18.00 DA	70.000		1,273				1,273
8211050	Fuel, Oil, Grease 50g/d		18.00 DA	200.000				3,636		3,636
8CRANEC200	Crane Manitowoc 777 20	1.00	180.00 HR	200.743				36,495		36,495
8DRILLR	***DRILLS - ROCK***	1.00	180.00 HR	17.500				3,182		3,182
8MAC-A-10	Compressor 185 CFM	1.00	180.00 HR	3.000				575		575
8MBC-Z-1	Barge Carpenter 12'X40	2.00	360.00 HR	6.500				2,492		2,492
8MBS-Z-17	Spud Barge 170x45' ABS	1.00	180.00 HR	55.000				10,544		10,544
8MBT-Z-12	Tug Push Boat 200 HP	1.00	180.00 HR	20.000				3,834		3,834
8MBW-Z-2	18' Aluminum Boat & O/	1.00	180.00 HR	3.000				575		575
8MCE-A-40	Bucket Clamshell 3 CYD	1.00	180.00 HR	5.000				959		959
8MDH-A-7	DELMAG D19 HAMMER	1.00	180.00 HR	10.000				1,917		1,917
8MFD-A-1	FAIRLEADS	1.00	180.00 HR	0.100				19		19
8MGN-Z-11	Generator 10 KW	1.00	180.00 HR	3.000				575		575
8MLT-A-1	Light Tower, Genie	1.00	180.00 HR	3.500				671		671
8MPE-A-11	Extractor Pile	1.00	180.00 HR	5.000				959		959
8MVP-A-11	FORD F150 SUPER 10	1.00	180.00 HR	6.500				1,246		1,246
8MWH-A-1	WINCH 3-DRUM RB-90	1.00	180.00 HR	10.000				1,917		1,917
8MWM-C-1	Welder Diesel 400 AMP	1.00	180.00 HR	2.500				479		479
8PILE26	Vibro Hammer 150 TN	1.00	180.00 HR	80.944				14,716		14,716
9ADMS11	Substance Crew 5		18.00 DA	750.000			13,635			13,635
M105	Foreman - General Marine	1.00	180.00 MH	39.030	10,586					10,586
M165	M-Piledriver	1.00	180.00 MH	38.200	10,505					10,505
M170	M-Welder	1.00	180.00 MH	34.960	9,790					9,790
M190	M-Skilled Laborer	1.00	180.00 MH	31.960	8,524					8,524
OPCR100	Op Eng 1A- Crane 100-200	1.00	180.00 MH	36.580	10,147					10,147
\$149,249.68	2.8846 MH/LF		900.00 MH	[114.694]	49,553		14,908	84,789		149,250
305060	Caisson - Casings 1/2"		Quan:	228.00 LF	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
\$118.00/ft price given by Skyline by phone: Dave										
2CYL36PILE	36" Diameter Pi@106.5%		228.00 LF	118.000		29,083				29,083
305065	Caisson - Concrete		Quan:	82.00 CY	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
2CR14	5000 PSI Marine Conc Key	1.10	90.20 EA	296.000		27,100				27,100
305070	Caisson - Rebar		Quan:	14,802.00 LB	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
2RR02	Gr 60 Rebar@106.5%	1.05	17,096.10 LB	0.480		8,871				8,871
2RR10	Rebar Supports@106.5%	1.05	17,096.10 LB	0.050		924				924
4REBAR	Rebar Sub@106.5%	1.05	17,096.10 LB	0.050					921	921
\$10,715.94				[]		9,795			921	10,716
305900	Concrete Pump		Quan:	6.00 DAY	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
5CONCP36M	Concrete Concrete Pump 36		48.00 HR	125.000			6,000			6,000
5CONCPCY	Cubic Yard Charge		108.00 CY	2.250			243			243
\$6,243.00				[]			6,243			6,243
=====>	Item Totals: 2000200 - Piling 36" Diam Drilled Shaft									
\$244,033.08	166.6666 MH/EA		1,000.00 MH	[6626.767]	55,058	71,036	22,807	94,210	921	244,033

Activity	Resource	Desc	Pcs	Quantity	Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub-Contract	Total
BID ITEM	=	2000200			Land Item	SCHEDULE: 1	100					
Description =		Piling 36" Diam Drilled Shaft			Unit =	EA	Takeoff Quan:		6.000	Engr Quan:		6.000
40,672.180		6 EA					9,176.41	11,839.31	3,801.17	15,701.75	153.55	40,672.18

BID ITEM	=	2000210			Land Item	SCHEDULE: 1	100					
Description =		Concrete Cap Mooring Dolphin			Unit =	CY	Takeoff Quan:		120.000	Engr Quan:		120.000
		pile cap area: 28.33*16= 453.33 sf										
		volume: 453.33*6.67/27= 112cy										
		curb: 1.25*1*2*28.33/27= 3 cy										
		Fascia: 2.33*2*28.33/27= 5cy										
		total concrete: 120 cy										

