

## 8.4 Detailed Cost Estimates – Graving Basins / Finger Piers



07/01/2025 13:50  
 2025-051 Port of Richmond Repairs  
 \*\*\* Bryan Haynes

**BID TOTALS**

<u>Biditem</u>	<u>Description</u>	<u>Status - Rnd</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Bid Total</u>
Project 10						
1010	Cribbing		26.000	LOC	3,685.63	95,826.38
1020	Steel Covers		6.000	LOC	14,379.42	86,276.52
Project 10						\$182,102.90
Project 11						
2100	Mooring Hardware		80.000	EA	14,169.70	1,133,576.00
2200	Foam Filled Fenders		80.000	EA	26,430.28	2,114,422.40
Project 11						\$3,247,998.40
Project 12						
3010	Column Repairs		151.000	LOC	18,584.73	2,806,294.23
3020	Soffitt Repairs (Shotcrete)		138.000	LOC	3,885.45	536,192.10
3030	Column Replacement		13.000	LOC	10,320.27	134,163.51
Project 12						\$3,476,649.84
Project 13						
4010	18" Diameter FRP Pile		1,080.000	LF	2,208.44	2,385,115.20
4020	16" Diameter Steel Pile		1,080.000	LF	2,076.09	2,242,177.20
Project 13						\$4,627,292.40
Project 14						
5010	Logitudinal Beams (F&P) Repair		60.000	LOC	83,738.52	5,024,311.20
5020	Transverse Beams (F&P) Repair		10.000	LOC	100,469.92	1,004,699.20
5030	18" Pile Replacement		1.000	LOC	278,761.61	278,761.61
5040	End of Pier Fender Piles		50.000	LF	2,748.97	137,448.50
5050	Nonstructural Pile Jacket		48.000	EA	22,304.18	1,070,600.64



**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
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**BID ITEM = 1010** Land Item SCHEDULE: 1 100  
 Description = Cribbing Unit = LOC Takeoff Quan: 26.000 Engr Quan: 26.000

**1000.01 Materials** **Quan: 26.00 LOC Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

2-12X12TIMBE	12 x 12 Timber@109.75%	1.00	78.00 EA	350.000							29,962
2-3/4"ALL	3/4" All Threa@109.75%	1.00	156.00 EA	30.000							5,136
2-3/4NUT	3/4" Nut@109.75%	1.00	312.00 EA	1.500							514
2-3/4WASH	3/4" Washers@109.75%	1.00	156.00 EA	1.000							171
2-ULTRABOND1	Ultrabond 1@109.75%	1.00	156.00 EA	55.000							9,417
\$45,199.44				[ ]							45,199

**1000.02 Drill and Epoxy Holes** **Quan: 156.00 EA Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

Figure 5 Mins/Hole \* 156 = 780 Mins = 13 HRs

CRIB	Cribbin Crew			13.00 CH	Prod: 12.0000 UH	Lab Pcs:	5.00	Eqp Pcs:	6.00		
803AC0250	Portable Air Comp - 25	1.00	13.00 HR		36.929			105	421		527
809SSL0262C	CAT 262C Skid Steer Lo	1.00	13.00 HR		53.353			301	460		761
811SGS2500D	2500w Small GenSet	1.00	13.00 HR		3.830			12	43		55
820OHLDTC421	LD Truck 4x2 1t	1.00	13.00 HR		34.824			63	433		497
822_45'ML	45' Articulating Manli	1.00	13.00 HR		42.485			327	279		606
822_SMTOOL-2	Small Tools_Concrete	1.00	13.00 HR		13.000			169			169
CA01	Carpenter Foreman	1.00	13.00 MH		70.410	1,851					1,851
CA02	Carpenter	4.00	52.00 MH		64.010	6,899					6,899
\$11,364.51	0.4166 MH/EA		65.0000MH		[ 29.925 ]	8,750		978	1,637		11,365

**1000.03 Install Cribbing** **Quan: 26.00 LOC Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

CRIB	Cribbin Crew			26.00 CH	Prod: 1.0000 HU	Lab Pcs:	5.00	Eqp Pcs:	6.00		
803AC0250	Portable Air Comp - 25	1.00	26.00 HR		36.929			211	843		1,054
809SSL0262C	CAT 262C Skid Steer Lo	1.00	26.00 HR		53.353			603	920		1,522
811SGS2500D	2500w Small GenSet	1.00	26.00 HR		3.830			24	85		109
820OHLDTC421	LD Truck 4x2 1t	1.00	26.00 HR		34.824			127	867		994
822_45'ML	45' Articulating Manli	1.00	26.00 HR		42.485			654	559		1,212
822_SMTOOL-2	Small Tools_Concrete	1.00	26.00 HR		13.000			338			338
CA01	Carpenter Foreman	1.00	26.00 MH		70.410	3,701					3,701
CA02	Carpenter	4.00	104.00 MH		64.010	13,798					13,798
\$22,729.16	5.0000 MH/LOC		130.0000MH		[ 359.095 ]	17,500		1,956	3,273		22,729

=====> **Item Totals: 1010 - Cribbing**

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 1010</b>			Land Item	SCHEDULE: 1	100						
Description =	Cribbing			Unit = LOC	Takeoff Quan:	26.000	Engr Quan:	26.000			
\$79,293.11	7.5000 MH/LOC		195.00MH	[ 538.642 ]	26,250	45,199		2,934	4,910		<b>79,293</b>
3,049.735	26 LOC				1,009.60	1,738.44		112.85	188.84		3,049.74

<b>BID ITEM = 1020</b>			Land Item	SCHEDULE: 1	100						
Description =	Steel Covers			Unit = LOC	Takeoff Quan:	6.000	Engr Quan:	6.000			

1010.01	Steel Covers Materials	Quan:	30.00	EA	Hrs/Shft:	10.00	Cal:	50S	WC:	MARINE
2-PLTSTL	Steel Cover Pl@109.75%	1.00	1,026.00	LB	10.000		11,260			11,260
2-SSTANCHO	SST Titan HD A@109.75%	1.00	120.00	EA	10.000		1,317			1,317
2-STLFRT	Steel Freight @109.75%	1.00	1.00	EA	5,000.000		5,488			5,488
\$18,064.85					[ ]		18,065			18,065

1010.02	Unload Trucks	Quan:	1.00	EA	Hrs/Shft:	10.00	Cal:	50S	WC:	MARINE	
<u>CRIB</u>	Cribbin Crew	1.00	CH	<b>Prod:</b>	<b>1.0000</b>	HU	Lab Pcs:	5.00	Eqp Pcs:	6.00	
803AC0250	Portable Air Comp - 25	1.00	1.00	HR	36.929				8	32	41
809SSL0262C	CAT 262C Skid Steer Lo	1.00	1.00	HR	53.353				23	35	59
811SGS2500D	2500w Small GenSet	1.00	1.00	HR	3.830				1	3	4
820OHLDTC421	LD Truck 4x2 1t	1.00	1.00	HR	34.824				5	33	38
822_45'ML	45' Articulating Manli	1.00	1.00	HR	42.485				25	21	47
822_SMTOOL-2	Small Tools_Concrete	1.00	1.00	HR	13.000				13		13
CA01	Carpenter Foreman	1.00	1.00	MH	70.410		142				142
CA02	Carpenter	4.00	4.00	MH	64.010		531				531
\$874.09	5.0000 MH/EA		5.0000MH		[ 359.09 ]		673		75	126	874

1010.03	Clean off and Install Cover Plates	Quan:	30.00	EA	Hrs/Shft:	10.00	Cal:	50S	WC:	MARINE	
<u>CRIB</u>	Cribbin Crew	60.00	CH	<b>Prod:</b>	<b>2.0000</b>	HU	Lab Pcs:	5.00	Eqp Pcs:	6.00	
803AC0250	Portable Air Comp - 25	1.00	60.00	HR	36.929				487	1,945	2,432
809SSL0262C	CAT 262C Skid Steer Lo	1.00	60.00	HR	53.353				1,391	2,122	3,513
811SGS2500D	2500w Small GenSet	1.00	60.00	HR	3.830				55	197	252
820OHLDTC421	LD Truck 4x2 1t	1.00	60.00	HR	34.824				293	2,000	2,293
822_45'ML	45' Articulating Manli	1.00	60.00	HR	42.485				1,508	1,289	2,798
822_SMTOOL-2	Small Tools_Concrete	1.00	60.00	HR	13.000				780		780
CA01	Carpenter Foreman	1.00	60.00	MH	70.410		8,541				8,541
CA02	Carpenter	4.00	240.00	MH	64.010		31,843				31,843

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 1020</b>			Land Item	SCHEDULE: 1	100						
Description =	Steel Covers			Unit =	LOC	Takeoff Quan:	6.000	Engr Quan:	6.000		
\$52,452.07	10.0000 MH/EA		300.0000MH	[ 718.19 ]	40,384			4,514	7,554		52,452
<b>====&gt; Item Totals: 1020 - Steel Covers</b>											
\$71,391.01	50.8333 MH/LOC		305.00MH	[ 3650.798 ]	41,057	18,065		4,589	7,680		<b>71,391</b>
11,898.502	6 LOC				6,842.85	3,010.81		764.90	1,279.94		11,898.50

<b>BID ITEM = 2100</b>			Land Item	SCHEDULE: 1	100						
Description =	Mooring Hardware			Unit =	EA	Takeoff Quan:	80.000	Engr Quan:	80.000		
<b>2100.01</b>	<b>Materials</b>			<b>Quan:</b>	<b>80.00 EA</b>	<b>Hrs/Shft:</b>	<b>10.00</b>	<b>Cal:</b>	<b>50S</b>	<b>WC: MARINE</b>	
2-BITBOLLARD	50 Ton Bit Bol@109.75%	1.00	80.00 EA	5,000.000			439,000				439,000
2-ULTRABOND1	Ultrabond 1@109.75%	1.00	1,920.00 EA	55.000			115,896				115,896
2C0006	5000 PSI Concr@109.75%	1.00	48.00 CY	225.000			11,853				11,853
2C0010	Delivery Chrg@109.75%	1.00	5.00 LD	200.000			1,098				1,098
2C0FUEL/ENV	Concrete Fuel/@109.75%	1.00	48.00 CY	10.000			527				527
2CCGROUTC	Cementitious Gr@109.75%	1.00	40.00 CF	20.000			878				878
2CR060	Gr 60 Rebar@109.75%	1.00	2.88 TON	2,000.000			6,322				6,322
2CRACC	Rebar Accessor@109.75%	1.00	2.88 TON	100.000			316				316
3F120	Wood Wall Form@109.75	1.00	1,280.00 SF	8.000				11,238			11,238
3FA100	Formwork Acces@109.75%	1.00	1,280.00 SF	1.000				1,405			1,405
3P&PSUP	Point & Patch @109.75%	1.00	2,560.00 SF	0.500				1,405			1,405
\$589,936.98				[ ]			575,889	14,048			589,937

<b>2100.02</b>	<b>Fab Forms</b>			<b>Quan:</b>	<b>1,280.00 SF</b>	<b>Hrs/Shft:</b>	<b>10.00</b>	<b>Cal:</b>	<b>50S</b>	<b>WC: MARINE</b>	
Figure 4'x4'x1'											
<b>CRIB</b>	Cribbin Crew		40.00 CH	<b>Prod:</b>	<b>32.0000 UH</b>	Lab Pcs:	5.00	Eqp Pcs:	6.00		
803AC0250	Portable Air Comp - 25	1.00	40.00 HR	36.929				325	1,297		1,621
809SSL0262C	CAT 262C Skid Steer Lo	1.00	40.00 HR	53.353				927	1,415		2,342
811SGS2500D	2500w Small GenSet	1.00	40.00 HR	3.830				37	131		168
820OHLDTC421	LD Truck 4x2 1t	1.00	40.00 HR	34.824				195	1,334		1,529
822_45'ML	45' Articulating Manli	1.00	40.00 HR	42.485				1,006	860		1,865
822_SMT00L-2	Small Tools Concrete	1.00	40.00 HR	13.000				520			520
CA01	Carpenter Foreman	1.00	40.00 MH	70.410		5,694					5,694
CA02	Carpenter	4.00	160.00 MH	64.010		21,228					21,228
\$34,968.01	0.1562 MH/SF		200.0000MH	[ 11.222 ]		26,923		3,009	5,036		34,968

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
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**BID ITEM = 2100**  
 Description = Mooring Hardware  
 Land Item SCHEDULE: 1 100  
 Unit = EA Takeoff Quan: 80.000 Engr Quan: 80.000

**2100.025 Set Forms** **Quan: 1,280.00 SF** **Hrs/Shft: 10.00** **Cal: 50S** **WC: MARINE**

CRIB	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
803AC0250	Portable Air Comp - 25	1.00	40.00 HR	36.929				325	1,297		1,621
809SSL0262C	CAT 262C Skid Steer Lo	1.00	40.00 HR	53.353				927	1,415		2,342
811SGS2500D	2500w Small GenSet	1.00	40.00 HR	3.830				37	131		168
820OHLDTC421	LD Truck 4x2 1t	1.00	40.00 HR	34.824				195	1,334		1,529
822_45'ML	45' Articulating Manli	1.00	40.00 HR	42.485				1,006	860		1,865
822_SMTOOL-2	Small Tools_Concrete	1.00	40.00 HR	13.000				520			520
CA01	Carpenter Foreman	1.00	40.00 MH	70.410	5,694						5,694
CA02	Carpenter	4.00	160.00 MH	64.010	21,228						21,228
\$34,968.01	0.1562 MH/SF		200.0000MH	[ 11.222 ]	26,923			3,009	5,036		34,968

**2100.03 Drill & Epoxy Dowels** **Quan: 1,920.00 EA** **Hrs/Shft: 10.00** **Cal: 50S** **WC: MARINE**

Figure 5 Mins/EA \* 1920 = 9600 Mins = 160 Hrs

CRIB	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
803AC0250	Portable Air Comp - 25	1.00	160.00 HR	36.929				1,298	5,187		6,485
809SSL0262C	CAT 262C Skid Steer Lo	1.00	160.00 HR	53.353				3,710	5,659		9,369
811SGS2500D	2500w Small GenSet	1.00	160.00 HR	3.830				147	525		673
820OHLDTC421	LD Truck 4x2 1t	1.00	160.00 HR	34.824				781	5,334		6,115
822_45'ML	45' Articulating Manli	1.00	160.00 HR	42.485				4,022	3,438		7,460
822_SMTOOL-2	Small Tools_Concrete	1.00	160.00 HR	13.000				2,080			2,080
CA01	Carpenter Foreman	1.00	160.00 MH	70.410	22,777						22,777
CA02	Carpenter	4.00	640.00 MH	64.010	84,914						84,914
\$139,872.28	0.4166 MH/EA		800.0000MH	[ 29.925 ]	107,691			12,038	20,144		139,872

**2100.04 Unload & Handle Rebar** **Quan: 2.88 TN** **Hrs/Shft: 10.00** **Cal: 50S** **WC: MARINE**

CRIB	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
803AC0250	Portable Air Comp - 25	1.00	0.23 HR	36.929				2	7		9
809SSL0262C	CAT 262C Skid Steer Lo	1.00	0.23 HR	53.353				5	8		13
811SGS2500D	2500w Small GenSet	1.00	0.23 HR	3.830					1		1
820OHLDTC421	LD Truck 4x2 1t	1.00	0.23 HR	34.824				1	8		9
822_45'ML	45' Articulating Manli	1.00	0.23 HR	42.485				6	5		11
822_SMTOOL-2	Small Tools_Concrete	1.00	0.23 HR	13.000				3			3
CA01	Carpenter Foreman	1.00	0.23 MH	70.410	33						33
CA02	Carpenter	4.00	0.92 MH	64.010	122						122