319010	Purchase/Fabricate Forms	Quan:	1.00 LS	Hrs/Shft:	10.00	Cal:	510	WC:	CCISP
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31FMCUPUR	Special Form Pu@106.5%	1.00 LS	6,000.000			6,454			6,454
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321015	Concrete Cap - Form, Pour & Strip	Quan:	120.00 CY	Hrs/Shft:	10.00	Cal:	510	WC:	CCISP
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<u>MARPIL</u>	Marine Piling & Demo Crew	120.00	CH	Prod:	12.0000 S	Lab Pcs:	5.00	Eqp Pcs:	18.00
3WELD	Weld Supplies (1 man-Stick	12.00	DA	70.000		848			848
8211050	Fuel, Oil, Grease 50g/d	12.00	DA	200.000			2,424		2,424
8CRANEC200	Crane Manitowoc 777 20	1.00	120.00	HR	200.743		24,330		24,330
8DRILLR	***DRILLS - ROCK***	1.00	120.00	HR	17.500		2,121		2,121
8MAC-A-10	Compressor 185 CFM	1.00	120.00	HR	3.000		383		383
8MBC-Z-1	Barge Carpenter 12'X40	2.00	240.00	HR	6.500		1,661		1,661
8MBS-Z-17	Spud Barge 170x45' ABS	1.00	120.00	HR	55.000		7,029		7,029
8MBT-Z-12	Tug Push Boat 200 HP	1.00	120.00	HR	20.000		2,556		2,556
8MBW-Z-2	18' Aluminum Boat & O/	1.00	120.00	HR	3.000		383		383
8MCE-A-40	Bucket Clamshell 3 CYD	1.00	120.00	HR	5.000		639		639
8MDH-A-7	DELMAG D19 HAMMER	1.00	120.00	HR	10.000		1,278		1,278
8MFD-A-1	FAIRLEADS	1.00	120.00	HR	0.100		13		13
8MGN-Z-11	Generator 10 KW	1.00	120.00	HR	3.000		383		383
8MLT-A-1	Light Tower, Genie	1.00	120.00	HR	3.500		447		447
8MPE-A-11	Extractor Pile	1.00	120.00	HR	5.000		639		639
8MVP-A-11	FORD F150 SUPERC 10	1.00	120.00	HR	6.500		831		831
8MWH-A-1	WINCH 3-DRUM RB-90	1.00	120.00	HR	10.000		1,278		1,278
8MWM-C-1	Welder Diesel 400 AMP	1.00	120.00	HR	2.500		320		320
8PILE26	Vibro Hammer 150 TN	1.00	120.00	HR	80.944		9,810		9,810
9ADMS11	Substance Crew 5	12.00	DA	750.000		9,090			9,090
CARPJ	==> Carpenter Journeyman	100.00	MH	31.920	5,009				5,009
M100	==> Foreman - Carpenter	100.00	MH	34.720	5,352				5,352
M105	Foreman - General Marine	1.00	120.00	MH	39.030	7,057			7,057
M165	M-Piledriver	1.00	120.00	MH	38.200	7,003			7,003
M170	M-Welder	1.00	120.00	MH	34.960	6,527			6,527
M175	==> M-Carpenter	1.00	100.00	MH	30.070	4,839			4,839
M190	M-Skilled Laborer	1.00	120.00	MH	31.960	5,683			5,683
OPCR100	Op Eng 1A- Crane 100-200	1.00	120.00	MH	36.580	6,765			6,765
\$114,699.78	7.5000 MH/CY	900.00	MH	[287.454]	48,235		9,938	56,526	114,700

325900	Supply 5000 PSI Marine Concrete	Quan:	120.00 CY	Hrs/Shft:	10.00	Cal:	510	WC:	CCISP
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2CR14	5000 PSI Marine@106.5%	1.10	132.00	CY	296.000	42,236			42,236
5CONCPCY	Cubic Yard Charge	1.10	132.00	CY	5.000		660		660
\$42,895.86					[]	42,236	660		42,896