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 2100</b>			Land Item	SCHEDULE: 1 100							
Description =	Mooring Hardware		Unit = EA	Takeoff Quan:		80.000	Engr Quan:		80.000		
\$200.99	0.3993 MH/TN		1.1500MH	[ 28.677 ]	155			17	29		201
<b>2100.05</b>	<b>Install Rebar</b>			<b>Quan: 5,760.00 LBS</b>	<b>Hrs/Shft: 10.00</b>	<b>Cal: 50S</b>	<b>WC: MARINE</b>				
4REBAR	Rebar Sub	1.00	5,760.00 LBS	2.000						11,520	11,520
<b>2100.06</b>	<b>Pour &amp; Finish Pedestal</b>			<b>Quan: 80.00 EA</b>	<b>Hrs/Shft: 10.00</b>	<b>Cal: 50S</b>	<b>WC: MARINE</b>				
Figure Pour & Finish Each Pedistal at 0.5 HRS/EA											
<u>CRIB</u>	Cribbin Crew		40.00 CH	<b>Prod: 0.5000 HU</b>	Lab Pcs:	5.00	Eqp Pcs:	6.00			
803AC0250	Portable Air Comp - 25	1.00	40.00 HR	36.929			325	1,297			1,621
809SSL0262C	CAT 262C Skid Steer Lo	1.00	40.00 HR	53.353			927	1,415			2,342
811SGS2500D	2500w Small GenSet	1.00	40.00 HR	3.830			37	131			168
820OHLDTC421	LD Truck 4x2 1t	1.00	40.00 HR	34.824			195	1,334			1,529
822_45'ML	45' Articulating Manli	1.00	40.00 HR	42.485			1,006	860			1,865
822_SMTOOL-2	Small Tools_Concrete	1.00	40.00 HR	13.000			520				520
CA01	Carpenter Foreman	1.00	40.00 MH	70.410	5,694						5,694
CA02	Carpenter	4.00	160.00 MH	64.010	21,228						21,228
\$34,968.01	2.5000 MH/EA		200.0000MH	[ 179.548 ]	26,923		3,009	5,036			34,968
<b>2100.07</b>	<b>Strip Forms</b>			<b>Quan: 1,280.00 SF</b>	<b>Hrs/Shft: 10.00</b>	<b>Cal: 50S</b>	<b>WC: MARINE</b>				
<u>CRIB</u>	Cribbin Crew		20.00 CH	<b>Prod: 64.0000 UH</b>	Lab Pcs:	5.00	Eqp Pcs:	6.00			
803AC0250	Portable Air Comp - 25	1.00	20.00 HR	36.929			162	648			811
809SSL0262C	CAT 262C Skid Steer Lo	1.00	20.00 HR	53.353			464	707			1,171
811SGS2500D	2500w Small GenSet	1.00	20.00 HR	3.830			18	66			84
820OHLDTC421	LD Truck 4x2 1t	1.00	20.00 HR	34.824			98	667			764
822_45'ML	45' Articulating Manli	1.00	20.00 HR	42.485			503	430			933
822_SMTOOL-2	Small Tools_Concrete	1.00	20.00 HR	13.000			260				260
CA01	Carpenter Foreman	1.00	20.00 MH	70.410	2,847						2,847
CA02	Carpenter	4.00	80.00 MH	64.010	10,614						10,614
\$17,483.99	0.0781 MH/SF		100.0000MH	[ 5.611 ]	13,461		1,505	2,518			17,484
<b>2100.08</b>	<b>Point &amp; Patch</b>			<b>Quan: 2,560.00 SF</b>	<b>Hrs/Shft: 10.00</b>	<b>Cal: 50S</b>	<b>WC: MARINE</b>				
<u>P&amp;P</u>	Point & Patch Crew		10.24 CH	<b>Prod: 250.0000 UH</b>	Lab Pcs:	3.00	Eqp Pcs:	4.00			
803AC0250	Portable Air Comp - 25	1.00	10.24 HR	36.929			83	332			415
811SGS2500D	2500w Small GenSet	1.00	10.24 HR	3.830			9	34			43
820OHLDTC421	LD Truck 4x2 1t	1.00	10.24 HR	34.824			50	341			391
822_SMTOOL-2	Small Tools_Concrete	1.00	10.24 HR	13.000			133				133

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 2100</b>											
Description =	Mooring Hardware		Land Item	SCHEDULE: 1	100						
			Unit =	EA	Takeoff Quan:	80.000	Engr Quan:		80.000		
CM01	Cement Mason Foreman	1.00	10.24 MH	49.000	1,075						1,075
CM02	Cement Mason	2.00	20.48 MH	47.000	2,087						2,087
\$4,144.42	0.0120 MH/SF		30.7200MH	[ 0.629 ]	3,162			276	707		4,144
<b>2100.09 Unload &amp; Install Bollards</b>											
				<b>Quan:</b>	<b>80.00 EA</b>	<b>Hrs/Shft:</b>	<b>10.00</b>	<b>Cal:</b>	<b>50S</b>	<b>WC:</b>	<b>MARINE</b>
<u>CRIB</u>	Cribbin Crew		80.00 CH	<b>Prod:</b>	<b>1.0000 HU</b>	Lab Pcs:	5.00	Eqp Pcs:	6.00		
803AC0250	Portable Air Comp - 25	1.00	80.00 HR	36.929				649	2,593		3,242
809SSL0262C	CAT 262C Skid Steer Lo	1.00	80.00 HR	53.353				1,855	2,830		4,684
811SGS2500D	2500w Small GenSet	1.00	80.00 HR	3.830				74	263		336
820OHLDTC421	LD Truck 4x2 1t	1.00	80.00 HR	34.824				390	2,667		3,058
822_45'ML	45' Articulating Manli	1.00	80.00 HR	42.485				2,011	1,719		3,730
822_SMT00L-2	Small Tools_Concrete	1.00	80.00 HR	13.000				1,040			1,040
CA01	Carpenter Foreman	1.00	80.00 MH	70.410	11,389						11,389
CA02	Carpenter	4.00	320.00 MH	64.010	42,457						42,457
\$69,936.10	5.0000 MH/EA		400.0000MH	[ 359.095 ]	53,845			6,019	10,072		69,936
<b>=====&gt; Item Totals: 2100 - Mooring Hardware</b>											
\$937,998.79	24.1483 MH/EA		1,931.87MH	[ 1726.868 ]	259,082	575,889	14,048	28,883	48,577	11,520	<b>937,999</b>
11,724.985	80 EA				3,238.53	7,198.61	175.60	361.03	607.21	144.00	11,724.98

<b>BID ITEM = 2200</b>											
Description =	Foam Filled Fenders		Land Item	SCHEDULE: 1	100						
			Unit =	EA	Takeoff Quan:	80.000	Engr Quan:		80.000		
<b>2200.01 Materials</b>											
				<b>Quan:</b>	<b>80.00 EA</b>	<b>Hrs/Shft:</b>	<b>10.00</b>	<b>Cal:</b>	<b>50S</b>	<b>WC:</b>	<b>MARINE</b>
2MFNDR3	Foam Filled Fe@109.75%	1.00	80.00 EA	15,000.000		1,317,000					1,317,000
2PADEYES	Weldable Padey@109.75%	1.00	160.00 EA	150.000		26,340					26,340
\$1,343,340.00				[ ]		1,343,340					1,343,340
<b>2200.02 Install Padeyes</b>											
				<b>Quan:</b>	<b>160.00 EA</b>	<b>Hrs/Shft:</b>	<b>10.00</b>	<b>Cal:</b>	<b>50S</b>	<b>WC:</b>	<b>MARINE</b>
<u>FENDER</u>	Foam Fender Crew		160.00 CH	<b>Prod:</b>	<b>1.0000 HU</b>	Lab Pcs:	7.00	Eqp Pcs:	7.00		
803AC0250	Portable Air Comp - 25	1.00	160.00 HR	36.929				1,298	5,187		6,485
811LGS0020D	20kW Large GenSet	1.00	160.00 HR	27.908				794	4,107		4,901
814CB050	Crane Barge - 50 Ton	1.00	160.00 HR	114.119				12,615	7,424		20,039
814CD10WB	Work Barge	1.00	160.00 HR	11.745				1,335	727		2,062

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 2200</b>											
Description =	Foam Filled Fenders		Land Item	SCHEDULE: 1	100						
			Unit =	EA	Takeoff Quan:	80.000	Engr Quan:	80.000			
814CD10WT	Work Tugboat	1.00	160.00 HR	190.674				2,117	31,366		33,482
818PW500S	Portable Welder Skid 5	1.00	160.00 HR	19.056				373	2,973		3,346
822_SMTOOLP	Pile Small Tools	1.00	160.00 HR	15.000				2,400			2,400
COE07	Crane Operator (GR 2) (45-	1.00	160.00 MH	63.550	20,879						20,879
COE09	Engr. Oiler	1.00	160.00 MH	55.840	19,013						19,013
COE14	Deck Engineer	1.00	160.00 MH	57.460	19,405						19,405
IB03	Mate	1.00	160.00 MH	57.310	13,867						13,867
IB04	Deckhand	1.00	160.00 MH	57.480	13,908						13,908
PD01	Piledriver Foreman	1.00	160.00 MH	64.620	21,918						21,918
PD02	Piledriver	1.00	160.00 MH	62.620	21,434						21,434
\$203,139.75	7.0000 MH/EA		1,120.0000MH	[ 460.768 ]	130,424			20,932	51,784		203,140
<b>2200.03</b>	<b>Install Fenders</b>			<b>Quan: 80.00 EA</b>	<b>Hrs/Shft: 10.00</b>	<b>Cal: 50S</b>	<b>WC: MARINE</b>				
<u>FENDER</u>	Foam Fender Crew		160.00 CH	<b>Prod: 2.0000 HU</b>	Lab Pcs:	7.00	Eqp Pcs:	7.00			
803AC0250	Portable Air Comp - 25	1.00	160.00 HR	36.929			1,298	5,187			6,485
811LGS0020D	20kW Large GenSet	1.00	160.00 HR	27.908			794	4,107			4,901
814CB050	Crane Barge - 50 Ton	1.00	160.00 HR	114.119			12,615	7,424			20,039
814CD10WB	Work Barge	1.00	160.00 HR	11.745			1,335	727			2,062
814CD10WT	Work Tugboat	1.00	160.00 HR	190.674			2,117	31,366			33,482
818PW500S	Portable Welder Skid 5	1.00	160.00 HR	19.056			373	2,973			3,346
822_SMTOOLP	Pile Small Tools	1.00	160.00 HR	15.000			2,400				2,400
COE07	Crane Operator (GR 2) (45-	1.00	160.00 MH	63.550	20,879						20,879
COE09	Engr. Oiler	1.00	160.00 MH	55.840	19,013						19,013
COE14	Deck Engineer	1.00	160.00 MH	57.460	19,405						19,405
IB03	Mate	1.00	160.00 MH	57.310	13,867						13,867
IB04	Deckhand	1.00	160.00 MH	57.480	13,908						13,908
PD01	Piledriver Foreman	1.00	160.00 MH	64.620	21,918						21,918
PD02	Piledriver	1.00	160.00 MH	62.620	21,434						21,434
\$203,139.75	14.0000 MH/EA		1,120.0000MH	[ 921.536 ]	130,424			20,932	51,784		203,140
<b>====&gt; Item Totals:</b>	<b>2200 - Foam Filled Fenders</b>										
\$1,749,619.50	28.0000 MH/EA		2,240.00MH	[ 1843.072 ]	260,848	1,343,340		41,864	103,567		<b>1,749,620</b>
21,870.244	80 EA				3,260.60	16,791.75		523.30	1,294.59		21,870.24

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
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**BID ITEM = 3010**  
 Description = Column Repairs  
 Land Item SCHEDULE: 1 100  
 Unit = LOC Takeoff Quan: 151.000 Engr Quan: 151.000

**3010.01 Materials (Perm) Quan: 151.00 LOC Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

Figure 151 Columns @ 0.4 CY/LOC = 60.4 CY Conc

Rebar = 22.6 LBS/LOC \* 151 = 3,412.6 LBS = 1.71 TNs

Fiberglass Forms = 60 SF/LOC \* 151 = 9,060 SF

2C0006	5000 PSI Concr@109.75%	1.00	60.40 CY	225.000		14,915					14,915
2C0010	Delivery Chrg@109.75%	1.00	7.00 LD	200.000		1,537					1,537
2COFUEL/ENV	Concrete Fuel/@109.75%	1.00	60.40 CY	10.000		663					663
2CR060	Gr 60 Rebar@109.75%	1.00	1.71 TON	2,000.000		3,753					3,753
2CRACC	Rebar Accessor@109.75%	1.00	1.71 TON	100.000		188					188
3FA100	Formwork Acces@109.75%	1.00	9,060.00 SF	1.000			9,943				9,943
3FIBERFORM	Fiberglass SIP@109.75%	1.00	9,060.00 SF	15.000			149,150				149,150
3SAND	Sandblasting S@109.75%	1.00	9,060.00 SF	5.000			49,717				49,717
\$229,865.89				[ ]		21,056	208,810				229,866

**3010.03 Sawcut Quan: 5,738.00 LF Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

8' x 18" Square

Figure 19 Ft/Side \* 2 Sides = 38 LF \* 151 EA = 5,738 LF of Saw Cutting

Sawcut a minimum 1" deep around the perimeter of the repair area to allow for clean face of concrete. Total sawcut length for repairs is 5,738 FT.

Allow 2 Carpenters sawcutting with right angle grinders w/diamond wheels. Allow production at 10 lf/hr.

CARP	Carpenter Barge Crew		573.80 CH	Prod: 10.0000 UH	Lab Pcs: 10.00	Eqp Pcs: 7.00		
803AC0250	Portable Air Comp - 25	1.00	573.80 HR	36.929		4,656	18,600	23,256
811LGS0020D	20kW Large GenSet	1.00	573.80 HR	27.908		2,847	14,728	17,575
814CB050	Crane Barge - 50 Ton	1.00	573.80 HR	114.119		45,240	26,626	71,866
814CD10WB	Work Barge	1.00	573.80 HR	11.745		4,789	2,607	7,396
814CD10WT	Work Tugboat	1.00	573.80 HR	190.674		7,590	112,486	120,076
818PW500S	Portable Welder Skid 5	1.00	573.80 HR	19.056		1,338	10,663	12,000
822_SMTOOLP	Pile Small Tools	1.00	573.80 HR	15.000			8,607	8,607
CA01	Carpenter Foreman	1.00	573.80 MH	70.410	81,684			81,684
CA02	Carpenter	4.00	2,295.20 MH	64.010	304,522			304,522
COE07	Crane Operator (GR 2) (45-	1.00	573.80 MH	63.550	74,877			74,877
COE09	Engr. Oiler	1.00	573.80 MH	55.840	68,187			68,187
COE14	Deck Engineer	1.00	573.80 MH	57.460	69,592			69,592

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 3010</b>			Land Item	SCHEDULE: 1	100						
Description =	Column Repairs			Unit =	LOC	Takeoff Quan:	151.000	Engr Quan:		151.000	
IB03	Mate	1.00	573.80 MH		57.310	49,730					49,730
IB04	Deckhand	1.00	573.80 MH		57.480	49,877					49,877
\$959,245.08	1.0000 MH/LF		5,738.0000MH		[ 67.99 ]	698,469		75,067	185,709		959,245

**3010.04 Demo Bad Concrete to Rebar** **Quan: 1,223.10 CF** **Hrs/Shft: 10.00** **Cal: 50S** **WC: MARINE**

Figure 0.3 CY of concrete Removal per location \* 151 Locations = 45.3 CY = 1,223.1 CF

Remove concrete spall area to sound concrete.  
 Assume production at 3 cft/hr

<u>CARPB</u>	Carpenter Barge Crew		407.70 CH	Prod:	3.0000 UH	Lab Pcs:	10.00	Eqp Pcs:	7.00	
803AC0250	Portable Air Comp - 25	1.00	407.70 HR	36.929				3,308	13,216	16,524
811LGS0020D	20kW Large GenSet	1.00	407.70 HR	27.908				2,023	10,465	12,487
814CB050	Crane Barge - 50 Ton	1.00	407.70 HR	114.119				32,144	18,918	51,063
814CD10WB	Work Barge	1.00	407.70 HR	11.745				3,403	1,852	5,255
814CD10WT	Work Tugboat	1.00	407.70 HR	190.674				5,393	79,924	85,317
818PW500S	Portable Welder Skid 5	1.00	407.70 HR	19.056				950	7,576	8,527
822_SMTOOLP	Pile Small Tools	1.00	407.70 HR	15.000				6,116		6,116
CA01	Carpenter Foreman	1.00	407.70 MH	70.410		58,039				58,039
CA02	Carpenter	4.00	1,630.80 MH	64.010		216,371				216,371
COE07	Crane Operator (GR 2) (45-	1.00	407.70 MH	63.550		53,202				53,202
COE09	Engr. Oiler	1.00	407.70 MH	55.840		48,448				48,448
COE14	Deck Engineer	1.00	407.70 MH	57.460		49,447				49,447
IB03	Mate	1.00	407.70 MH	57.310		35,334				35,334
IB04	Deckhand	1.00	407.70 MH	57.480		35,439				35,439
\$681,568.87	3.3333 MH/CF		4,077.0000MH		[ 226.633 ]	496,280		53,337	131,951	681,569

**3010.05 Sandblast Rebar** **Quan: 8,541.00 SF** **Hrs/Shft: 10.00** **Cal: 50S** **WC: MARINE**

This activity is to sandblast the exposed rebar to clean the scale and rust off of it. Production will be limited by moving from one location to the other. Allow for 0.5 hour at each location plus 0.5 hour for moves. 151 locations x 1 = 151 hours

<u>CARPB</u>	(Mod) Carpenter Barge Crew		151.00 CH	Prod:	56.5629 UH	Lab Pcs:	10.00	Eqp Pcs:	8.00	
803AC0250	Portable Air Comp - 25	1.00	151.00 HR	36.929				1,225	4,895	6,120
803PSM007	Port Sandblasting Mach	1.00	151.00 HR	3.473				418	157	576
811LGS0020D	20kW Large GenSet	1.00	151.00 HR	27.908				749	3,876	4,625
814CB050	Crane Barge - 50 Ton	1.00	151.00 HR	114.119				11,905	7,007	18,912
814CD10WB	Work Barge	1.00	151.00 HR	11.745				1,260	686	1,946
814CD10WT	Work Tugboat	1.00	151.00 HR	190.674				1,997	29,602	31,599
818PW500S	Portable Welder Skid 5	1.00	151.00 HR	19.056				352	2,806	3,158
822_SMTOOLP	Pile Small Tools	1.00	151.00 HR	15.000				2,265		2,265