380010	Superstructure Rebar Mooring Cap	Quan:	12,949.00 LBS	Hrs/Shft:	10.00	Cal:	510	WC:	CCISP
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Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
BID ITEM = 2000210										
Description =	Concrete Cap Mooring Dolphin		Land Item Unit =	SCHEDULE: 1 100 CY Takeoff Quan:			120.000	Engr Quan:		120.000
2RR02	Gr 60 Rebar@106.5%	1.05	13,596.45 LB	0.480		7,055				7,055
2RR10	Rebar Supports@106.5%	1.05	13,596.45 LB	0.050		735				735
4REBAR	Rebar Sub	1.05	13,596.45 LB	0.250					3,440	3,440
\$11,229.54				[]		7,790			3,440	11,230
380012	Concrete Pumping		Quan:	2.00 DA	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
5CONCP28M	Concrete Concrete Pump 28		16.00 HR	95.000			1,520			1,520
5CONCPCY	Cubic Yard Charge		120.00 CY	2.250			270			270
\$1,790.00				[]			1,790			1,790
380014	Pavers		Quan:	453.00 SF	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
42PAVERS	Pavers Subcontractor		453.00 SF	25.000					11,461	11,461
=====	Item Totals: 2000210 - Concrete Cap Mooring Dolphin									
\$188,529.98	7.5000 MH/CY		900.00 MH	[287.454]	48,235	50,026	18,842	56,526	14,901	188,530
1,571.083	120 CY				401.96	416.88	157.02	471.05	124.17	1,571.08
BID ITEM = 2000220										
Description =	Floating Fender: Remove, Store and Place		Land Item Unit =	SCHEDULE: 1 100 EA Takeoff Quan:			1.000	Engr Quan:		1.000
630010	Fender Hardware		Quan:	1.00 EA	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
2FENDERHARD	Fender Hardware@106.5%		1.00 LS	2,500.000		2,702				2,702
630011	Remove, Store, Install Fender		Quan:	1.00 EA	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
installation at a rate of 1 per day. all the anchor plates and anchor bolst are embedded into the concrete at the time of pouring the concrete.										
MARPIL	Marine Piling & Demo Crew		10.00 CH	Prod:	1.0000 S	Lab Pcs:	5.00	Eqp Pcs:	18.00	
3WELD	Weld Supplies (1 man-Stick		1.00 DA	70.000			71			71
8211050	Fuel, Oil, Grease 50g/d		1.00 DA	200.000				202		202
8CRANEC200	Crane Manitowoc 777 20	1.00	10.00 HR	200.743				2,027		2,027
8DRILLR	***DRILLS - ROCK***	1.00	10.00 HR	17.500				177		177
8MAC-A-10	Compressor 185 CFM	1.00	10.00 HR	3.000				32		32
8MBC-Z-1	Barge Carpenter 12'X40	2.00	20.00 HR	6.500				138		138
8MBS-Z-17	Spud Barge 170x45' ABS	1.00	10.00 HR	55.000				586		586
8MBT-Z-12	Tug Push Boat 200 HP	1.00	10.00 HR	20.000				213		213
8MBW-Z-2	18' Aluminum Boat & O/	1.00	10.00 HR	3.000				32		32
8MCE-A-40	Bucket Clamshell 3 CYD	1.00	10.00 HR	5.000				53		53
8MDH-A-7	DELMAG D19 HAMMER	1.00	10.00 HR	10.000				107		107
8MFD-A-1	FAIRLEADS	1.00	10.00 HR	0.100				1		1
8MGN-Z-11	Generator 10 KW	1.00	10.00 HR	3.000				32		32
8MLT-A-1	Light Tower, Genie	1.00	10.00 HR	3.500				37		37
8MPE-A-11	Extractor Pile	1.00	10.00 HR	5.000				53		53
8MVP-A-11	FORD F150 SUPERC 10	1.00	10.00 HR	6.500				69		69
8MWH-A-1	WINCH 3-DRUM RB-90	1.00	10.00 HR	10.000				107		107
8MWM-C-1	Welder Diesel 400 AMP	1.00	10.00 HR	2.500				27		27
8PILE26	Vibro Hammer 150 TN	1.00	10.00 HR	80.944				818		818
9ADMS11	Subsistance Crew 5		1.00 DA	750.000			758			758
M105	Foreman - General Marine	1.00	10.00 MH	39.030	588					588
M165	M-Piledriver	1.00	10.00 MH	38.200	584					584
M170	M-Welder	1.00	10.00 MH	34.960	544					544
M190	M-Skilled Laborer	1.00	10.00 MH	31.960	474					474
OPCR100	Op Eng 1A- Crane 100-200	1.00	10.00 MH	36.580	564					564

Activity	Desc	Quantity	Unit	Unit	Perm	Constr	Equip	Sub-	Total
Resource		Pcs		Cost	Labor	Material	Matl/Exp	Ment	Contract
BID ITEM = 2000220									
Description =	Floating Fender: Remove, Store and Place			Land Item Unit =	SCHEDULE: 1	100			
					EA	Takeoff Quan:	1.000	Engr Quan:	1.000
\$8,291.59	50.0000 MH/EA	50.00 MH		[1988.03]	2,753		828	4,710	8,292
=====>	Item Totals: 2000220 - Floating Fender: Remove, Store and Place								
\$10,994.03	50.0000 MH/EA	50.00 MH		[1988.03]	2,753	2,702	828	4,710	10,994
10,994.030	1 EA				2,752.92	2,702.44	828.20	4,710.47	10,994.03

BID ITEM = 2000400				Land Item	SCHEDULE: 1	100			
Description =	Project Close Out			Unit =	LS	Takeoff Quan:	1.000	Engr Quan:	1.000

115000	Remove Fence (Chain Link)			Quan:	160.00 FT	Hrs/Shft:	10.00	Cal: 510	WC: CCISP
<u>MARLAN</u>	Up Land Support Crew		5.00	CH	Prod:	0.5000 S	Lab Pcs:	5.00	Eqp Pcs: 4.00
8211050	Fuel, Oil, Grease 50g/d		0.50	DA	200.000			101	101
8BHL480	BHL Cat 450E 1.75CY	1.00	5.00	HR	56.724			286	286
8CRANERT530	Crane Grove RT530E 30	1.00	5.00	HR	64.705			327	327
8MBC-Z-1	Barge Carpenter 12'X40	1.00	5.00	HR	6.500			35	35
8TRKPU10	Pickup 4x2 3/4 Ton Gas	1.00	5.00	HR	10.867			55	55
9ADMS11	Subsistence Crew 5		16.00	DA	750.000		12,120		12,120
9ADMT08	Craft Subsistence (\$120/D/		0.50	DA	480.000		242		242
M105	Foreman - General Marine	1.00	5.00	MH	39.030	294			294
M195	M-Laborer	2.00	10.00	MH	30.100	451			451
OPCR24	Op Eng 2- Crane 20-44T	1.00	5.00	MH	35.400	275			275
OPEXC3	Op Eng 3- Backhoe to 3Y	1.00	5.00	MH	35.390	275			275
\$14,460.06	0.1562 MH/FT	25.00 MH		[5.845]	1,294		12,362	804	14,460