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 3010</b>											
Description =	Column Repairs		Land Item	SCHEDULE: 1	100						
			Unit =	LOC	Takeoff Quan:	151.000	Engr Quan:	151.000			
CA01	Carpenter Foreman	1.00	151.00 MH	70.410	21,496						21,496
CA02	Carpenter	4.00	604.00 MH	64.010	80,137						80,137
COE07	Crane Operator (GR 2) (45-	1.00	151.00 MH	63.550	19,704						19,704
COE09	Engr. Oiler	1.00	151.00 MH	55.840	17,944						17,944
COE14	Deck Engineer	1.00	151.00 MH	57.460	18,314						18,314
IB03	Mate	1.00	151.00 MH	57.310	13,087						13,087
IB04	Deckhand	1.00	151.00 MH	57.480	13,126						13,126
\$253,008.42	0.1767 MH/SF		1,510.0000MH	[ 12.02 ]	183,808			20,173	49,028		253,008
<b>3010.06</b>	<b>Form Repair Area</b>			<b>Quan: 9,060.00 SF</b>	<b>Hrs/Shft: 10.00</b>	<b>Cal: 50S</b>	<b>WC: MARINE</b>				
Allow for installation of average approx. 60 sf of forms at 1 locations. Assume 30 minutes per location x 151 = 75.5 hours											
<u>CARPB</u>	Carpenter Barge Crew		75.50 CH	<b>Prod: 120.0000 UH</b>	Lab Pcs: 10.00		Eqp Pcs: 7.00				
803AC0250	Portable Air Comp - 25	1.00	75.50 HR	36.929			613	2,447			3,060
811LGS0020D	20kW Large GenSet	1.00	75.50 HR	27.908			375	1,938			2,312
814CB050	Crane Barge - 50 Ton	1.00	75.50 HR	114.119			5,953	3,503			9,456
814CD10WB	Work Barge	1.00	75.50 HR	11.745			630	343			973
814CD10WT	Work Tugboat	1.00	75.50 HR	190.674			999	14,801			15,799
818PW500S	Portable Welder Skid 5	1.00	75.50 HR	19.056			176	1,403			1,579
822_SMTOOLP	Pile Small Tools	1.00	75.50 HR	15.000			1,133				1,133
CA01	Carpenter Foreman	1.00	75.50 MH	70.410	10,748						10,748
CA02	Carpenter	4.00	302.00 MH	64.010	40,069						40,069
COE07	Crane Operator (GR 2) (45-	1.00	75.50 MH	63.550	9,852						9,852
COE09	Engr. Oiler	1.00	75.50 MH	55.840	8,972						8,972
COE14	Deck Engineer	1.00	75.50 MH	57.460	9,157						9,157
IB03	Mate	1.00	75.50 MH	57.310	6,543						6,543
IB04	Deckhand	1.00	75.50 MH	57.480	6,563						6,563
\$126,216.41	0.0833 MH/SF		755.0000MH	[ 5.666 ]	91,904			9,877	24,435		126,216
<b>3010.07</b>	<b>Install Rebar</b>			<b>Quan: 3,412.60 LBS</b>	<b>Hrs/Shft: 10.00</b>	<b>Cal: 50S</b>	<b>WC: MARINE</b>				
4REBAR	Rebar Sub	1.00	3,412.60 LBS	2.000						6,825	6,825
<b>3010.08</b>	<b>Pump Concrete</b>			<b>Quan: 151.00 LOC</b>	<b>Hrs/Shft: 10.00</b>	<b>Cal: 50S</b>	<b>WC: MARINE</b>				
151 Locations with Average Volume of 0.4 CY/Location Assume 15 minutes per location x 151 = 37.75 hour											
<u>CARPB</u>	(Mod) Carpenter Barge Crew		37.75 CH	<b>Prod: 0.0000</b>	Lab Pcs: 10.00		Eqp Pcs: 8.00				
803AC0250	Portable Air Comp - 25	1.00	37.75 HR	36.929			306	1,224			1,530
807TRMCP045	SCHWNG BPA500 Trl Pu	1.00	37.75 HR	55.116			770	1,513			2,283

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 3010</b>			Land Item	SCHEDULE: 1	100						
Description = Column Repairs				Unit = LOC	Takeoff Quan:	151.000		Engr Quan:	151.000		
811LGS0020D	20kW Large GenSet	1.00	37.75 HR	27.908				187	969		1,156
814CB050	Crane Barge - 50 Ton	1.00	37.75 HR	114.119				2,976	1,752		4,728
814CD10WB	Work Barge	1.00	37.75 HR	11.745				315	172		487
814CD10WT	Work Tugboat	1.00	37.75 HR	190.674				499	7,400		7,900
818PW500S	Portable Welder Skid 5	1.00	37.75 HR	19.056				88	702		789
822_SMTOOLP	Pile Small Tools	1.00	37.75 HR	15.000				566			566
CA01	Carpenter Foreman	1.00	37.75 MH	70.410	5,374						5,374
CA02	Carpenter	4.00	151.00 MH	64.010	20,034						20,034
COE07	Crane Operator (GR 2) (45-	1.00	37.75 MH	63.550	4,926						4,926
COE09	Engr. Oiler	1.00	37.75 MH	55.840	4,486						4,486
COE14	Deck Engineer	1.00	37.75 MH	57.460	4,578						4,578
IB03	Mate	1.00	37.75 MH	57.310	3,272						3,272
IB04	Deckhand	1.00	37.75 MH	57.480	3,281						3,281
\$65,391.65	2.5000 MH/LOC		377.5000MH	[ 169.975 ]	45,952			5,709	13,731		65,392
<b>====&gt; Item Totals: 3010 - Column Repairs</b>											
\$2,322,121.52	82.5000 MH/LOC		12,457.50MH	[ 5609.167 ]	1,516,412	21,056	208,810	164,163	404,856	6,825	<b>2,322,122</b>
15,378.288	151 LOC				10,042.46	139.44	1,382.85	1,087.17	2,681.16	45.20	15,378.29

<b>BID ITEM = 3020</b>			Land Item	SCHEDULE: 1	100						
Description = Soffitt Repairs (Shotcrete)				Unit = LOC	Takeoff Quan:	138.000		Engr Quan:	138.000		

3020.01	Sawcut	Marine	Quan: 1,504.20	LF	Hrs/Shft: 10.00	Cal: 50S	WC: MARINE				
Sawcut a minimum 1" deep around the perimeter of the repair area to allow for clean face of concrete. Total sawcut length for repairs is 1,504.2 FT. Allow 2 men sawcutting with right angle grinders w/diamond wheels. Allow production at 10 lf/hr.											
<u>CONREP</u>	Concrete Repair Crew	150.42	CH	<b>Prod: 10.0000</b>	<b>UH</b>	Lab Pcs:	8.00	Eqp Pcs:	13.00		
803AC0250	Portable Air Comp - 25	1.00	150.42 HR	36.929				1,220	4,876		6,096
803PSM007	Port Sandblasting Mach	1.00	150.42 HR	3.473				417	157		573
809FEL950	CAT 950H F.E. Loader 4	1.00	150.42 HR	84.726				4,651	9,336		13,987
811SGS2500D	2500w Small GenSet	1.00	150.42 HR	3.830				138	494		632
814CB050	Crane Barge - 50 Ton	1.00	150.42 HR	114.119				11,860	6,980		18,839
814ITB0250	Inland Tug - 250hp	1.00	150.42 HR	137.358				4,159	18,517		22,676
814RUN016	Runabout 16ft	1.00	150.42 HR	30.216				154	4,834		4,988
818PW350S	Portable Welder Skid 3	1.00	150.42 HR	12.781				316	1,794		2,110
820OHLDTC421	LD Truck 4x2 1t	1.00	150.42 HR	34.824				734	5,015		5,749
822_CARPBARG	Barge Carpenter 12x40	1.00	150.42 HR	26.000				3,911			3,911

\*\*Unreviewed

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 3020</b>			Land Item	SCHEDULE: 1	100						
Description =	Soffitt Repairs (Shotcrete)		Unit =	LOC	Takeoff Quan:	138.000	Engr Quan:		138.000		
822_DEMO	Demo Small Tools	1.00	150.42 HR	14.000				2,106			2,106
822_G RTPUMP	Chemgrout CG555 Pump &	1.00	150.42 HR	15.000				2,256			2,256
822_W RKFLOT	9 x 20 Work Float	1.00	150.42 HR	10.000				1,504			1,504
CA02	Carpenter	1.00	150.42 MH	64.010	19,957						19,957
COE10	Crane Operator (GR 3) (<45	1.00	150.42 MH	61.870	19,247						19,247
LA01	Laborer Foreman	1.00	150.42 MH	40.450	13,778						13,778
LA06	Laborer (Gr 5) (updt 4_24)	4.00	601.68 MH	0.000							
OE08	Operator (GR 7) (Pvmt Bre	1.00	150.42 MH	56.030	17,918						17,918
\$156,329.18	0.8000 MH/LF		1,203.3600MH	[ 24.46 ]	70,900			33,426	52,003		156,329

**3020.02 Demo Bad Concrete to Rebar Marine Quan: 21.14 CF Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

Remove concrete spall area to sound concrete. Spall depth at the repair areas is 6" deep. Total amount of concrete to be removed is 21.14 cft. Assume production at 3 cft/hr

CONREP	Concrete Repair Crew		7.04 CH	Prod: 3.0000 UH	Lab Pcs:	8.00	Eqp Pcs:	13.00		
3511	Disposal Fee-2@109.75%	1.00	0.16 LD	2,400.000			421			421
803AC0250	Portable Air Comp - 25	1.00	7.05 HR	36.929				57	229	286
803PSM007	Port Sandblasting Mach	1.00	7.05 HR	3.473				20	7	27
809FEL950	CAT 950H F.E. Loader 4	1.00	7.05 HR	84.726				218	438	656
811SGS2500D	2500w Small GenSet	1.00	7.05 HR	3.830				6	23	30
814CB050	Crane Barge - 50 Ton	1.00	7.05 HR	114.119				556	327	883
814ITB0250	Inland Tug - 250hp	1.00	7.05 HR	137.358				195	868	1,063
814RUN016	Runabout 16ft	1.00	7.05 HR	30.216				7	227	234
818PW350S	Portable Welder Skid 3	1.00	7.05 HR	12.781				15	84	99
820OHLDTTC421	LD Truck 4x2 1t	1.00	7.05 HR	34.824				34	235	269
822_CARP BARG	Barge Carpenter 12x40	1.00	7.05 HR	26.000				183		183
822_DEMO	Demo Small Tools	1.00	7.05 HR	14.000				99		99
822_G RTPUMP	Chemgrout CG555 Pump &	1.00	7.05 HR	12.000				85		85
822_W RKFLOT	9 x 20 Work Float	1.00	7.05 HR	10.000				71		71
CA02	Carpenter	1.00	7.05 MH	64.010	935					935
COE10	Crane Operator (GR 3) (<45	1.00	7.05 MH	61.870	902					902
LA01	Laborer Foreman	1.00	7.05 MH	40.450	646					646
LA06	Laborer (Gr 5) (updt 4_24)	4.00	28.19 MH	0.000						
OE08	Operator (GR 7) (Pvmt Bre	1.00	7.05 MH	56.030	840					840
\$7,727.16	2.6674 MH/CF		56.3900MH	[ 81.57 ]	3,323		421	1,545	2,437	7,727

**3020.03 Sandblast Rebar Marine Quan: 1,007.40 SF Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

This activity is to sandblast the exposed rebar to clean the scale and rust off of it. Production will be limited by moving from one location to

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 3020</b>											
Description = Soffitt Repairs (Shotcrete)			Land Item	SCHEDULE: 1	100						
			Unit =	LOC	Takeoff Quan:	138.000	Engr Quan:	138.000			
the other. Allow for 0.5 hour at each location plus 0.5 hour for moves. 580 locations x 1 = 580 hours											
<u>CONREP</u>	Concrete Repair Crew		21.52 CH	<b>Prod:</b>	<b>46.7955 UH</b>	Lab Pcs:	8.00	Eqp Pcs:	13.00		
3SAND	Sandblasting S@109.75%	1.00	1,007.40 SF	5.000			5,528				5,528
803AC0250	Portable Air Comp - 25	1.00	21.53 HR	36.929				175	698		873
803PSM007	Port Sandblasting Mach	1.00	21.53 HR	3.473				60	22		82
809FEL950	CAT 950H F.E. Loader 4	1.00	21.53 HR	84.726				666	1,336		2,002
811SGS2500D	2500w Small GenSet	1.00	21.53 HR	3.830				20	71		90
814CB050	Crane Barge - 50 Ton	1.00	21.53 HR	114.119				1,697	999		2,697
814ITB0250	Inland Tug - 250hp	1.00	21.53 HR	137.358				595	2,650		3,246
814RUN016	Runabout 16ft	1.00	21.53 HR	30.216				22	692		714
818PW350S	Portable Welder Skid 3	1.00	21.53 HR	12.781				45	257		302
820OHLDTC421	LD Truck 4x2 1t	1.00	21.53 HR	34.824				105	718		823
822_CARPBARG	Barge Carpenter 12x40	1.00	21.53 HR	0.000							
822_DEMO	Demo Small Tools	1.00	21.53 HR	0.000							
822_G RTPUMP	Chemgrout CG555 Pump &	1.00	21.53 HR	0.000							
822_WRKFL0T	9 x 20 Work Float	1.00	21.53 HR	0.000							
CA02	Carpenter	1.00	21.53 MH	64.010	2,857						2,857
COE10	Crane Operator (GR 3) (<45	1.00	21.53 MH	61.870	2,755						2,755
LA01	Laborer Foreman	1.00	21.53 MH	40.450	1,972						1,972
LA06	Laborer (Gr 5) (updt 4_24)	4.00	86.11 MH	0.000							
OE08	Operator (GR 7) (Pvmt Bre	1.00	21.53 MH	56.030	2,565						2,565
\$26,504.34	0.1709 MH/SF		172.2300MH	[ 5.227 ]	10,148		5,528	3,385	7,443		26,504

**3020.04 F&I Shotcrete Marine Quan: 1,007.40 SF Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

\*\*Unreviewed

Allow for placement of shotcrete at concrete spall repair locations. Based on costs from FDOT repair projects the average cost for shotcrete was \$380/cf. adjusted to California labor rates of \$418/cf. Include additional crew for cleaning overspray and rebound off the surrounding areas.

<u>SHOTS</u>	Shotcrete Support Crew		50.37 CH	<b>Prod:</b>	<b>20.0000 UH</b>	Lab Pcs:	4.00	Eqp Pcs:	9.00		
4F&ISC	SHOTCRETE SUB	1.00	503.70 CF	418.000						210,547	210,547
807TRMCP045	SCHWNG BPA500 Trl Pu	1.00	50.37 HR	55.116				1,027	2,019		3,047
809FEL950	CAT 950H F.E. Loader 4	1.00	50.37 HR	84.726				1,558	3,126		4,684
811SGS2500D	2500w Small GenSet %50	1.00	50.37 HR	3.830				46	83		129
814RUN016	Runabout 16ft %50	1.00	50.37 HR	30.216				52	809		861
820OHLDTC421	LD Truck 4x2 1t	1.00	50.37 HR	34.824				246	1,679		1,925
822_CARPBARG	Barge Carpenter 12x40	1.00	50.37 HR	26.000				1,310			1,310
822_DEMO	Demo Small Tools	1.00	50.37 HR	14.000				705			705
822_WRKFL0T	9 x 20 Work Float	2.00	100.74 HR	10.000				1,007			1,007
LA01	Laborer Foreman	1.00	50.37 MH	40.450	4,614						4,614
LA06	Laborer (Gr 5) (updt 4_24)	2.00	100.74 MH	40.000	5,440						5,440

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 3020</b>			Land Item	SCHEDULE: 1	100						
Description =	Soffitt Repairs (Shotcrete)			Unit = LOC	Takeoff Quan:	138.000		Engr Quan:	138.000		
OE08	Operator (GR 7) (Pvmt Bre	1.00	50.37 MH	56.030	6,000						6,000
\$240,268.38	0.2000 MH/SF		201.4800MH	[ 9.706 ]	16,054			5,951	7,717	210,547	240,268
<b>3020.05</b>	<b>Cure, Clean</b>		<b>Marine</b>	<b>Quan: 1,007.40 SF</b>	<b>Hrs/Shft: 10.00</b>	<b>Cal: 50S</b>	<b>WC: MARINE</b>				
Allow for crew to point and patch all shotcrete surfaces.											
<u>SHOTPP</u>	Shotcrete Point & Cure		20.14 CH	<b>Prod: 50.0000 UH</b>	Lab Pcs:	3.00		Eqp Pcs:	3.00		
3CONCCURE	Concrete Cure@109.75%	1.00	1,007.40 SF	5.000		5,528					5,528
803AC0250	Portable Air Comp - 25	1.00	20.15 HR	36.929				163	653		817
811SGS2500D	2500w Small GenSet	1.00	20.15 HR	3.830				19	66		85
822_WRKFLOT	9 x 20 Work Float	1.00	20.15 HR	10.000				202			202
CM01	Cement Mason Foreman	1.00	20.15 MH	49.000	2,115						2,115
CM02	Cement Mason	2.00	40.30 MH	47.000	4,107						4,107
\$12,852.88	0.0600 MH/SF		60.4500MH	[ 3.146 ]	6,222		5,528	384	719		12,853
<b>=====&gt; Item Totals:</b>	<b>3020 - Soffitt Repairs (Shotcrete)</b>										
\$443,681.94	12.2747 MH/LOC		1,693.91MH	[ 411.091 ]	106,647		11,478	44,691	70,319	210,547	<b>443,682</b>
3,215.087	138 LOC				772.81		83.17	323.85	509.56	1,525.70	3,215.09

\*\*Unreviewed

<b>BID ITEM = 3030</b>			Land Item	SCHEDULE: 1	100						
Description =	Column Replacement			Unit = LOC	Takeoff Quan:	13.000		Engr Quan:	13.000		
<b>3030.01</b>	<b>Materials (Perm)</b>			<b>Quan: 13.00 LOC</b>	<b>Hrs/Shft: 10.00</b>	<b>Cal: 50S</b>	<b>WC: MARINE</b>				
Figure 13 Columns @ 1.2 CY/LOC = 15.6 CY Conc											
Rebar = 1000 LBS/LOC * 13 = 13,000 LBS = 6.5 TNS											
Fiberglass Forms = 60 SF/LOC * 13 = 780 SF											
2-ULTRABOND1	Ultrabond 1@109.75%	1.00	104.00 EA	55.000		6,278					6,278
2C0006	5000 PSI Concr@109.75%	1.00	15.60 CY	225.000		3,852					3,852
2C0010	Delivery Chrg@109.75%	1.00	2.00 LD	200.000		439					439
2C0FUEL/ENV	Concrete Fuel/@109.75%	1.00	15.60 CY	10.000		171					171
2CR060	Gr 60 Rebar@109.75%	1.00	6.50 TON	2,000.000		14,268					14,268
2CRACC	Rebar Accessor@109.75%	1.00	6.50 TON	100.000		713					713
3FA100	Formwork Acces@109.75%	1.00	780.00 SF	1.000				856			856
3FIBERFORM	Fiberglass SIP@109.75%	1.00	780.00 SF	15.000				12,841			12,841

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
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**BID ITEM = 3030**  
 Description = Column Replacement  
 Land Item SCHEDULE: 1 100  
 Unit = LOC Takeoff Quan: 13.000 Engr Quan: 13.000  
 \$39,417.82 [ ] 25,721 13,697 39,418

**3030.02 Wiresaw Columns** **Quan: 13.00 LOC Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

Figure 18" x 18" = 1.5 \* 1.5 = 2.25 SF \* 2 = 4.5 SF Per column

4.5 SF \* 13 Locations = 58.5 SF

Figure 100\$/SF bump to \$125 to include MOB

4WIRESAW	Wiresaw Sub	1.00	58.50 SF	125.000						7,313	7,313
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**3030.03 Chip & Dispose of Existing Columns** **Quan: 15.60 CY Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

Figure 1.2 CY of Concrete per Column for removal

1.2 CY \* 13 = 15.6 CY = 421.2 CF

Figure Demo & Dispose at 6 CY/HR

CRIB	(Mod) Cribbin Crew	2.60 CH	Prod: 6.0000 UH	Lab Pcs:	5.00	Eqp Pcs:	7.00		
3511	Disposal Fee-2@109.75%	1.00	4.00 LD	2,400.000		10,536		10,536	
803AC0250	Portable Air Comp - 25	1.00	2.60 HR	36.929			21	84	105
809SSL0262C	CAT 262C Skid Steer Lo	1.00	2.60 HR	53.353			60	92	152
811SGS2500D	2500w Small GenSet	1.00	2.60 HR	3.830			2	9	11
820OHLDTC421	LD Truck 4x2 1t	1.00	2.60 HR	34.824			13	87	99
822_45'ML	45' Articulating Manli	1.00	2.60 HR	42.485			65	56	121
822_SKIDHAMM	John Deere 323E Skidst	1.00	2.60 HR	65.000			169		169
822_SMT00L-2	Small Tools_Concrete	1.00	2.60 HR	13.000			34		34
CA01	Carpenter Foreman	1.00	2.60 MH	70.410	370				370
CA02	Carpenter	4.00	10.40 MH	64.010	1,380				1,380
\$12,977.86	0.8333 MH/CY		13.0000MH	[ 59,849 ]	1,750	10,536	365	327	12,978

**3030.04 Dowel in Rebar** **Quan: 104.00 EA Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

8 Dowels / Column

Figure 5 Mins/Hole \* 104 = 520 Mins = 8.67 HRs => Say 9 HRs

CRIB	Cribbin Crew	9.00 CH	Prod: 0.0000	Lab Pcs:	5.00	Eqp Pcs:	6.00	
803AC0250	Portable Air Comp - 25	1.00	9.00 HR	36.929		73	292	365
809SSL0262C	CAT 262C Skid Steer Lo	1.00	9.00 HR	53.353		209	318	527
811SGS2500D	2500w Small GenSet	1.00	9.00 HR	3.830		8	30	38

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 3030</b>											
Description = Column Replacement			Land Item	SCHEDULE: 1	100						
			Unit =	LOC	Takeoff Quan:	13.000	Engr Quan:	13.000			
820OHLDTC421	LD Truck 4x2 1t	1.00	9.00 HR	34.824				44	300		344
822_45'ML	45' Articulating Manli	1.00	9.00 HR	42.485				226	193		420
822_SMT00L-2	Small Tools_Concrete	1.00	9.00 HR	13.000				117			117
CA01	Carpenter Foreman	1.00	9.00 MH	70.410	1,281						1,281
CA02	Carpenter	4.00	36.00 MH	64.010	4,776						4,776
\$7,867.72	0.4326 MH/EA		45.0000MH	[ 31.076 ]	6,058			677	1,133		7,868

**3030.05 Form Column** **Quan: 780.00 SF** **Hrs/Shft: 10.00** **Cal: 50S** **WC: MARINE**

Allow for installation of average approx. 7.3 sf of forms at 1 locations. Assume 30 minutes per location + 30 Mins Move Time x 13 = 13 hours

<u>CRIB</u> Cribbin Crew			13.00 CH	Prod: 60.0000 UH	Lab Pcs: 5.00	Eqp Pcs: 6.00				
803AC0250	Portable Air Comp - 25	1.00	13.00 HR	36.929			105	421		527
809SSL0262C	CAT 262C Skid Steer Lo	1.00	13.00 HR	53.353			301	460		761
811SGS2500D	2500w Small GenSet	1.00	13.00 HR	3.830			12	43		55
820OHLDTC421	LD Truck 4x2 1t	1.00	13.00 HR	34.824			63	433		497
822_45'ML	45' Articulating Manli	1.00	13.00 HR	42.485			327	279		606
822_SMT00L-2	Small Tools_Concrete	1.00	13.00 HR	13.000			169			169
CA01	Carpenter Foreman	1.00	13.00 MH	70.410	1,851					1,851
CA02	Carpenter	4.00	52.00 MH	64.010	6,899					6,899
\$11,364.51	0.0833 MH/SF		65.0000MH	[ 5.985 ]	8,750		978	1,637		11,365

**3030.06 Install Rebar** **Quan: 13,000.00 LBS** **Hrs/Shft: 10.00** **Cal: 50S** **WC: MARINE**

4REBAR	Rebar Sub	1.00	13,000.00 LBS	2.000						26,000	26,000
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**3030.07 Pump Concrete** **Quan: 15.60 CY** **Hrs/Shft: 10.00** **Cal: 50S** **WC: MARINE**

13 Locations with Average Volume of 1.2 CY/Location  
 Assume 30 minutes per location x 13 = 6.5 hour

<u>CRIB</u> (Mod) Cribbin Crew			6.50 CH	Prod: 0.0000	Lab Pcs: 5.00	Eqp Pcs: 7.00				
803AC0250	Portable Air Comp - 25	1.00	6.50 HR	36.929			53	211		263
807TRMCP045	SCHWNG BPA500 Trl Pu	1.00	6.50 HR	55.116			133	261		393
809SSL0262C	CAT 262C Skid Steer Lo	1.00	6.50 HR	53.353			151	230		381
811SGS2500D	2500w Small GenSet	1.00	6.50 HR	3.830			6	21		27
820OHLDTC421	LD Truck 4x2 1t	1.00	6.50 HR	34.824			32	217		248
822_45'ML	45' Articulating Manli	1.00	6.50 HR	42.485			163	140		303
822_SMT00L-2	Small Tools_Concrete	1.00	6.50 HR	13.000			85			85
CA01	Carpenter Foreman	1.00	6.50 MH	70.410	925					925
CA02	Carpenter	4.00	26.00 MH	64.010	3,450					3,450
\$6,075.43	2.0833 MH/CY		32.5000MH	[ 149.623 ]	4,375		622	1,079		6,075

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 3030</b>			Land Item	SCHEDULE: 1	100						
Description =	Column Replacement			Unit = LOC	Takeoff Quan:	13.000		Engr Quan:	13.000		
<b>====&gt; Item Totals: 3030 - Column Replacement</b>											
\$111,015.84	11.9615 MH/LOC		155.50MH	[ 859.065 ]	20,932	25,721	24,233	2,641	4,176	33,313	<b>111,016</b>
8,539.680	13 LOC				1,610.18	1,978.54	1,864.06	203.18	321.21	2,562.50	8,539.68

<b>BID ITEM = 4010</b>			Land Item	SCHEDULE: 1	100						
Description =	18" Diameter FRP Pile			Unit = LF	Takeoff Quan:	1,080.000		Engr Quan:	1,080.000		
	18" Diameter FRP @ 6' OC x 70 feet long										
	1080/6' = 180 EA + 2 EA end pcs = 182 EA										

**4010.01 Materials** **Quan: 1,080.00 LF** **Hrs/Shft: 10.00** **Cal: 50S** **WC: MARINE**

See BI note for EA quantity of fender pile.

182 EA x 60 LF/EA = 10920 LF

Assume 30' long HDPE pipe for sheath at \$30/LF

2FRPPILES	FRP Pile@109.75%	1.00	10,920.00 LF	65.000		779,006					779,006
2FRPSHEATH	30' Long HDPE @109.75%	1.00	182.00 EA	900.000		179,771					179,771
3RIGGING	Rigging@109.75%	1.00	1.00 LS	5,000.000			5,488				5,488
5FREIGHT	Pile Freight	1.00	182.00 EA	500.000			91,000				91,000
\$1,055,263.50				[ ]		958,776	96,488				1,055,264

**4010.02 Remove Existing Fender System** **Quan: 75.00 EA** **Hrs/Shft: 10.00** **Cal: 50S** **WC: MARINE**

Assume existing fender system at 6' OC +/- and can dry pull 15 fenders per shift = 90 LF per shift.

PDFNDR	Description	Prod:	15.0000 US	Lab Pcs:	10.00	Eqp Pcs:	10.00		
803AC0185	Portable Air Comp - 18	1.00	50.00 HR	30.150		258	1,397		1,654
811SGS15000D	15000w Small GenSet	1.00	50.00 HR	20.164		291	816		1,106
813CMLBC555	MANITOWOC 555 150t	1.00	50.00 HR	293.633		7,788	8,325		16,113
814CB150	Crane Barge - 150 Ton	1.00	50.00 HR	251.276		9,304	4,485		13,789
814ITB0250	Inland Tug - 250hp	1.00	50.00 HR	137.358		1,382	6,155		7,538
815DH01842	DELMAG D19-42 Dsl Ham	1.00	50.00 HR	79.836		2,075	2,306		4,381
815SL1133363	Swinging Lead 11x33x36	3.00	150.00 HR	4.330		713			713
818PW350S	Portable Welder Skid 3	1.00	50.00 HR	12.781		105	596		701
COE04	Crane Operator (GR 1) (>10	1.00	50.00 MH	65.370	6,662				6,662
COE06	Engr. Oiler (GR 1)	1.00	50.00 MH	56.110	5,962				5,962
COE14	Deck Engineer	1.00	50.00 MH	57.460	6,064				6,064

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
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<b>BID ITEM = 4010</b>			Land Item	SCHEDULE: 1	100						
Description =	18" Diameter FRP Pile			Unit =	LF	Takeoff Quan:	1,080.000	Engr Quan:	1,080.000		
IB01	Captain	1.00	50.00 MH	61.410		4,643					4,643
IB03	Mate	1.00	50.00 MH	57.310		4,333					4,333
PD01	Piledriver Foreman	1.00	50.00 MH	64.620		6,849					6,849
PD02	Piledriver	4.00	200.00 MH	62.620		26,793					26,793
\$107,302.64	6.6666 MH/EA		500.0000MH	[ 449.357 ]		61,307		21,915	24,080		107,303

**4010.03 Process & Dispose Existing Fender System**      **Quan: 132.00 TN    Hrs/Shft: 10.00    Cal: 50S    WC: MARINE**

Existing fender system  
 20 EA steel pipe @ 60'  
 33 EA timber @ 60'  
 10EA steel pipe piles @ 60'  
 Assume pipe piles are 16" Diameter x .375" WT = 1.878 TN/EA  
 30 x 1.878 TN = 56.34TN Steel  
 33 EA timber @ 84CF per each  
 Timber pile weight at 55 pounds per CF = 2.3 TN/EA  
 33EA x 2.3 TN/EA = 75.9 TN  
 Assume loadout of 1 trucks an hour at 10 TN/EA  
 Assume recycle steel pipe piles - minimal credit back

<u>PRCDIS</u>	Process & Dispose		13.20 CH	<b>Prod:</b>	<b>10.0000 UH</b>	Lab Pcs:	5.00	Eqp Pcs:	1.00		
3S4002	Sm Tools - Dem@109.75%	1.00	13.20 CH	25.000			362				362
4TIPTWW	TWW Tipping Fee	1.00	75.90 TN	80.000						6,072	6,072
5HAULHR	Haul (hourly)	1.00	40.00 HR	125.000			5,000				5,000
810_330WHAM	CAT 330 Excavator w/ H	1.00	13.20 HR	146.432				1,449	673		2,121
LA01	Laborer Foreman	1.00	13.20 MH	40.450		1,209					1,209
LA04	Laborer (Gr 3)	3.00	39.60 MH	37.500		3,451					3,451
OE04	Operator (GR 3) (Exc <3.5	1.00	13.20 MH	61.140		1,674					1,674
\$19,889.62	0.5000 MH/TN		66.0000MH	[ 23.55 ]		6,334	5,362	1,449	673	6,072	19,890

**4010.04 Install & Connect Fender System**      **Quan: 182.00 EA    Hrs/Shft: 10.00    Cal: 50S    WC: MARINE**

<u>PDFNDR</u>	Pile Drive Crew - Fender		364.00 CH	<b>Prod:</b>	<b>2.0000 HU</b>	Lab Pcs:	10.00	Eqp Pcs:	10.00		
3S4000	Sm Tools - Gen@109.75%	1.00	364.00 CH	25.000			9,987				9,987
803AC0185	Portable Air Comp - 18	1.00	364.00 HR	30.150				1,875	10,169		12,045
811SGS15000D	15000w Small GenSet	1.00	364.00 HR	20.164				2,117	5,938		8,055
813CMLBC555	MANITOWOC 555 150t	1.00	364.00 HR	293.633				56,695	60,609		117,303

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 4010</b>											
Description = 18" Diameter FRP Pile			Land Item	SCHEDULE: 1	100						
			Unit = LF	Takeoff Quan:	1,080.000		Engr Quan:	1,080.000			
814CB150	Crane Barge - 150 Ton	1.00	364.00 HR	251.276				67,730	32,653		100,382
814ITB0250	Inland Tug - 250hp	1.00	364.00 HR	137.358				10,063	44,810		54,873
815DH01842	DELMAG D19-42 Dsl Ham	1.00	364.00 HR	79.836				15,108	16,785		31,894
815SL1133363	Swinging Lead 11x33x36	3.00	1,092.00 HR	4.330				5,189			5,189
818PW350S	Portable Welder Skid 3	1.00	364.00 HR	12.781				765	4,341		5,106
COE04	Crane Operator (GR 1) (>10	1.00	364.00 MH	65.370	48,501						48,501
COE06	Engr. Oiler (GR 1)	1.00	364.00 MH	56.110	43,404						43,404
COE14	Deck Engineer	1.00	364.00 MH	57.460	44,147						44,147
IB01	Captain	1.00	364.00 MH	61.410	33,804						33,804
IB03	Mate	1.00	364.00 MH	57.310	31,547						31,547
PD01	Piledriver Foreman	1.00	364.00 MH	64.620	49,863						49,863
PD02	Piledriver	4.00	1,456.00 MH	62.620	195,050						195,050
\$791,150.91	20.0000 MH/EA		3,640.0000MH	[ 1348.072 ]	446,316		9,987	159,542	175,305		791,151
<b>=====&gt; Item Totals: 4010 - 18" Diameter FRP Pile</b>											
\$1,973,606.67	3.8944 MH/LF		4,206.00MH	[ 261.259 ]	513,957	958,776	111,837	182,906	200,058	6,072	<b>1,973,607</b>
1,827.414	1080 LF				475.89	887.76	103.55	169.36	185.24	5.62	1,827.41

<b>BID ITEM = 4020</b>											
Description = 16" Diameter Steel Pile			Land Item	SCHEDULE: 1	100						
			Unit = LF	Takeoff Quan:	1,080.000		Engr Quan:	1,080.000			
<b>4020.01</b>	<b>Materials</b>			<b>Quan: 1,080.00 LF</b>	<b>Hrs/Shft: 10.00</b>	<b>Cal: 50S</b>	<b>WC: MARINE</b>				
1080 LF @ 12'OC = 90											
90 + 2 end pcs = 92 EA at 60 long											
16" diameter x 3/8" thick = 1.878 TN/EA											
92 EA x 1.878 = 172.78 TN											
Pile coating quantity assumes bottom 20' uncoated											
2CAMEL	FRP Camel@109.75%	1.00	1,080.00 LF	100.000		118,530					118,530
2COATING	Pipe Pile Coat@109.75%	1.00	15,414.00 SF	9.000		152,252					152,252
2LEGFNDR	Leg Fender@109.75%	1.00	92.00 EA	5,000.000		504,850					504,850
2PILE	16" Dia x .375@109.75%	1.00	172.78 TN	2,400.000		455,103					455,103
3RIGGING	Rigging@109.75%	1.00	1.00 LS	5,000.000			5,488				5,488
5FREIGHT	Pile Freight	1.00	92.00 EA	1,000.000			92,000				92,000