117035	Remove Barrier			Quan:	160.00 FT	Hrs/Shft:	10.00	Cal: 510	WC: CCISP
<u>MARLAN</u>	Up Land Support Crew		5.00	CH	Prod:	0.5000 S	Lab Pcs:	5.00	Eqp Pcs: 4.00
8211050	Fuel, Oil, Grease 50g/d		0.50	DA	200.000			101	101
8BHL480	BHL Cat 450E 1.75CY	1.00	5.00	HR	56.724			286	286
8CRANERT530	Crane Grove RT530E 30	1.00	5.00	HR	64.705			327	327
8MBC-Z-1	Barge Carpenter 12'X40	1.00	5.00	HR	6.500			35	35
8TRKPU10	Pickup 4x2 3/4 Ton Gas	1.00	5.00	HR	10.867			55	55
9ADMS11	Subsistence Crew 5		16.00	DA	750.000		12,120		12,120
9ADMT08	Craft Subsistence (\$120/D/		0.50	DA	480.000		242		242
M105	Foreman - General Marine	1.00	5.00	MH	39.030	294			294
M195	M-Laborer	2.00	10.00	MH	30.100	451			451
OPCR24	Op Eng 2- Crane 20-44T	1.00	5.00	MH	35.400	275			275
OPEXC3	Op Eng 3- Backhoe to 3Y	1.00	5.00	MH	35.390	275			275
\$14,460.06	0.1562 MH/FT	25.00 MH		[5.845]	1,294		12,362	804	14,460

890010	Subcontractor Pile Crew Demobilization			Quan:	1.00 LS	Hrs/Shft:	10.00	Cal: 510	WC: CCISP
<u>MARPIL</u>	Marine Piling & Demo Crew		10.00	CH	Prod:	1.0000 S	Lab Pcs:	5.00	Eqp Pcs: 18.00
3WELD	Weld Supplies (1 man-Stick		1.00	DA	70.000		71		71
8211050	Fuel, Oil, Grease 50g/d		1.00	DA	200.000			202	202
8CRANEC200	Crane Manitowoc 777 20	1.00	10.00	HR	200.743			2,027	2,027
8DRILLR	***DRILLS - ROCK***	1.00	10.00	HR	17.500			177	177
8MAC-A-10	Compressor 185 CFM	1.00	10.00	HR	3.000			32	32
8MBC-Z-1	Barge Carpenter 12'X40	2.00	20.00	HR	6.500			138	138
8MBS-Z-17	Spud Barge 170x45' ABS	1.00	10.00	HR	55.000			586	586
8MBT-Z-12	Tug Push Boat 200 HP	1.00	10.00	HR	20.000			213	213
8MBW-Z-2	18' Aluminum Boat & O/	1.00	10.00	HR	3.000			32	32
8MCE-A-40	Bucket Clamshell 3 CYD	1.00	10.00	HR	5.000			53	53
8MDH-A-7	DELMAG D19 HAMMER	1.00	10.00	HR	10.000			107	107
8MFD-A-1	FAIRLEADS	1.00	10.00	HR	0.100			1	1