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
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**BID ITEM = 4020**  
 Description = 16" Diameter Steel Pile  
 Land Item SCHEDULE: 1 100  
 Unit = LF Takeoff Quan: 1,080.000 Engr Quan: 1,080.000  
 \$1,328,221.81 [ ] 1,230,734 97,488 1,328,222

**4020.02 Remove Existing Fender System** **Quan: 75.00 EA Hrs/Shft: 10.00 Cal: 50S WC: MARINE** **\*\*Unreviewed**

Assume existing fender system at 6' OC +/- and can dry pull 15 fenders per shift = 90 LF per shift.  
PDFNDR Pile Drive Crew - Fender 50.00 CH **Prod: 15.0000 US** Lab Pcs: 10.00 Eq Pcs: 10.00  
 803AC0185 Portable Air Comp - 18 1.00 50.00 HR 30.150 258 1,397 1,654  
 811SGS15000D 15000w Small GenSet 1.00 50.00 HR 20.164 291 816 1,106  
 813CMLBC555 MANITOWOC 555 150t 1.00 50.00 HR 293.633 7,788 8,325 16,113  
 814CB150 Crane Barge - 150 Ton 1.00 50.00 HR 251.276 9,304 4,485 13,789  
 814ITB0250 Inland Tug - 250hp 1.00 50.00 HR 137.358 1,382 6,155 7,538  
 815DH01842 DELMAG D19-42 Dsl Ham 1.00 50.00 HR 79.836 2,075 2,306 4,381  
 815SL1133363 Swinging Lead 11x33x36 3.00 150.00 HR 4.330 713 713  
 818PW350S Portable Welder Skid 3 1.00 50.00 HR 12.781 105 596 701  
 COE04 Crane Operator (GR 1) (>10 1.00 50.00 MH 65.370 6,662 6,662  
 COE06 Engr. Oiler (GR 1) 1.00 50.00 MH 56.110 5,962 5,962  
 COE14 Deck Engineer 1.00 50.00 MH 57.460 6,064 6,064  
 IB01 Captain 1.00 50.00 MH 61.410 4,643 4,643  
 IB03 Mate 1.00 50.00 MH 57.310 4,333 4,333  
 PD01 Piledriver Foreman 1.00 50.00 MH 64.620 6,849 6,849  
 PD02 Piledriver 4.00 200.00 MH 62.620 26,793 26,793  
 \$107,302.64 6.6666 MH/EA 500.0000MH [ 449.357 ] 61,307 21,915 24,080 107,303

**4020.03 Process & Dispose Existing Fender System** **Quan: 132.00 TN Hrs/Shft: 10.00 Cal: 50S WC: MARINE** **\*\*Unreviewed**

Existing fender system  
 20 EA steel pipe @ 60'  
 33 EA timber @ 60'  
 10EA steel pipe piles @ 60'  
 Assume pipe piles are 16" Diameter x .375" WT = 1.878 TN/EA  
 30 x 1.878 TN = 56.34TN Steel  
 33 EA timber @ 84CF per each  
 Timber pile weight at 55 pounds per CF = 2.3 TN/EA  
 33EA x 2.3 TN/EA = 75.9 TN  
 Assume loadout of 1 trucks an hour at 10 TN/EA

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 4020</b>											
Description = 16" Diameter Steel Pile			Land Item	SCHEDULE: 1	100						
			Unit = LF	Takeoff Quan:	1,080.000	Engr Quan:	1,080.000				
Assume recycle steel pipe piles - minimal credit back											
<u>PRCDIS</u>	Process & Dispose		13.20 CH	<b>Prod:</b>	<b>10.0000 UH</b>	Lab Pcs:	5.00	Eqp Pcs:	1.00		
3S4002	Sm Tools - Dem@109.75%	1.00	13.20 CH	25.000			362				362
4TIPTWW	TWW Tipping Fee	1.00	75.90 TN	80.000						6,072	6,072
5HAULHR	Haul (hourly)	1.00	40.00 HR	125.000			5,000				5,000
810_330WHAM	CAT 330 Excavator w/ H	1.00	13.20 HR	146.432				1,449	673		2,121
LA01	Laborer Foreman	1.00	13.20 MH	40.450	1,209						1,209
LA04	Laborer (Gr 3)	3.00	39.60 MH	37.500	3,451						3,451
OE04	Operator (GR 3) (Exc <3.5	1.00	13.20 MH	61.140	1,674						1,674
\$19,889.62	0.5000 MH/TN		66.0000MH	[ 23.55 ]	6,334		5,362	1,449	673	6,072	19,890
<b>4020.04</b>	<b>Install &amp; Connect Fender System</b>		<b>Quan:</b>	<b>92.00 EA</b>	<b>Hrs/Shft:</b>	<b>10.00</b>	<b>Cal:</b>	<b>50S</b>	<b>WC:</b>	<b>MARINE</b>	
<u>PDFNDR</u>	Pile Drive Crew - Fender		184.00 CH	<b>Prod:</b>	<b>2.0000 HU</b>	Lab Pcs:	10.00	Eqp Pcs:	10.00		
3S4000	Sm Tools - Gen@109.75%	1.00	184.00 CH	25.000			5,049				5,049
803AC0185	Portable Air Comp - 18	1.00	184.00 HR	30.150				948	5,141		6,088
811SGS15000D	15000w Small GenSet	1.00	184.00 HR	20.164				1,070	3,002		4,072
813CMLBC555	MANITOWOC 555 150t	1.00	184.00 HR	293.633				28,659	30,637		59,296
814CB150	Crane Barge - 150 Ton	1.00	184.00 HR	251.276				34,237	16,506		50,743
814ITB0250	Inland Tug - 250hp	1.00	184.00 HR	137.358				5,087	22,651		27,738
815DH01842	DELMAG D19-42 Dsl Ham	1.00	184.00 HR	79.836				7,637	8,485		16,122
815SL1133363	Swinging Lead 11x33x36	3.00	552.00 HR	4.330				2,623			2,623
818PW350S	Portable Welder Skid 3	1.00	184.00 HR	12.781				387	2,194		2,581
COE04	Crane Operator (GR 1) (>10	1.00	184.00 MH	65.370	24,517						24,517
COE06	Engr. Oiler (GR 1)	1.00	184.00 MH	56.110	21,940						21,940
COE14	Deck Engineer	1.00	184.00 MH	57.460	22,316						22,316
IB01	Captain	1.00	184.00 MH	61.410	17,088						17,088
IB03	Mate	1.00	184.00 MH	57.310	15,947						15,947
PD01	Piledriver Foreman	1.00	184.00 MH	64.620	25,206						25,206
PD02	Piledriver	4.00	736.00 MH	62.620	98,597						98,597
\$399,922.38	20.0000 MH/EA		1,840.0000MH	[ 1348.072 ]	225,610		5,049	80,648	88,616		399,922
<b>====&gt;</b>	<b>Item Totals:</b>		<b>4020</b>	<b>- 16" Diameter Steel Pile</b>							
\$1,855,336.45	2.2277 MH/LF		2,406.00MH	[ 148.919 ]	293,252	1,230,734	107,898	104,012	113,369	6,072	<b>1,855,336</b>
1,717.904	1080 LF				271.53	1,139.57	99.91	96.31	104.97	5.62	1,717.90

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
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**BID ITEM = 5010**  
 Description = Logitudinal Beams (F&P) Repair  
 Land Item SCHEDULE: 1 100  
 Unit = LOC Takeoff Quan: 60.000 Engr Quan: 60.000

**5010.01 Materials (Perm) Quan: 60.00 LOC Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

Figure 60 Beams @ 1.8 CY/LOC = 108 CY Conc

Rebar = 356 LBS/LOC \* 60 LOC = 21,360 LBS = 10.68 TNs

Fiberglass Forms = 456 SF/LOC \* 60 = 27,360 SF

2C0006	5000 PSI Concr@109.75%	1.00	108.00 CY	225.000		26,669					26,669
2C0010	Delivery Charg@109.75%	1.00	11.00 LD	200.000		2,415					2,415
2COFUEL/ENV	Concrete Fuel/@109.75%	1.00	108.00 CY	10.000		1,185					1,185
2CR060	Gr 60 Rebar@109.75%	1.00	10.68 TON	2,000.000		23,443					23,443
2CRACC	Rebar Accessor@109.75%	1.00	10.68 TON	100.000		1,172					1,172
3FA100	Formwork Acces@109.75%	1.00	27,360.00 SF	1.000			30,028				30,028
3FIBERFORM	Fiberglass SIP@109.75%	1.00	27,360.00 SF	15.000			450,414				450,414
3SAND	Sandblasting S@109.75%	1.00	27,360.00 SF	5.000			150,138				150,138
\$685,463.38				[ ]		54,884	630,580				685,463

**5010.02 Sawcut Quan: 9,281.00 LF Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

5' x 32" x 36'

Figure 77.34 Ft/Side \* 2 Sides = 154.68 LF \* 60 EA = 9,281 LF of Saw Cutting

Sawcut a minimum 1" deep around the perimeter of the repair area to allow for clean face of concrete. Total sawcut length for repairs is 9,281 FT.

Allow 2 Carpenters sawcutting with right angle grinders w/diamond wheels. Allow production at 10 lf/hr.

CARP	Carpenter Barge Crew		928.10 CH	Prod: 10.0000 UH	Lab Pcs: 10.00	Eqp Pcs: 7.00		
803AC0250	Portable Air Comp - 25	1.00	928.10 HR	36.929		7,530	30,085	37,615
811LGS0020D	20kW Large GenSet	1.00	928.10 HR	27.908		4,605	23,822	28,427
814CB050	Crane Barge - 50 Ton	1.00	928.10 HR	114.119		73,174	43,066	116,240
814CD10WB	Work Barge	1.00	928.10 HR	11.745		7,746	4,217	11,963
814CD10WT	Work Tugboat	1.00	928.10 HR	190.674		12,277	181,942	194,219
818PW500S	Portable Welder Skid 5	1.00	928.10 HR	19.056		2,163	17,247	19,410
822_SMTOOLP	Pile Small Tools	1.00	928.10 HR	15.000		13,922		13,922
CA01	Carpenter Foreman	1.00	928.10 MH	70.410	132,121			132,121
CA02	Carpenter	4.00	3,712.40 MH	64.010	492,553			492,553
COE07	Crane Operator (GR 2) (45-	1.00	928.10 MH	63.550	121,110			121,110
COE09	Engr. Oiler	1.00	928.10 MH	55.840	110,289			110,289
COE14	Deck Engineer	1.00	928.10 MH	57.460	112,563			112,563

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 5010</b>			Land Item	SCHEDULE: 1 100							
Description =	Logitudinal Beams (F&P) Repair		Unit =	LOC	Takeoff Quan:	60.000	Engr Quan:		60.000		
IB03	Mate	1.00	928.10 MH	57.310	80,436						80,436
IB04	Deckhand	1.00	928.10 MH	57.480	80,674						80,674
\$1,551,543.06	1.0000 MH/LF		9,281.0000MH	[ 67.99 ]	1,129,747			121,418	300,378		1,551,543

**5010.03 Demo Bad Concrete to Rebar** **Quan: 2,916.00 CF** **Hrs/Shft: 10.00** **Cal: 50S** **WC: MARINE**

Figure 1.8 CY of concrete Removal per location \* 60 Locations = 108 CY = 2,916 CF

Remove concrete spall area to sound concrete.  
 Assume production at 3 cft/hr

<u>CARPB</u>	Carpenter Barge Crew		972.00 CH	Prod: 3.0000 UH	Lab Pcs:	10.00	Eqp Pcs:	7.00		
803AC0250	Portable Air Comp - 25	1.00	972.00 HR	36.929			7,887	31,508	39,395	
811LGS0020D	20kW Large GenSet	1.00	972.00 HR	27.908			4,823	24,949	29,771	
814CB050	Crane Barge - 50 Ton	1.00	972.00 HR	114.119			76,636	45,103	121,739	
814CD10WB	Work Barge	1.00	972.00 HR	11.745			8,113	4,416	12,529	
814CD10WT	Work Tugboat	1.00	972.00 HR	190.674			12,858	190,548	203,405	
818PW500S	Portable Welder Skid 5	1.00	972.00 HR	19.056			2,266	18,063	20,328	
822_SMTOOLP	Pile Small Tools	1.00	972.00 HR	15.000			14,580		14,580	
CA01	Carpenter Foreman	1.00	972.00 MH	70.410	138,370				138,370	
CA02	Carpenter	4.00	3,888.00 MH	64.010	515,851				515,851	
COE07	Crane Operator (GR 2) (45-	1.00	972.00 MH	63.550	126,839				126,839	
COE09	Engr. Oiler	1.00	972.00 MH	55.840	115,506				115,506	
COE14	Deck Engineer	1.00	972.00 MH	57.460	117,887				117,887	
IB03	Mate	1.00	972.00 MH	57.310	84,240				84,240	
IB04	Deckhand	1.00	972.00 MH	57.480	84,490				84,490	
\$1,624,932.51	3.3333 MH/CF		9,720.0000MH	[ 226.633 ]	1,183,185			127,162	314,586	1,624,933

**5010.04 Sandblast Rebar** **Quan: 27,360.00 SF** **Hrs/Shft: 10.00** **Cal: 50S** **WC: MARINE**

This activity is to sandblast the exposed rebar to clean the scale and rust off of it. Production will be limited by moving from one location to the other. Allow for 0.5 hour at each location plus 0.5 hour for moves. 60 locations x 1 = 60 hours

<u>CARPB</u>	(Mod) Carpenter Barge Crew		60.00 CH	Prod: 456.0000 UH	Lab Pcs:	10.00	Eqp Pcs:	8.00	
803AC0250	Portable Air Comp - 25	1.00	60.00 HR	36.929			487	1,945	2,432
803PSM007	Port Sandblasting Mach	1.00	60.00 HR	3.473			166	63	229
811LGS0020D	20kW Large GenSet	1.00	60.00 HR	27.908			298	1,540	1,838
814CB050	Crane Barge - 50 Ton	1.00	60.00 HR	114.119			4,731	2,784	7,515
814CD10WB	Work Barge	1.00	60.00 HR	11.745			501	273	773
814CD10WT	Work Tugboat	1.00	60.00 HR	190.674			794	11,762	12,556
818PW500S	Portable Welder Skid 5	1.00	60.00 HR	19.056			140	1,115	1,255
822_SMTOOLP	Pile Small Tools	1.00	60.00 HR	15.000			900		900

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 5010</b>											
Description =	Logitudinal Beams (F&P) Repair		Land Item	SCHEDULE: 1	100						
			Unit =	LOC	Takeoff Quan:	60.000	Engr Quan:		60.000		
CA01	Carpenter Foreman	1.00	60.00 MH	70.410	8,541						8,541
CA02	Carpenter	4.00	240.00 MH	64.010	31,843						31,843
COE07	Crane Operator (GR 2) (45-	1.00	60.00 MH	63.550	7,830						7,830
COE09	Engr. Oiler	1.00	60.00 MH	55.840	7,130						7,130
COE14	Deck Engineer	1.00	60.00 MH	57.460	7,277						7,277
IB03	Mate	1.00	60.00 MH	57.310	5,200						5,200
IB04	Deckhand	1.00	60.00 MH	57.480	5,215						5,215
\$100,533.06	0.0219 MH/SF		600.0000MH	[ 1.491 ]	73,036			8,016	19,481		100,533
<b>5010.05 Form Repair Area</b>											
<b>Quan: 27,360.00 SF Hrs/Shft: 10.00 Cal: 50S WC: MARINE</b>											
Allow for installation of average approx. 456 sf of forms at 1 locations. Assume 60 minutes per location x 60 = 60 hours											
<u>CARPB</u>	Carpenter Barge Crew		60.00 CH	<b>Prod: 456.0000 UH</b>	Lab Pcs:	10.00	Eqp Pcs:	7.00			
803AC0250	Portable Air Comp - 25	1.00	60.00 HR	36.929			487	1,945			2,432
811LGS0020D	20kW Large GenSet	1.00	60.00 HR	27.908			298	1,540			1,838
814CB050	Crane Barge - 50 Ton	1.00	60.00 HR	114.119			4,731	2,784			7,515
814CD10WB	Work Barge	1.00	60.00 HR	11.745			501	273			773
814CD10WT	Work Tugboat	1.00	60.00 HR	190.674			794	11,762			12,556
818PW500S	Portable Welder Skid 5	1.00	60.00 HR	19.056			140	1,115			1,255
822_SMTOOLP	Pile Small Tools	1.00	60.00 HR	15.000			900				900
CA01	Carpenter Foreman	1.00	60.00 MH	70.410	8,541						8,541
CA02	Carpenter	4.00	240.00 MH	64.010	31,843						31,843
COE07	Crane Operator (GR 2) (45-	1.00	60.00 MH	63.550	7,830						7,830
COE09	Engr. Oiler	1.00	60.00 MH	55.840	7,130						7,130
COE14	Deck Engineer	1.00	60.00 MH	57.460	7,277						7,277
IB03	Mate	1.00	60.00 MH	57.310	5,200						5,200
IB04	Deckhand	1.00	60.00 MH	57.480	5,215						5,215
\$100,304.37	0.0219 MH/SF		600.0000MH	[ 1.491 ]	73,036			7,849	19,419		100,304
<b>5010.06 Install Rebar</b>											
<b>Quan: 21,360.00 LBS Hrs/Shft: 10.00 Cal: 50S WC: MARINE</b>											
4REBAR	Rebar Sub	1.00	21,360.00 LBS	2.000						42,720	42,720
<b>5010.07 Pump Concrete</b>											
<b>Quan: 60.00 LOC Hrs/Shft: 10.00 Cal: 50S WC: MARINE</b>											
60 Locations with Average Volume of 1.8 CY/Location											
Assume 30 minutes per location x 60 = 30 hours											
<u>CARPB</u>	(Mod) Carpenter Barge Crew		30.00 CH	<b>Prod: 0.0000</b>	Lab Pcs:	10.00	Eqp Pcs:	8.00			
803AC0250	Portable Air Comp - 25	1.00	30.00 HR	36.929			243	972			1,216
807TRMCP045	SCHWNG BPA500 Trl Pu	1.00	30.00 HR	55.116			612	1,203			1,815

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 5010</b>			Land Item	SCHEDULE: 1	100						
Description = Logitudinal Beams (F&P) Repair				Unit = LOC	Takeoff Quan:	60.000		Engr Quan:	60.000		
811LGS0020D	20kW Large GenSet	1.00	30.00 HR	27.908				149	770		919
814CB050	Crane Barge - 50 Ton	1.00	30.00 HR	114.119				2,365	1,392		3,757
814CD10WB	Work Barge	1.00	30.00 HR	11.745				250	136		387
814CD10WT	Work Tugboat	1.00	30.00 HR	190.674				397	5,881		6,278
818PW500S	Portable Welder Skid 5	1.00	30.00 HR	19.056				70	557		627
822_SMTOOLP	Pile Small Tools	1.00	30.00 HR	15.000				450			450
CA01	Carpenter Foreman	1.00	30.00 MH	70.410	4,271						4,271
CA02	Carpenter	4.00	120.00 MH	64.010	15,921						15,921
COE07	Crane Operator (GR 2) (45-	1.00	30.00 MH	63.550	3,915						3,915
COE09	Engr. Oiler	1.00	30.00 MH	55.840	3,565						3,565
COE14	Deck Engineer	1.00	30.00 MH	57.460	3,639						3,639
IB03	Mate	1.00	30.00 MH	57.310	2,600						2,600
IB04	Deckhand	1.00	30.00 MH	57.480	2,608						2,608
\$51,966.85	5.0000 MH/LOC		300.0000MH	[ 339.95 ]	36,518			4,537	10,912		51,967
<b>=====&gt; Item Totals: 5010 - Logitudinal Beams (F&amp;P) Repair</b>											
\$4,157,463.23	341.6833 MH/LOC		20,501.00MH	[ 23231.016 ]	2,495,522	54,884	630,580	268,982	664,777	42,720	<b>4,157,463</b>
69,291.054	60 LOC				41,592.03	914.73	10,509.66	4,483.03	11,079.61	712.00	69,291.05

<b>BID ITEM = 5020</b>			Land Item	SCHEDULE: 1	100						
Description = Transverse Beams (F&P) Repair				Unit = LOC	Takeoff Quan:	10.000		Engr Quan:	10.000		

**5020.01 Materials (Perm) Quan: 10.00 LOC Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

Figure 10 Beams @ 1.5 CY/LOC = 15 CY Conc

Rebar = 293 LBS/LOC \* 10 LOC = 2,930 LBS = 1.47 TNs

Fiberglass Forms = 580 SF/LOC \* 10 = 5,800 SF

2C0006	5000 PSI Concr@109.75%	1.00	15.00 CY	225.000		3,704					3,704
2C0010	Delivery Charg@109.75%	1.00	2.00 LD	200.000		439					439
2COFUEL/ENV	Concrete Fuel/@109.75%	1.00	15.00 CY	10.000		165					165
2CR060	Gr 60 Rebar@109.75%	1.00	1.47 TON	2,000.000		3,227					3,227
2CRACC	Rebar Accessor@109.75%	1.00	1.47 TON	100.000		161					161
3FA100	Formwork Acces@109.75%	1.00	5,800.00 SF	1.000			6,366				6,366
3FIBERFORM	Fiberglass SIP@109.75%	1.00	5,800.00 SF	15.000			95,483				95,483
3SAND	Sandblasting S@109.75%	1.00	5,800.00 SF	5.000			31,828				31,828

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
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**BID ITEM = 5020**  
 Description = Transverse Beams (F&P) Repair  
 \$141,371.17

Land Item SCHEDULE: 1 100  
 Unit = LOC Takeoff Quan: 10.000 Engr Quan: 10.000  
 [ ] 7,696 133,676 141,371

**5020.02 Sawcut** **Quan: 2,463.00 LF** **Hrs/Shft: 10.00** **Cal: 50S** **WC: MARINE**

5' x 19" x 50'

Figure 123.16 Ft/Side \* 2 Sides = 246.32 LF \* 10 EA = 2,463 LF of Saw Cutting

Sawcut a minimum 1" deep around the perimeter of the repair area to allow for clean face of concrete. Total sawcut length for repairs is 2,463 FT.

Allow 2 Carpenters sawcutting with right angle grinders w/diamond wheels. Allow production at 10 lf/hr.

CARP	Carpenter Barge Crew		246.30 CH	Prod: 10.000 UH	Lab Pcs: 10.00	Eqp Pcs: 7.00		
803AC0250	Portable Air Comp - 25	1.00	246.30 HR	36.929		1,998	7,984	9,982
811LGS0020D	20kW Large GenSet	1.00	246.30 HR	27.908		1,222	6,322	7,544
814CB050	Crane Barge - 50 Ton	1.00	246.30 HR	114.119		19,419	11,429	30,848
814CD10WB	Work Barge	1.00	246.30 HR	11.745		2,056	1,119	3,175
814CD10WT	Work Tugboat	1.00	246.30 HR	190.674		3,258	48,284	51,542
818PW500S	Portable Welder Skid 5	1.00	246.30 HR	19.056		574	4,577	5,151
822_SMT00LP	Pile Small Tools	1.00	246.30 HR	15.000		3,695		3,695
CA01	Carpenter Foreman	1.00	246.30 MH	70.410	35,062			35,062
CA02	Carpenter	4.00	985.20 MH	64.010	130,714			130,714
COE07	Crane Operator (GR 2) (45-	1.00	246.30 MH	63.550	32,140			32,140
COE09	Engr. Oiler	1.00	246.30 MH	55.840	29,269			29,269
COE14	Deck Engineer	1.00	246.30 MH	57.460	29,872			29,872
IB03	Mate	1.00	246.30 MH	57.310	21,346			21,346
IB04	Deckhand	1.00	246.30 MH	57.480	21,409			21,409
\$411,749.84	1.0000 MH/LF		2,463.0000MH	[ 67.99 ]	299,813	32,222	79,715	411,750

**5020.03 Demo Bad Concrete to Rebar** **Quan: 405.00 CF** **Hrs/Shft: 10.00** **Cal: 50S** **WC: MARINE**

Figure 1.5 CY of concrete Removal per location \* 10 Locations = 15 CY = 405 CF

Remove concrete spall area to sound concrete.

Assume production at 3 cft/hr

CARP	Carpenter Barge Crew		135.00 CH	Prod: 3.0000 UH	Lab Pcs: 10.00	Eqp Pcs: 7.00		
803AC0250	Portable Air Comp - 25	1.00	135.00 HR	36.929		1,095	4,376	5,471
811LGS0020D	20kW Large GenSet	1.00	135.00 HR	27.908		670	3,465	4,135
814CB050	Crane Barge - 50 Ton	1.00	135.00 HR	114.119		10,644	6,264	16,908
814CD10WB	Work Barge	1.00	135.00 HR	11.745		1,127	613	1,740
814CD10WT	Work Tugboat	1.00	135.00 HR	190.674		1,786	26,465	28,251

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 5020</b>			Land Item	SCHEDULE: 1	100						
Description =	Transverse Beams (F&P) Repair			Unit =	LOC	Takeoff Quan:	10.000	Engr Quan:	10.000		
818PW500S	Portable Welder Skid 5	1.00	135.00 HR		19.056			315	2,509		2,823
822_SMTOOLP	Pile Small Tools	1.00	135.00 HR		15.000			2,025			2,025
CA01	Carpenter Foreman	1.00	135.00 MH		70.410	19,218					19,218
CA02	Carpenter	4.00	540.00 MH		64.010	71,646					71,646
COE07	Crane Operator (GR 2) (45-	1.00	135.00 MH		63.550	17,617					17,617
COE09	Engr. Oiler	1.00	135.00 MH		55.840	16,043					16,043
COE14	Deck Engineer	1.00	135.00 MH		57.460	16,373					16,373
IB03	Mate	1.00	135.00 MH		57.310	11,700					11,700
IB04	Deckhand	1.00	135.00 MH		57.480	11,735					11,735
\$225,685.00	3.3333 MH/CF		1,350.0000MH		[ 226.633 ]	164,331		17,661	43,692		225,685

**5020.04 Sandblast Rebar** **Quan: 5,800.00 SF Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

This activity is to sandblast the exposed rebar to clean the scale and rust off of it. Production will be limited by moving from one location to the other. Allow for 0.5 hour at each location plus 0.5 hour for moves. 60 locations x 1 = 60 hours

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>CARPB</b>	(Mod) Carpenter Barge Crew		12.71 CH	<b>Prod: 455.9999 UH</b>		Lab Pcs: 10.00		Eqp Pcs: 8.00			
803AC0250	Portable Air Comp - 25	1.00	12.72 HR		36.929			103	412		516
803PSM007	Port Sandblasting Mach	1.00	12.72 HR		3.473			35	13		48
811LGS0020D	20kW Large GenSet	1.00	12.72 HR		27.908			63	326		390
814CB050	Crane Barge - 50 Ton	1.00	12.72 HR		114.119			1,003	590		1,593
814CD10WB	Work Barge	1.00	12.72 HR		11.745			106	58		164
814CD10WT	Work Tugboat	1.00	12.72 HR		190.674			168	2,494		2,662
818PW500S	Portable Welder Skid 5	1.00	12.72 HR		19.056			30	236		266
822_SMTOOLP	Pile Small Tools	1.00	12.72 HR		15.000			191			191
CA01	Carpenter Foreman	1.00	12.72 MH		70.410	1,811					1,811
CA02	Carpenter	4.00	50.88 MH		64.010	6,751					6,751
COE07	Crane Operator (GR 2) (45-	1.00	12.72 MH		63.550	1,660					1,660
COE09	Engr. Oiler	1.00	12.72 MH		55.840	1,512					1,512
COE14	Deck Engineer	1.00	12.72 MH		57.460	1,543					1,543
IB03	Mate	1.00	12.72 MH		57.310	1,102					1,102
IB04	Deckhand	1.00	12.72 MH		57.480	1,106					1,106
\$21,312.96	0.0219 MH/SF		127.2000MH		[ 1.491 ]	15,484		1,699	4,130		21,313

**5020.05 Form Repair Area** **Quan: 5,800.00 SF Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

Allow for installation of average approx. 580 sf of forms at 1 locations. Assume 60 minutes per location x 10 = 10 hours

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>CARPB</b>	Carpenter Barge Crew		10.00 CH	<b>Prod: 580.0000 UH</b>		Lab Pcs: 10.00		Eqp Pcs: 7.00			
803AC0250	Portable Air Comp - 25	1.00	10.00 HR		36.929			81	324		405
811LGS0020D	20kW Large GenSet	1.00	10.00 HR		27.908			50	257		306
814CB050	Crane Barge - 50 Ton	1.00	10.00 HR		114.119			788	464		1,252

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 5020</b>											
Description = Transverse Beams (F&P) Repair			Land Item	SCHEDULE: 1	100						
			Unit =	LOC	Takeoff Quan:	10.000	Engr Quan:	10.000			
814CD10WB	Work Barge	1.00	10.00 HR	11.745				83	45		129
814CD10WT	Work Tugboat	1.00	10.00 HR	190.674				132	1,960		2,093
818PW500S	Portable Welder Skid 5	1.00	10.00 HR	19.056				23	186		209
822_SMTOOLP	Pile Small Tools	1.00	10.00 HR	15.000				150			150
CA01	Carpenter Foreman	1.00	10.00 MH	70.410	1,424						1,424
CA02	Carpenter	4.00	40.00 MH	64.010	5,307						5,307
COE07	Crane Operator (GR 2) (45-	1.00	10.00 MH	63.550	1,305						1,305
COE09	Engr. Oiler	1.00	10.00 MH	55.840	1,188						1,188
COE14	Deck Engineer	1.00	10.00 MH	57.460	1,213						1,213
IB03	Mate	1.00	10.00 MH	57.310	867						867
IB04	Deckhand	1.00	10.00 MH	57.480	869						869
\$16,717.35	0.0172 MH/SF		100.0000MH	[ 1.172 ]	12,173			1,308	3,236		16,717

<b>5020.06</b>	<b>Install Rebar</b>			<b>Quan: 2,930.00 LBS</b>	<b>Hrs/Shft: 10.00</b>	<b>Cal: 50S</b>	<b>WC: MARINE</b>				
4REBAR	Rebar Sub	1.00	2,930.00 LBS	2.000						5,860	5,860

<b>5020.07</b>	<b>Pump Concrete</b>			<b>Quan: 10.00 LOC</b>	<b>Hrs/Shft: 10.00</b>	<b>Cal: 50S</b>	<b>WC: MARINE</b>				
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60 Locations with Average Volume of 1.8 CY/Location  
 Assume 30 minutes per location x 60 = 30 hours

<u>CARPB</u> (Mod) Carpenter Barge Crew		5.00	CH	Prod: 0.0000	Lab Pcs:	10.00	Eqp Pcs:	8.00			
803AC0250	Portable Air Comp - 25	1.00	5.00 HR	36.929			41	162			203
807TRMCP045	SCHWNG BPA500 Trl Pu	1.00	5.00 HR	55.116			102	200			302
811LGS0020D	20kW Large GenSet	1.00	5.00 HR	27.908			25	128			153
814CB050	Crane Barge - 50 Ton	1.00	5.00 HR	114.119			394	232			626
814CD10WB	Work Barge	1.00	5.00 HR	11.745			42	23			64
814CD10WT	Work Tugboat	1.00	5.00 HR	190.674			66	980			1,046
818PW500S	Portable Welder Skid 5	1.00	5.00 HR	19.056			12	93			105
822_SMTOOLP	Pile Small Tools	1.00	5.00 HR	15.000			75				75
CA01	Carpenter Foreman	1.00	5.00 MH	70.410	712						712
CA02	Carpenter	4.00	20.00 MH	64.010	2,654						2,654
COE07	Crane Operator (GR 2) (45-	1.00	5.00 MH	63.550	652						652
COE09	Engr. Oiler	1.00	5.00 MH	55.840	594						594
COE14	Deck Engineer	1.00	5.00 MH	57.460	606						606
IB03	Mate	1.00	5.00 MH	57.310	433						433
IB04	Deckhand	1.00	5.00 MH	57.480	435						435
\$8,661.07	5.0000 MH/LOC		50.0000MH	[ 339.951 ]	6,086		756	1,819			8,661

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 5020</b>			Land Item	SCHEDULE: 1	100						
Description =	Transverse Beams (F&P) Repair			Unit = LOC	Takeoff Quan:	10.000		Engr Quan:	10.000		
<b>=====&gt; Item Totals: 5020 - Transverse Beams (F&amp;P) Repair</b>											
\$831,357.39	409.0200 MH/LOC		4,090.20MH	[ 27809.232 ]	497,887	7,696	133,676	53,647	132,592	5,860	<b>831,357</b>
83,135.739	10 LOC				49,788.71	769.57	13,367.55	5,364.70	13,259.21	586.00	83,135.74

<b>BID ITEM = 5030</b>			Land Item	SCHEDULE: 1	100						
Description =	18" Pile Replacement			Unit = LOC	Takeoff Quan:	1.000		Engr Quan:	1.000		

5030.01	Pile Materials	Quan:	1.00 EA	Hrs/Shft:	10.00	Cal:	50S	WC:	MARINE
2PCPILE18SQ	PC/PS Concrete@109.75%	1.00	70.00 LF	125.000		9,603			9,603
3BUBBLEC	Bubble Curtain@109.75%	1.00	1.00 LS	25,000.000			27,438		27,438
3L3100	Cushion blk - @109.75%	1.00	1.00 EA	50.000			55		55
3PILETEMP	Pile Template@109.75%	1.00	1.00 LS	5,000.000			5,488		5,488
5PILEFRT	Pile Freight	1.00	1.00 EA	2,500.000			2,500		2,500
\$45,083.01				[ ]		9,603	35,480		45,083

5030.02	Core Drill Though Existing What Deck and	Quan:	1.00 EA	Hrs/Shft:	10.00	Cal:	50S	WC:	MARINE
Figure Concrete	Coring Sub to come in and Drill 1 EA - 36" Holes into deck & Beam for access to install Pile								
4-36"CD	36" Diameter Core Drill (S)	1.00	1.00 EA	7,500.000					7,500
819WT09000	==> Water Trailer 9K gal	1.00	1.00 HR	21.728			14	10	24
LA02	==> Laborer (CS)	2.00	2.00 MH	38.450	177				177
\$7,701.00	2.0000 MH/EA		2.0000MH	[ 84.59 ]	177		14	10	7,500

5030.03	Drill Dowel Holes Into Pile Cap for Cap	Quan:	28.00 EA	Hrs/Shft:	10.00	Cal:	50S	WC:	MARINE
Figure Existing	Cap Dimension is 2' x 1'								
Spacing	There will be 11 Dowel Holes Per Cap End 11 Holes * 2 Ends = 22 Holes								
Figure Drill	dowel Holes 6" Deep. Figure due to age of concrete Figure 15 Mins/Holes =22 Holes @ 0.25 HRS/Hole = 5.5 HRS/2 Drillers = 2.75 HRS								
<u>PDEMO1</u>	Pile Demo Crew 1	3.50	CH	<b>Prod:</b>	<b>8.0000 UH</b>	Lab Pcs:	6.00	Eqp Pcs:	9.00
803AC0250	Portable Air Comp - 25	1.00	3.50 HR	36.929				28	113
811SGS2500D	2500w Small GenSet	1.00	3.50 HR	3.830				3	11
814CD10WB	Work Barge	1.00	3.50 HR	11.745				29	16
814CD10WT	Work Tugboat	1.00	3.50 HR	190.674				46	686
820OHLDTC421	LD Truck 4x2 1t	1.00	3.50 HR	34.824				17	117
822_CARPBARG	Barge Carpenter 12x40	1.00	3.50 HR	26.000				91	91

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 5030</b>			Land Item	SCHEDULE: 1 100							
Description =	18" Pile Replacement			Unit = LOC	Takeoff Quan:	1.000	Engr Quan:		1.000		
822_DEMO	Demo Small Tools	1.00	3.50 HR	14.000				49			49
822_WRKFLOT	9 x 20 Work Float	2.00	7.00 HR	12.000				84			84
CA01	Carpenter Foreman	1.00	3.50 MH	70.410	498						498
CA02	Carpenter	4.00	14.00 MH	64.010	1,857						1,857
IB04	Deckhand	1.00	3.50 MH	57.480	304						304
\$3,951.79	0.7500 MH/EA		21.0000MH	[ 52.79 ]	2,660			348	944		3,952

**5030.04 MOB Crane Barge to Site for Pile Install** **Quan: 1.00 EA Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

Figure Contractor will Mob a Crane Barge & Equipment into Project for Installation of Piles and Concrete Repairs.