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
BID ITEM = 2000400										
Description =	Project Close Out		Unit =	LS	Takeoff	Quan:	1.000	Engr Quan:		1.000
8MGN-Z-11	Generator 10 KW	1.00	10.00 HR	3.000				32		32
8MLT-A-1	Light Tower, Genie	1.00	10.00 HR	3.500				37		37
8MPE-A-11	Extractor Pile	1.00	10.00 HR	5.000				53		53
8MVP-A-11	FORD F150 SUPERC 10	1.00	10.00 HR	6.500				69		69
8MWH-A-1	WINCH 3-DRUM RB-90	1.00	10.00 HR	10.000				107		107
8MWM-C-1	Welder Diesel 400 AMP	1.00	10.00 HR	2.500				27		27
8PILE26	Vibro Hammer 150 TN	1.00	10.00 HR	80.944				818		818
9ADMS11	Subsistence Crew 5		1.00 DA	750.000			758			758
M105	Foreman - General Marine	1.00	10.00 MH	39.030	588					588
M165	M-Piledriver	1.00	10.00 MH	38.200	584					584
M170	M-Welder	1.00	10.00 MH	34.960	544					544
M190	M-Skilled Laborer	1.00	10.00 MH	31.960	474					474
OPCR100	Op Eng 1A- Crane 100-200	1.00	10.00 MH	36.580	564					564
\$8,291.59	50.0000 MH/LS		50.00 MH	[1988.03]	2,753		828	4,710		8,292
890011	Upland Crew Demob		Quan:	1.00 LS	Hrs/Shft:	10.00	Cal: 510	WC: CCISP		
MARLAN	Up Land Support Crew		10.00 CH	Prod:	1.0000 S	Lab Pcs:	5.00	Eqp Pcs:	4.00	
8211050	Fuel, Oil, Grease 50g/d		1.00 DA	200.000				202		202
8BHLD480	BHL Cat 450E 1.75CY	1.00	10.00 HR	56.724				573		573
8CRANERT530	Crane Grove RT530E 30	1.00	10.00 HR	64.705				654		654
8MBC-Z-1	Barge Carpenter 12'X40	1.00	10.00 HR	6.500				69		69
8TRKPU10	Pickup 4x2 3/4 Ton Gas	1.00	10.00 HR	10.867				110		110
9ADMS11	Subsistence Crew 5		0.10 DA	750.000			76			76
9ADMT08	Craft Subsistence (\$120/D/		1.00 DA	480.000			485			485
M105	Foreman - General Marine	1.00	10.00 MH	39.030	588					588
M195	M-Laborer	2.00	20.00 MH	30.100	902					902
OPCR24	Op Eng 2- Crane 20-44T	1.00	10.00 MH	35.400	549					549
OPEXC3	Op Eng 3- Backhoe to 3Y	1.00	10.00 MH	35.390	549					549
\$4,755.94	50.0000 MH/LS		50.00 MH	[1870.22]	2,588		561	1,607		4,756
=====>	Item Totals:	2000400	- Project Close Out							
\$41,967.65	150.0000 MH/LS		150.00 MH	[5728.49]	7,929		26,114	7,925		41,968
41,967.650	1 LS				7,929.04		26,113.55	7,925.06		41,967.65

\$1,134,837.59 *** Report Totals *** 4,462.50 MH 238,690 227,517 231,822 292,472 144,336 1,134,838

>>> indicates Non Additive Activity

-----Report Notes:-----

The estimate was prepared with TAKEOFF Quantities.
This report shows TAKEOFF Quantities with the resources.

Bid Date: 08/01/14 Owner: Engineering Firm:
Estimator-In-Charge:

JOB NOTES

*****Estimate created on: 03/15/2012 by User#: 612 - John O'Reilly
Source used: Y:\TBG-ENGI\EST MASTERS BACKUP\MASTER12.zip (a backup) from 03/15/2012 10:42:38 AM

*****Estimate created on: 03/15/2012 by User#: 612 - John O'Reilly
Source used: Y:\TBG-ENGI\EST MASTERS BACKUP\MASTER12HB.zip (a backup) from 03/15/2012 11:30:47 AM

*****Estimate created on: 09/13/2012 by User#: 612 - John O'Reilly
Source used: Y:\TBG-ENGI\EST MASTERS BACKUP\MASTER12HB.zip (a backup) from 09/13/2012 12:48:25 PM

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
BID ITEM = 2000400			Land Item	SCHEDULE: 1	100					
Description = Project Close Out			Unit =	LS	Takeoff	Quan:	1.000	Engr Quan:		1.000

*****Estimate created on: 09/13/2012 by User#: 612 - John O'Reilly
Source used: Y:\TBG-ENGI\EST MASTERS BACKUP\MASTER12HH.zip (a backup) from 09/13/2012 12:52:10 PM

*****Estimate created on: 10/30/2012 by User#: 612 - John O'Reilly
Source estimate used: Y:\TBG-ENGI\EST\MASTER12PM

*****Estimate created on: 10/31/2012 by User#: 612 - John O'Reilly
Source used: Y:\TBG-ENGI\EST BACKUPS\12-55A.zip (a backup) from 10/31/2012 1:01:03 PM

*****Estimate created on: 01/08/2013 by User#: 657 - Jorge Abisambra
Source estimate used: Y:\TBG-ENGI\EST\12-060A

*****Estimate created on: 07/03/2013 by User#: 657 - Jorge Abisambra
Source estimate used: Y:\TBG-ENGI\EST\13-002

*****Estimate created on: 08/29/2013 by User#: 657 - Jorge Abisambra
Source estimate used: Y:\TBG-ENGI\EST\13-034

*****Estimate created on: 03/10/2016 by User#: 657 - Jorge Abisambra
Source estimate used: Y:\TBG-ENGI\EST\13-034A

* on units of MH indicate average labor unit cost was used rather than base rate.