Figure 1 Day for Barge Setup and 1 Day Mobilization to project this can occur prior to start of work

<u>PILEC</u>	Pile Crew		20.00 CH	Prod: 2.0000 S	Lab Pcs:	9.00	Eqp Pcs:	11.00		
3RIGGING	Rigging@109.75%	1.00	0.50 LS	20,000.000			10,975		10,975	
803AC0185	Portable Air Comp - 18	1.00	20.00 HR	30.150			103	559	662	
803AC1200	Portable Air Comp - 13	2.00	40.00 HR	170.886			1,238	6,264	7,502	
811LGS0020D	20kW Large GenSet	1.00	20.00 HR	27.908			99	513	613	
813CMLBC777	MANITOWOC 777 S2 200	1.00	20.00 HR	392.769			4,397	4,224	8,621	
814CB200	Crane Barge - 200 Ton	1.00	20.00 HR	300.939			4,478	2,127	6,606	
814ITB0250	Inland Tug - 250hp	1.00	20.00 HR	137.358			553	2,462	3,015	
815DH03032	DELMAG D30-32 Dsl Ham	1.00	20.00 HR	98.333			1,129	1,029	2,158	
818PW350S	Portable Welder Skid 3	1.00	20.00 HR	12.781			42	239	281	
820OHLDTC42	LD Truck 4x2 1.75t	1.00	20.00 HR	46.798			138	889	1,027	
822_DEMO	Demo Small Tools	1.00	20.00 HR	14.000			280		280	
COE01	Crane Operator (GR A-1) (	1.00	20.00 MH	66.120	2,688				2,688	
COE11	Truck Crane Oiler (GR 3)	1.00	20.00 MH	57.850	2,437				2,437	
IB01	Captain	1.00	20.00 MH	61.410	1,857				1,857	
IB04	Deckhand	1.00	20.00 MH	57.480	1,738				1,738	
PD01	Piledriver Foreman	1.00	20.00 MH	64.620	2,740				2,740	
PD02	Piledriver	4.00	80.00 MH	62.620	10,717				10,717	
\$63,916.88	180.0000 MH/EA		180.0000MH	[ 12275.12 ]	22,178		10,975	12,458	18,306	63,917

**5030.05 Unload Pile from Truck** **Quan: 1.00 EA Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

<u>PILEC</u>	Pile Crew		0.50 CH	Prod: 0.5000 HU	Lab Pcs:	9.00	Eqp Pcs:	11.00	
803AC0185	Portable Air Comp - 18	1.00	0.50 HR	30.150			3	14	17
803AC1200	Portable Air Comp - 13	2.00	1.00 HR	170.886			31	157	188
811LGS0020D	20kW Large GenSet	1.00	0.50 HR	27.908			2	13	15
813CMLBC777	MANITOWOC 777 S2 200	1.00	0.50 HR	392.769			110	106	216
814CB200	Crane Barge - 200 Ton	1.00	0.50 HR	300.939			112	53	165

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 5030</b>			Land Item	SCHEDULE: 1	100						
Description =	18" Pile Replacement		Unit =	LOC	Takeoff Quan:	1.000	Engr Quan:		1.000		
814ITB0250	Inland Tug - 250hp	1.00	0.50 HR	137.358				14	62		75
815DH03032	DELMAG D30-32 Dsl Ham	1.00	0.50 HR	98.333				28	26		54
818PW350S	Portable Welder Skid 3	1.00	0.50 HR	12.781				1	6		7
820OHLDTTC42	LD Truck 4x2 1.75t	1.00	0.50 HR	46.798				3	22		26
822_DEMO	Demo Small Tools	1.00	0.50 HR	14.000				7			7
COE01	Crane Operator (GR A-1) (	1.00	0.50 MH	66.120	67						67
COE11	Truck Crane Oiler (GR 3)	1.00	0.50 MH	57.850	61						61
IB01	Captain	1.00	0.50 MH	61.410	46						46
IB04	Deckhand	1.00	0.50 MH	57.480	43						43
PD01	Piledriver Foreman	1.00	0.50 MH	64.620	68						68
PD02	Piledriver	4.00	2.00 MH	62.620	268						268
\$1,323.41	4.5000 MH/EA		4.5000MH	[ 306.88 ]	554			311	458		1,323

**5030.06 Remove Existing Pile** **Quan: 1.00 EA Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

<u>PILEC</u>	Pile Crew		2.00 CH	Prod:	2.0000 HU	Lab Pcs:	9.00	Eqp Pcs:	11.00	
3511	Disposal Fee-2@109.75%	1.00	1.00 LD	2,700.000			2,963			2,963
803AC0185	Portable Air Comp - 18	1.00	2.00 HR	30.150				10	56	66
803AC1200	Portable Air Comp - 13	2.00	4.00 HR	170.886				124	626	750
811LGS0020D	20kW Large GenSet	1.00	2.00 HR	27.908				10	51	61
813CMLBC777	MANITOWOC 777 S2 200	1.00	2.00 HR	392.769				440	422	862
814CB200	Crane Barge - 200 Ton	1.00	2.00 HR	300.939				448	213	661
814ITB0250	Inland Tug - 250hp	1.00	2.00 HR	137.358				55	246	301
815DH03032	DELMAG D30-32 Dsl Ham	1.00	2.00 HR	98.333				113	103	216
818PW350S	Portable Welder Skid 3	1.00	2.00 HR	12.781				4	24	28
820OHLDTTC42	LD Truck 4x2 1.75t	1.00	2.00 HR	46.798				14	89	103
822_DEMO	Demo Small Tools	1.00	2.00 HR	14.000				28		28
COE01	Crane Operator (GR A-1) (	1.00	2.00 MH	66.120	269					269
COE11	Truck Crane Oiler (GR 3)	1.00	2.00 MH	57.850	244					244
IB01	Captain	1.00	2.00 MH	61.410	186					186
IB04	Deckhand	1.00	2.00 MH	57.480	174					174
PD01	Piledriver Foreman	1.00	2.00 MH	64.620	274					274
PD02	Piledriver	4.00	8.00 MH	62.620	1,072					1,072
\$8,257.36	18.0000 MH/EA		18.0000MH	[ 1227.51 ]	2,218		2,963	1,246	1,831	8,257

**5030.07 Install New Piles** **Quan: 1.00 EA Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

<u>PILEC</u>	Pile Crew		2.50 CH	Prod:	2.5000 HU	Lab Pcs:	9.00	Eqp Pcs:	11.00	
803AC0185	Portable Air Comp - 18	1.00	2.50 HR	30.150				13	70	83

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 5030</b>			Land Item	SCHEDULE: 1	100						
Description =	18" Pile Replacement		Unit =	LOC	Takeoff Quan:	1.000	Engr Quan:	1.000			
803AC1200	Portable Air Comp - 13	2.00	5.00 HR	170.886				155	783		938
811LGS0020D	20kW Large GenSet	1.00	2.50 HR	27.908				12	64		77
813CMLBC777	MANITOWOC 777 S2 200	1.00	2.50 HR	392.769				550	528		1,078
814CB200	Crane Barge - 200 Ton	1.00	2.50 HR	300.939				560	266		826
814ITB0250	Inland Tug - 250hp	1.00	2.50 HR	137.358				69	308		377
815DH03032	DELMAG D30-32 Dsl Ham	1.00	2.50 HR	98.333				141	129		270
818PW350S	Portable Welder Skid 3	1.00	2.50 HR	12.781				5	30		35
820OHLDTC42	LD Truck 4x2 1.75t	1.00	2.50 HR	46.798				17	111		128
822_DEMO	Demo Small Tools	1.00	2.50 HR	14.000				35			35
COE01	Crane Operator (GR A-1) (	1.00	2.50 MH	66.120	336						336
COE11	Truck Crane Oiler (GR 3)	1.00	2.50 MH	57.850	305						305
IB01	Captain	1.00	2.50 MH	61.410	232						232
IB04	Deckhand	1.00	2.50 MH	57.480	217						217
PD01	Piledriver Foreman	1.00	2.50 MH	64.620	342						342
PD02	Piledriver	4.00	10.00 MH	62.620	1,340						1,340
\$6,617.66	22.5000 MH/EA		22.5000MH	[ 1534.4 ]	2,772			1,557	2,288		6,618

**5030.08 Cut Off Pile** **Quan: 1.00 EA Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

<u>PILEC</u>	Pile Crew	1.00	CH	Prod:	1.0000 HU	Lab Pcs:	9.00	Eqp Pcs:	11.00	
3511	Disposal Fee-2@109.75%	1.00	0.50 LD	2,700.000			1,482			1,482
803AC0185	Portable Air Comp - 18	1.00	1.00 HR	30.150				5	28	33
803AC1200	Portable Air Comp - 13	2.00	2.00 HR	170.886				62	313	375
811LGS0020D	20kW Large GenSet	1.00	1.00 HR	27.908				5	26	31
813CMLBC777	MANITOWOC 777 S2 200	1.00	1.00 HR	392.769				220	211	431
814CB200	Crane Barge - 200 Ton	1.00	1.00 HR	300.939				224	106	330
814ITB0250	Inland Tug - 250hp	1.00	1.00 HR	137.358				28	123	151
815DH03032	DELMAG D30-32 Dsl Ham	1.00	1.00 HR	98.333				56	51	108
818PW350S	Portable Welder Skid 3	1.00	1.00 HR	12.781				2	12	14
820OHLDTC42	LD Truck 4x2 1.75t	1.00	1.00 HR	46.798				7	44	51
822_DEMO	Demo Small Tools	1.00	1.00 HR	14.000				14		14
COE01	Crane Operator (GR A-1) (	1.00	1.00 MH	66.120	134					134
COE11	Truck Crane Oiler (GR 3)	1.00	1.00 MH	57.850	122					122
IB01	Captain	1.00	1.00 MH	61.410	93					93
IB04	Deckhand	1.00	1.00 MH	57.480	87					87
PD01	Piledriver Foreman	1.00	1.00 MH	64.620	137					137
PD02	Piledriver	4.00	4.00 MH	62.620	536					536
\$4,128.61	9.0000 MH/EA		9.0000MH	[ 613.76 ]	1,109		1,482	623	915	4,129

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
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**BID ITEM = 5030**  
 Description = 18" Pile Replacement  
 Land Item SCHEDULE: 1 100  
 Unit = LOC Takeoff Quan: 1.000 Engr Quan: 1.000

**5030.09 DeMOB Crane Barge Back to Yard Quan: 1.00 EA Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

Figure 1 Day for Barge Loading & Unloading and 1 Day Mobilization back to yard.

PILEC	Pile Crew	20.00	CH	Prod:	2.0000 S	Lab Pcs:	9.00	Eqp Pcs:	11.00	
803AC0185	Portable Air Comp - 18	1.00	20.00 HR	30.150				103	559	662
803AC1200	Portable Air Comp - 13	2.00	40.00 HR	170.886				1,238	6,264	7,502
811LGS0020D	20kW Large GenSet	1.00	20.00 HR	27.908				99	513	613
813CMLBC777	MANITOWOC 777 S2 200	1.00	20.00 HR	392.769				4,397	4,224	8,621
814CB200	Crane Barge - 200 Ton	1.00	20.00 HR	300.939				4,478	2,127	6,606
814ITB0250	Inland Tug - 250hp	1.00	20.00 HR	137.358				553	2,462	3,015
815DH03032	DELMAG D30-32 Dsl Ham	1.00	20.00 HR	98.333				1,129	1,029	2,158
818PW350S	Portable Welder Skid 3	1.00	20.00 HR	12.781				42	239	281
820OHLDTC42	LD Truck 4x2 1.75t	1.00	20.00 HR	46.798				138	889	1,027
822_DEMO	Demo Small Tools	1.00	20.00 HR	14.000				280		280
COE01	Crane Operator (GR A-1) (	1.00	20.00 MH	66.120		2,688				2,688
COE11	Truck Crane Oiler (GR 3)	1.00	20.00 MH	57.850		2,437				2,437
IB01	Captain	1.00	20.00 MH	61.410		1,857				1,857
IB04	Deckhand	1.00	20.00 MH	57.480		1,738				1,738
PD01	Piledriver Foreman	1.00	20.00 MH	64.620		2,740				2,740
PD02	Piledriver	4.00	80.00 MH	62.620		10,717				10,717
\$52,941.88	180.0000 MH/EA		180.0000MH	[ 12275.12 ]		22,178		12,458	18,306	52,942

**5030.10 Install Pile Dowels for Cap Tie-In Quan: 1.00 EA Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

Figure sleeves are cast into pile Installing 8 Dowel Bars / Pile \* 1 Piles = 8 Holes

Figure Dowels are #5 Bars with 3' Embedment into Pile & 4' Exposed = 7LF Total

8 EA \* 7 LF = 56 LF @ 1.043 #/LF = 58.408 LBS

Figure Procues:

- 1) Blow Out Holes
- 2) Install Epoxy
- 3) Install Dowel

Figure 1 HR/Pile

PILECO	Pile Concrete Crew	1.00	CH	Prod:	1.0000 HU	Lab Pcs:	6.00	Eqp Pcs:	9.00	
2-ULTRABOND1	Ultradond 1@109.75%	1.00	8.00 EA	40.000		351				351

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 5030</b>			Land Item	SCHEDULE: 1	100						
Description =	18" Pile Replacement			Unit =	LOC	Takeoff Quan:	1.000	Engr Quan:		1.000	
2CR060	Gr 60 Rebar@109.75%	1.00	58.41 LBS	2.000		128					128
2CRACC	Rebar Accessor@109.75%	1.00	58.41 LBS	0.500		32					32
803AC0185	Portable Air Comp - 18	1.00	1.00 HR	30.150				5	28		33
809FEL950	CAT 950H F.E. Loader 4	1.00	1.00 HR	84.726				31	62		93
811LGS0020D	20kW Large GenSet	1.00	1.00 HR	27.908				5	26		31
818PW350S	Portable Welder Skid 3	1.00	1.00 HR	12.781				2	12		14
820OHLDTC42	LD Truck 4x2 1.75t	1.00	1.00 HR	46.798				7	44		51
822_CARPBAR	Barge Carpenter 12x40	1.00	1.00 HR	26.000				26			26
822_DEMO	Demo Small Tools	1.00	1.00 HR	14.000				14			14
822_WRKFL0T	9 x 20 Work Float	2.00	2.00 HR	12.000				24			24
CA01	Carpenter Foreman	1.00	1.00 MH	70.410	142						142
CA02	Carpenter	4.00	4.00 MH	64.010	531						531
OE08	Operator (GR 7) (Pvmt Bre	1.00	1.00 MH	56.030	119						119
\$1,589.66	6.0000 MH/EA		6.0000MH	[ 420.72 ]	792	511		114	172		1,590

**5030.11 Chip out Existing Concrete**      **Quan: 1.00 EA**      **Hrs/Shft: 10.00**      **Cal: 50S**      **WC: MARINE**

Figure Chipping out Existing Beams & Dispose

Figure 1 Shift per Location

<u>PILECO</u>	Pile Concrete Crew	10.00 CH	Prod: 1.0000 S	Lab Pcs: 6.00	Eqp Pcs: 9.00	
3511	Disposal Fee-2@109.75%	1.00	0.50 LD	2,700.000		1,482
803AC0185	Portable Air Comp - 18	1.00	10.00 HR	30.150	52	279
809FEL950	CAT 950H F.E. Loader 4	1.00	10.00 HR	84.726	309	621
811LGS0020D	20kW Large GenSet	1.00	10.00 HR	27.908	50	257
818PW350S	Portable Welder Skid 3	1.00	10.00 HR	12.781	21	119
820OHLDTC42	LD Truck 4x2 1.75t	1.00	10.00 HR	46.798	69	445
822_CARPBAR	Barge Carpenter 12x40	1.00	10.00 HR	26.000	260	
822_DEMO	Demo Small Tools	1.00	10.00 HR	14.000	140	
822_WRKFL0T	9 x 20 Work Float	2.00	20.00 HR	12.000	240	
CA01	Carpenter Foreman	1.00	10.00 MH	70.410	1,424	
CA02	Carpenter	4.00	40.00 MH	64.010	5,307	
OE08	Operator (GR 7) (Pvmt Bre	1.00	10.00 MH	56.030	1,191	
\$12,264.39	60.0000 MH/EA		60.0000MH	[ 4207.28 ]	7,922	1,482 1,140 1,721