[] in the Unit Cost Column = Labor Unit Cost Without Labor Burdens

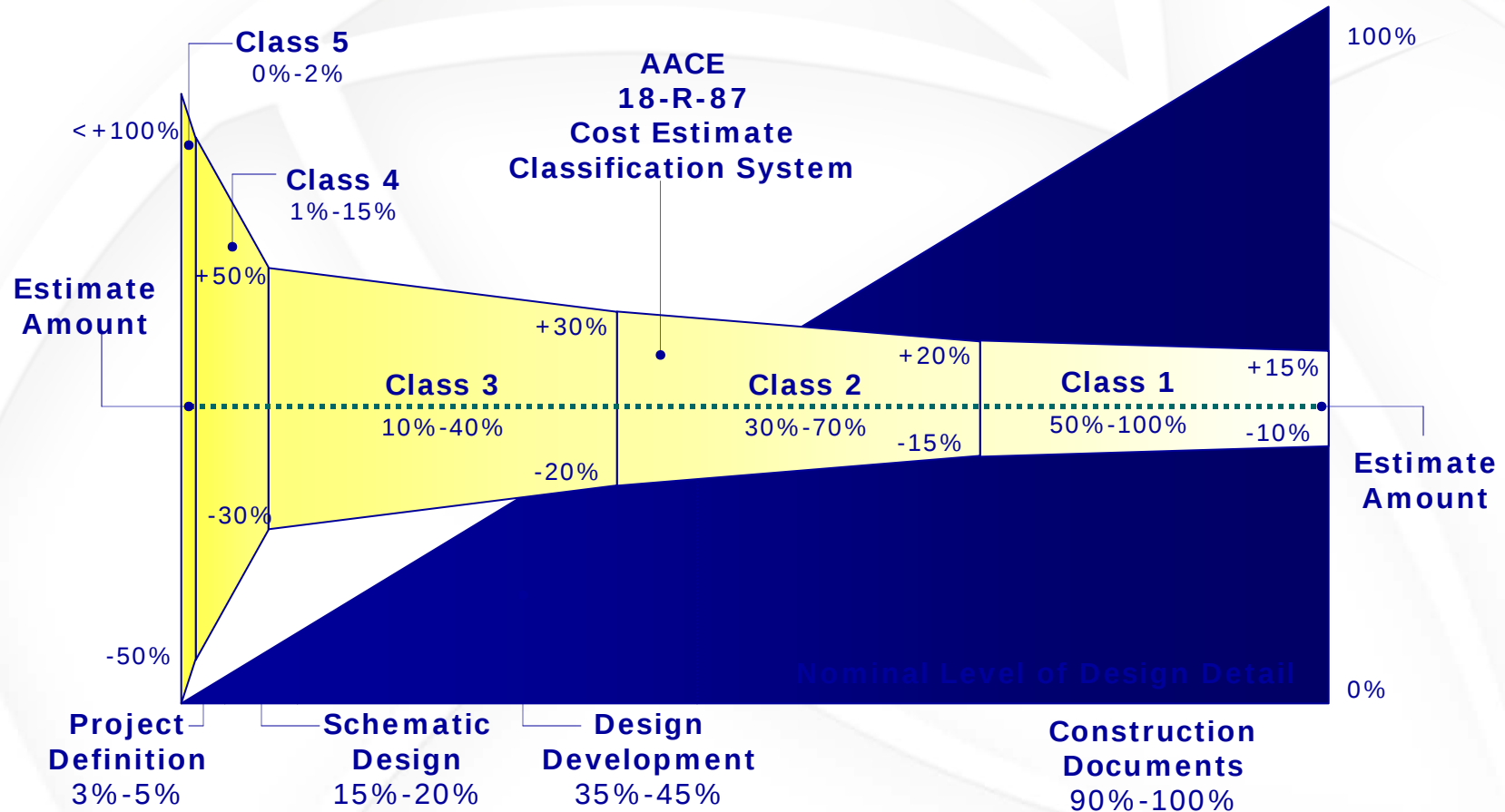
In equipment resources, rent % and EOE % not = 100% are represented as XXX%YYY where XXX=Rent% and YYY=EOE%

-----Calendar Codes-----

410	4 Nights @ 10 hrs/night
508	5 days @ 8hrs/day
509	5 days @ 9 hrs/day
510	5 days @ 10hrs/day (Default Calendar)
608	6 Days @ 8 hrs/day
610	6 Days @ 10 hrs/day

APPENDIX E - Estimate Class and Accuracy Terms

AACE – Classification System



Construction Cost Estimate Accuracy Ranges

Estimate Class	Class 5	Class 4	Class 3	Class 2	Class 1
LEVEL OF PROJECT DEFINITION Expressed as a % of complete definition	0% to 2%	1% to 15%	10% to 40%	30% to 70%	50% to 100%
END USAGE Typical Purpose of Estimate	Concept Screening	Study or Feasibility	Budget Authorization, or Control	Control or Bid / Tender	Check Estimate or Bid / Tender
METHODOLOGY Typical estimating method	Capacity Factored, Parametric Models, Judgment, or Analogy	Equipment Factored or Parametric Models	Semi-Detailed Unit Costs with Assembly Level Line Items	Detailed Unit Cost with Forced Detailed Take-Off	Detailed Unit Cost with Detailed Take-Off
EXPECTED ACCURACY RANGE Typical variation in low and high ranges [a]	L: -20% to -50% H: +30% to +100%	L: -15% to -30% H: +20% to +50%	L: -10% to -20% H: +10% to +30%	L: -5% to -15% H: +5% to +20%	L: -3% to -10% H: +3% to +15%
PREPARATION EFFORT Typical degree of effort relative to least cost index of 1 [b]	1	2 to 4	3 to 10	4 to 20	5 to 100
REFINED CLASS DEFINITION	Class 5 estimates are generally prepared based on very limited information, and subsequently have very wide accuracy ranges. As such, some companies and organizations have elected to determine that due to the inherent inaccuracies, such estimates cannot be classified in a conventional and systematic manner. Class 5 estimates, due to the requirements of end use, may be prepared within a very limited amount of time and with very little effort expended - sometimes requiring less than 1 hour to prepare. Often, little more than proposed plant type, location, and capacity are known at the time of estimate preparation.	Class 4 estimates are generally prepared based on very limited information, and subsequently have very wide accuracy ranges. They are typically used for project screening, determination of feasibility, concept evaluation, and preliminary budget approval. Typically, engineering is from 1% to 5% complete, and would comprise at a minimum the following: plant capacity, block schematics, indicated layout, process flow diagrams (PFDs) for main process systems and preliminary engineered process and utility equipment lists. Level of Project Definition Required: 1% to 15% of full project definition.	Class 3 estimates are generally prepared to form the basis for budget authorization, appropriation, and/or funding. As such, they typically form the initial control estimate against which all actual costs and resources will be monitored. Typically, engineering is from 10% to 40% complete, and would comprise at a minimum the following: process flow diagrams, utility flow diagrams, preliminary piping and instrument diagrams, utility flow diagrams, preliminary piping and instrument diagrams, plot plan, developed layout drawings, and essentially complete engineering process and utility equipment lists. Level Of Project Definition Required: 10% to 40% of full project definition.	Class 2 estimates are generally prepared to form a detailed control baseline against which all project work is monitored in terms of cost and progress control. For contractors, this class of estimate is often used as the "bid" estimate to establish contract value. Typically, engineering is from 30% to 70% complete, and would comprise at a minimum the following: Process flow diagrams, utility flow diagrams, piping and instrument flow diagrams, heat and material balances, final plot plan, final layout drawings, complete engineered process and utility equipment lists, single line diagrams for electrical, electrical equipment and motor schedules, vendor quotations, detailed project execution plans, resourcing and work force plans, etc.	Class 1 estimates are generally prepared for discrete parts or sections of the total project rather than generating this level of detail for the entire project. The parts of the project estimated at this level of detail will typically be used by subcontractors for bids, or by owners for check estimates. The updated estimate is often referred to as the current control estimate and becomes the new baseline for cost/schedule control of the project. Class 1 estimates may be prepared for parts of the project to comprise a fair price estimate or bid check estimate to compare against a contractor's bid estimate, or to evaluate/dispute claims. Typically, engineering is from 50% to 100% complete, and would comprise virtually all engineering and design documentation of the project, and complete project execution and commissioning plans. Level for Project Definition Required: 50% to 100% of full project definition.
END USAGE DEFINED	Class 5 estimates are prepared for any number of strategic business planning purposes, such as but not limited to market studies, assessment of initial viability, evaluation of alternate schemes, project screening, project location studies, evaluation of resource needs and budgeting, long-range capital planning, etc.	Class 4 estimates are prepared for a number of purposes, such as but not limited to, detailed strategic planning, business development, project screening at more developed stages, alternative scheme analysis, confirmation of economic and/or technical feasibility, and preliminary budget approval or approval to proceed to next stage.	Class 3 estimates are typically prepared to support full project funding requests, and become the first of the project phase "control estimate" against which all actual costs and resources will be monitored for variations to the budget. They are used as the project budget until replaced by more detailed estimates. In many owner organizations, a Class 3 estimate may be the last estimate required and could well form the only basis for cost/schedule control.	Class 2 estimates are typically prepared as the detailed control baseline against which all actual costs an resources will now be monitored for variation to the budget, and form a part of the change/variation control program.	Class 1 estimates are typically prepared to form a current control estimate to be used as the final control baseline against which all actual coasts and resources will now be monitored for variations to the budget, and form a part of the change/variation control program. They may be used to evaluate bid checking, to support vendor/contractor negotiations, or for claim evaluations and dispute resolution.
ESTIMATING METHODS USED	Class 5 estimates virtually always use stochastic estimating methods such as cost/capacity curves and factors, scale of operations factors, Lang factors, Hand factors, Chilton factors, Peters-Timmerhaus factors, Guthrie factors, and other parametric and modeling techniques.	Class 4 estimates virtually always use stochastic estimating methods such as cost/capacity curves and factors, scale of operations factors, Lang factors, Hand factors, Chilton factors, Peters-Timmerhaus factors, Guthrie factors, the Miller method, gross unit costs/ratios, and other parametric and modeling techniques.	Class 3 estimates usually involve more deterministic estimating methods that stochastic methods. They usually involve a high degree of unit cost line items, although these may be at an assembly level of detail rather than individual components. Factoring and other stochastic methods may be used to estimate less-significant areas of the project.	Class 2 estimates always involve a high degree of deterministic estimating methods. Class 2 estimates are prepared in great detail, and often involve tens of thousands of unit cost line items. For those areas of the project still undefined, an assumed level of detailed takeoff (forced detail) may be developed to use as line items in the estimate instead of relying on factoring methods.	Class 1 estimates involve the highest degree of deterministic estimating methods, and require a great amount of effort. Class 1 estimates are prepared in great detail, and thus are usually performed on only the most important or critical areas of the project. All items in the estimate are usually unit cost line items based on actual design quantities.
EXPECTED ACCURACY RANGE	Typical accuracy ranges for Class 5 estimates are -20% to -50% on the low side, and +30% to +100% on the high side, depending on the technological complexity of the project, appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 4 estimates are -15% to -30% on the low side, and +20% to +50% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 3 estimates are -10% to -20% on the low side, and +10% to +30% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 2 estimates are -5% to -15% on the low side, and +5% to +20% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.	Typical accuracy ranges for Class 1 estimates are -3% to -10% on the low side, and +3% to +15% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.
EFFORT TO PREPARE (for US\$20MM project):	As little as 1 hour or less to prepare to perhaps more than 200 hours, depending on the project and the estimating methodology used.	Typically, as little as 20 hours or less to perhaps more than 300 hours, depending on the project and the estimating methodology used.	Typically, as little as 150 hours or less to perhaps more than 1500 hours, depending on the project and the estimating methodology used.	Typically, as little as 300 hours or less to perhaps more than 3000 hours, depending on the project and the estimating methodology used. Bid Estimates typically require more effort than estimates used for funding or control purposes	Class 1 estimates require the most effort to create, and as such are generally developed for only selected areas of the project, or for bidding purposes. A complete Class 1 estimate may involve as little as 600 hours or less, to perhaps more than 6,000 hours, depending on the project and the estimating methodology used. Bid estimate typically require more effort than estimates used for funding or control purposes.
ANSI Standard Reference Z94.2-1989 name; Alternate Estimate Names, Terms, Expressions, Synonyms:	Order of Magnitude Estimate; Ratio, ballpark, blue sky, seat-of-pants, ROM, idea study, prospect estimate, concession license estimate, guesstimate, rule-of thumb.	Budget Estimate; Screening, top-down, feasibility, authorization, factored, pre-design, pre-study.	Budget Estimate; Budget, scope, sanction, semi-detailed, authorization, preliminary control, concept study, development, basic engineering phase estimate, target estimate.	Definitive Estimate; Detailed Control, forced detail, execution phase, master control, engineering, bid, tender, change order estimate.	Definitive Estimate; Full detail, release, fall-out, tender, firm price, bottoms-up, final, detailed control, forced detail, execution phase, master control, fair price, definitive, change order estimate.

Estimate Class	Class 5	Class 4	Class 3	Class 2	Class 1
Estimate Input Checklist and Maturity Index	Class 5	Class 4	Class 3	Class 2	Class 1
GENERAL PROJECT DATA					
Project Scope Description	General	Preliminary	Defined	Defined	Defined
Plant Production / Facility Capacity	Assumed	Preliminary	Defined	Defined	Defined
Plant Location	General	Approximate	Specific	Specific	Specific
Soils & Hydrology	None	Preliminary	Defined	Defined	Defined
Integrated Project Plan	None	Preliminary	Defined	Defined	Defined
Project Master Schedule	None	Preliminary	Defined	Defined	Defined
Escalation Strategy	None	Preliminary	Defined	Defined	Defined
Work Breakdown Structure	None	Preliminary	Defined	Defined	Defined
Project Code of Accounts	None	Preliminary	Defined	Defined	Defined
Contracting Strategy	Assumed	Assumed	Preliminary	Defined	Defined
ENGINEERING DELIVERABLES:	Class 5	Class 4	Class 3	Class 2	Class 1
Block Flow Diagrams	Started / Preliminary	Preliminary / Complete	Complete	Complete	Complete
Plot Plans		Started	Preliminary / Complete	Complete	Complete
Process Flow Diagrams (PFDs)		Started / Preliminary	Preliminary / Complete	Complete	Complete
Utility Flow Diagrams (UFDs)		Started / Preliminary	Preliminary / Complete	Complete	Complete
Piping & Instrument Diagrams (P&IDS)		Started	Preliminary / Complete	Complete	Complete
Heat and Material Balances		Started	Preliminary / Complete	Complete	Complete
Process Equipment List		Started / Preliminary	Preliminary / Complete	Complete	Complete
Utility Equipment List		Started / Preliminary	Preliminary / Complete	Complete	Complete
Electrical One Line Drawings		Started / Preliminary	Preliminary / Complete	Complete	Complete
Specifications and Datasheets		Started	Preliminary / Complete	Complete	Complete
General Equipment Arrangement Drawings		Started	Preliminary / Complete	Complete	Complete
Spare Parts Lists			Started / Preliminary	Preliminary	Complete
Architectural Details / Schedules		Started	Preliminary / Complete	Complete	Complete
Structural Details		Started	Preliminary / Complete	Complete	Complete
Mechanical Discipline Drawings			Started	Preliminary	Preliminary / Complete
Electrical Discipline Drawings			Started	Preliminary	Preliminary / Complete
System Discipline Drawings			Started	Preliminary	Preliminary / Complete
Civil/Site Discipline Drawings			Started	Preliminary	Preliminary / Complete
Demolition Details		Started	Preliminary / Complete	Complete	Complete