**5030.12 Pile Cap / Build up Permanent Materials**      **Quan: 1.00 EA**      **Hrs/Shft: 10.00**      **Cal: 50S**      **WC: MARINE**

2-ULTRABOND1	Ultradond 1@109.75%	1.00	30.00 EA	40.000	1,317		1,317
2C0006	5000 PSI Concr@109.75%	1.10	1.10 CY	225.000	272		272
2C0FUEL/ENV	Concrete Fuel/@109.75%	1.10	1.10 CY	10.000	12		12

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 5030</b>			Land Item	SCHEDULE: 1	100						
Description =	18" Pile Replacement			Unit = LOC	Takeoff Quan:	1.000	Engr Quan:			1.000	
2CR060	Gr 60 Rebar@109.75%	1.00	12.50 LB	2.000		27					27
2CRACC	Rebar Accessor@109.75%	1.00	12.50 LB	0.500		7					7
\$1,635.00				[ ]		1,635					1,635

**5030.13 Pile Cap / Build up Construction Materia Quan: 1.00 EA Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

----- Pile Cap Formwork -----

Bent	Lenght	Width	Height	Soffitt	Form	Side Form	Form Oil	Cure	P+P
116	5	2	1.00	10.00		20.00	30.00	10.00	40.00
				-----		-----	-----	-----	-----
				10		20	30	10	40

----- End Calculation -----

2CT10	Form Oil@109.75%	1.00	30.00 SF	0.500		16					16
3CONCURE	Concrete Cure @109.75%	1.00	10.00 SF	0.500			5				5
3F120	Wood Wall Form@109.75	1.00	20.00 SF	10.000			220				220
3F140	Wood Soffit Fo@109.75%	1.00	10.00 SF	15.000			165				165
3FA100	Formwork Acces@109.75%	1.00	30.00 SF	1.000			33				33
3P&PSUP	Point & Patch @109.75%	1.00	40.00 SF	0.500			22				22
\$460.96				[ ]		16	445				461

**5030.14 Pile Cap / Build up Falsework Materials Quan: 1.00 EA Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

Friction Collar Assume C8x21.4 --> 18" Pile Figure 3 LF/EA @ 21.4#/LF = 64.2#/EA  
 Pile Angles Assume L5x5x3/8 --> 18" Pile Figure 8EA @ 8" 12.3#/LF = 8.24#/EA

- 1" Coil Rod 36"/Rod \* 2/EA
- 1" Coil Rod Nut \* 4/EA
- 1" Voil Rod Washer \* 2/EA

Neoprene Pads Figure 2 SF/Collar \* 4 = 8 SF/Pile

Figure 2 Friction Collars / Pile											
3-18"FRICTIO	18" Friction C@109.75%	1.00	2.00 EA	600.000						1,317	1,317
3-GLUAM	Glulam Beams@109.75%	1.00	3.00 EA	400.000						1,317	1,317
3-HORSECOLLA	12x12 Horse Co@109.75%	1.00	1.00 EA	550.000						604	604
3-NEOPAD	Neoprene Pads@109.75%	1.00	8.00 SF	25.000						220	220
3-W18X65BEAM	W18x65 Distrib@109.75%	1.00	2.00 EA	3,500.000						7,683	7,683

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
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**BID ITEM = 5030** Land Item SCHEDULE: 1 100  
 Description = 18" Pile Replacement Unit = LOC Takeoff Quan: 1.000 Engr Quan: 1.000  
 \$11,139.63 [ ] 11,140 11,140

**5030.15 Install, Torque & Remove Friction Collar** Quan: 2.00 EA Hrs/Shft: 10.00 Cal: 50S WC: MARINE

Assume 2 collars per Pile. 1 Piles, Furnish & Install 2 EA, Temporary Pile Collars to Support the Temporary Formwork for the Pile Caps Retrofit.  
 Use Neoprene Pads between Pile Collar & Pile to protect concrete.

PILECO	Description	Quantity	Unit	Prod:	Unit	Lab Pcs:	Cal:	Eqp Pcs:	Total
	Pile Concrete Crew	0.50	CH	<b>0.2500</b>	<b>HU</b>		6.00	9.00	
803AC0185	Portable Air Comp - 18	1.00	0.50 HR	30.150				3 14	17
809FEL950	CAT 950H F.E. Loader 4	1.00	0.50 HR	84.726				15 31	46
811LGS0020D	20kW Large GenSet	1.00	0.50 HR	27.908				2 13	15
818PW350S	Portable Welder Skid 3	1.00	0.50 HR	12.781				1 6	7
820OHLDTC42	LD Truck 4x2 1.75t	1.00	0.50 HR	46.798				3 22	26
822_CARPBARG	Barge Carpenter 12x40	1.00	0.50 HR	26.000				13	13
822_DEMO	Demo Small Tools	1.00	0.50 HR	14.000				7	7
822_WRKFL0T	9 x 20 Work Float	2.00	1.00 HR	12.000				12	12
CA01	Carpenter Foreman	1.00	0.50 MH	70.410		71			71
CA02	Carpenter	4.00	2.00 MH	64.010		265			265
OE08	Operator (GR 7) (Pvmt Bre	1.00	0.50 MH	56.030		60			60
\$539.08	1.5000 MH/EA		3.0000MH	[ 105.185 ]		396		57 86	539

**5030.16 Install Horse Collars & Stacking Beams** Quan: 1.00 EA Hrs/Shft: 10.00 Cal: 50S WC: MARINE

PILECO	Description	Quantity	Unit	Prod:	Unit	Lab Pcs:	Cal:	Eqp Pcs:	Total
	Pile Concrete Crew	1.00	CH	<b>1.0000</b>	<b>HU</b>		6.00	9.00	
803AC0185	Portable Air Comp - 18	1.00	1.00 HR	30.150				5 28	33
809FEL950	CAT 950H F.E. Loader 4	1.00	1.00 HR	84.726				31 62	93
811LGS0020D	20kW Large GenSet	1.00	1.00 HR	27.908				5 26	31
818PW350S	Portable Welder Skid 3	1.00	1.00 HR	12.781				2 12	14
820OHLDTC42	LD Truck 4x2 1.75t	1.00	1.00 HR	46.798				7 44	51
822_CARPBARG	Barge Carpenter 12x40	1.00	1.00 HR	26.000				26	26
822_DEMO	Demo Small Tools	1.00	1.00 HR	14.000				14	14
822_WRKFL0T	9 x 20 Work Float	2.00	2.00 HR	12.000				24	24
CA01	Carpenter Foreman	1.00	1.00 MH	70.410		142			142
CA02	Carpenter	4.00	4.00 MH	64.010		531			531
OE08	Operator (GR 7) (Pvmt Bre	1.00	1.00 MH	56.030		119			119
\$1,078.20	6.0000 MH/EA		6.0000MH	[ 420.72 ]		792		114 172	1,078

**5030.17 Fab Soffit Panels** Quan: 10.00 SF Hrs/Shft: 10.00 Cal: 50S WC: MARINE

PILECO	Description	Quantity	Unit	Prod:	Unit	Lab Pcs:	Cal:	Eqp Pcs:	Total
	Pile Concrete Crew	0.31	CH	<b>32.0000</b>	<b>UH</b>		6.00	9.00	
803AC0185	Portable Air Comp - 18	1.00	0.31 HR	30.150				2 9	10

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 5030</b>											
Description = 18" Pile Replacement			Land Item	SCHEDULE: 1	100						
			Unit =	LOC	Takeoff Quan:	1.000	Engr Quan:	1.000			
809FEL950	CAT 950H F.E. Loader 4	1.00	0.31 HR	84.726				10	19		29
811LGS0020D	20kW Large GenSet	1.00	0.31 HR	27.908				2	8		9
818PW350S	Portable Welder Skid 3	1.00	0.31 HR	12.781				1	4		4
820OHLDTC42	LD Truck 4x2 1.75t	1.00	0.31 HR	46.798				2	14		16
822_CARPBARG	Barge Carpenter 12x40	1.00	0.31 HR	26.000				8			8
822_DEMO	Demo Small Tools	1.00	0.31 HR	14.000				4			4
822_WRKFL0T	9 x 20 Work Float	2.00	0.63 HR	12.000				8			8
CA01	Carpenter Foreman	1.00	0.31 MH	70.410	44						44
CA02	Carpenter	4.00	1.25 MH	64.010	166						166
OE08	Operator (GR 7) (Pvmt Bre	1.00	0.31 MH	56.030	37						37
\$335.64	0.1870 MH/SF		1.8700MH	[ 13.113 ]	247			35	53		336
<b>5030.18</b>	<b>Set Soffit Panels</b>		<b>Quan:</b>	<b>10.00 SF</b>	<b>Hrs/Shft:</b>	<b>10.00</b>	<b>Cal:</b>	<b>50S</b>	<b>WC:</b>	<b>MARINE</b>	
<u>PILECO</u>	Pile Concrete Crew		0.31 CH	<b>Prod:</b>	<b>32.0000 UH</b>	Lab Pcs:	6.00	Eqp Pcs:	9.00		
803AC0185	Portable Air Comp - 18	1.00	0.31 HR	30.150				2	9		10
809FEL950	CAT 950H F.E. Loader 4	1.00	0.31 HR	84.726				10	19		29
811LGS0020D	20kW Large GenSet	1.00	0.31 HR	27.908				2	8		9
818PW350S	Portable Welder Skid 3	1.00	0.31 HR	12.781				1	4		4
820OHLDTC42	LD Truck 4x2 1.75t	1.00	0.31 HR	46.798				2	14		16
822_CARPBARG	Barge Carpenter 12x40	1.00	0.31 HR	26.000				8			8
822_DEMO	Demo Small Tools	1.00	0.31 HR	14.000				4			4
822_WRKFL0T	9 x 20 Work Float	2.00	0.63 HR	12.000				8			8
CA01	Carpenter Foreman	1.00	0.31 MH	70.410	44						44
CA02	Carpenter	4.00	1.25 MH	64.010	166						166
OE08	Operator (GR 7) (Pvmt Bre	1.00	0.31 MH	56.030	37						37
\$335.64	0.1870 MH/SF		1.8700MH	[ 13.113 ]	247			35	53		336
<b>5030.19</b>	<b>Fab Side Forms</b>		<b>Quan:</b>	<b>20.00 SF</b>	<b>Hrs/Shft:</b>	<b>10.00</b>	<b>Cal:</b>	<b>50S</b>	<b>WC:</b>	<b>MARINE</b>	
<u>PILECO</u>	Pile Concrete Crew		0.62 CH	<b>Prod:</b>	<b>32.0000 UH</b>	Lab Pcs:	6.00	Eqp Pcs:	9.00		
803AC0185	Portable Air Comp - 18	1.00	0.63 HR	30.150				3	18		21
809FEL950	CAT 950H F.E. Loader 4	1.00	0.63 HR	84.726				19	39		59
811LGS0020D	20kW Large GenSet	1.00	0.63 HR	27.908				3	16		19
818PW350S	Portable Welder Skid 3	1.00	0.63 HR	12.781				1	8		9
820OHLDTC42	LD Truck 4x2 1.75t	1.00	0.63 HR	46.798				4	28		32
822_CARPBARG	Barge Carpenter 12x40	1.00	0.63 HR	26.000				16			16
822_DEMO	Demo Small Tools	1.00	0.63 HR	14.000				9			9
822_WRKFL0T	9 x 20 Work Float	2.00	1.25 HR	12.000				15			15

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 5030</b>			Land Item	SCHEDULE: 1	100						
Description = 18" Pile Replacement				Unit = LOC	Takeoff Quan:	1.000		Engr Quan:	1.000		
CA01	Carpenter Foreman	1.00	0.63 MH	70.410	90						90
CA02	Carpenter	4.00	2.50 MH	64.010	332						332
OE08	Operator (GR 7) (Pvmt Bre	1.00	0.63 MH	56.030	75						75
\$676.49	0.1880 MH/SF		3.7600MH	[ 13.183 ]	496			72	108		676
<b>5030.20 Set Pile Cap / Pile Build-up forms</b>				<b>Quan:</b>	<b>30.00 SF</b>	<b>Hrs/Shft:</b>	<b>10.00</b>	<b>Cal:</b>	<b>50S</b>	<b>WC:</b>	<b>MARINE</b>
<u>PILECO</u>	Pile Concrete Crew		1.00 CH	<b>Prod:</b>	<b>30.0000 UH</b>	Lab Pcs:	6.00	Eqp Pcs:	9.00		
803AC0185	Portable Air Comp - 18	1.00	1.00 HR	30.150				5	28		33
809FEL950	CAT 950H F.E. Loader 4	1.00	1.00 HR	84.726				31	62		93
811LGS0020D	20kW Large GenSet	1.00	1.00 HR	27.908				5	26		31
818PW350S	Portable Welder Skid 3	1.00	1.00 HR	12.781				2	12		14
820OHLDTC42	LD Truck 4x2 1.75t	1.00	1.00 HR	46.798				7	44		51
822_CARPBARG	Barge Carpenter 12x40	1.00	1.00 HR	26.000				26			26
822_DEMO	Demo Small Tools	1.00	1.00 HR	14.000				14			14
822_WRKFL0T	9 x 20 Work Float	2.00	2.00 HR	12.000				24			24
CA01	Carpenter Foreman	1.00	1.00 MH	70.410	142						142
CA02	Carpenter	4.00	4.00 MH	64.010	531						531
OE08	Operator (GR 7) (Pvmt Bre	1.00	1.00 MH	56.030	119						119
\$1,078.20	0.2000 MH/SF		6.0000MH	[ 14.024 ]	792			114	172		1,078
<b>5030.21 Unload &amp; Handle Rebar</b>				<b>Quan:</b>	<b>0.01 TN</b>	<b>Hrs/Shft:</b>	<b>10.00</b>	<b>Cal:</b>	<b>50S</b>	<b>WC:</b>	<b>MARINE</b>
<u>PILECO</u>	Pile Concrete Crew		0.04 CH	<b>Prod:</b>	<b>4.3500 HU</b>	Lab Pcs:	6.00	Eqp Pcs:	9.00		
803AC0185	Portable Air Comp - 18	1.00	0.04 HR	30.150					1		1
809FEL950	CAT 950H F.E. Loader 4	1.00	0.04 HR	84.726				1	2		4
811LGS0020D	20kW Large GenSet	1.00	0.04 HR	27.908					1		1
818PW350S	Portable Welder Skid 3	1.00	0.04 HR	12.781							1
820OHLDTC42	LD Truck 4x2 1.75t	1.00	0.04 HR	46.798					2		2
822_CARPBARG	Barge Carpenter 12x40	1.00	0.04 HR	26.000				1			1
822_DEMO	Demo Small Tools	1.00	0.04 HR	14.000				1			1
822_WRKFL0T	9 x 20 Work Float	2.00	0.09 HR	12.000				1			1
CA01	Carpenter Foreman	1.00	0.04 MH	70.410	6						6
CA02	Carpenter	4.00	0.17 MH	64.010	23						23
OE08	Operator (GR 7) (Pvmt Bre	1.00	0.04 MH	56.030	5						5
\$44.51	25.0000 MH/TN		0.2500MH	[ 1754 ]	33			5	7		45
<b>5030.22 Install Rebar</b>				<b>Quan:</b>	<b>12.50 LBS</b>	<b>Hrs/Shft:</b>	<b>10.00</b>	<b>Cal:</b>	<b>50S</b>	<b>WC:</b>	<b>MARINE</b>

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
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**BID ITEM = 5030**  
 Description = 18" Pile Replacement  
 Land Item SCHEDULE: 1 100  
 Unit = LOC Takeoff Quan: 1.000 Engr Quan: 1.000  
 4REBAR Rebar Sub 1.00 12.50 LBS 3.000 38 38

**5030.23 Prep for Pile Cap / Pile Build-up Pour**      **Quan: 1.00 EA    Hrs/Shft: 10.00    Cal: 50S    WC: MARINE**

PILECO	Description	Pcs	Quantity Unit	Prod:	Lab Pcs:	Cal:	Eqp Pcs:	Total
803AC0185	Portable Air Comp - 18	1.00	2.50 HR	30.150		6.00	13	83
809FEL950	CAT 950H F.E. Loader 4	1.00	2.50 HR	84.726			77	232
811LGS0020D	20kW Large GenSet	1.00	2.50 HR	27.908			12	77
818PW350S	Portable Welder Skid 3	1.00	2.50 HR	12.781			5	35
820OHLDTTC42	LD Truck 4x2 1.75t	1.00	2.50 HR	46.798			17	128
822_CARPBARG	Barge Carpenter 12x40	1.00	2.50 HR	26.000			65	65
822_DEMO	Demo Small Tools	1.00	2.50 HR	14.000			35	35
822_WRKFL0T	9 x 20 Work Float	2.00	5.00 HR	12.000			60	60
CA01	Carpenter Foreman	1.00	2.50 MH	70.410	356			356
CA02	Carpenter	4.00	10.00 MH	64.010	1,327			1,327
OE08	Operator (GR 7) (Pvmt Bre	1.00	2.50 MH	56.030	298			298
\$2,695.65	15.0000 MH/EA		15.0000MH	[ 1051.82 ]	1,980		285	430

**5030.24 Pour & Finish Pile Build-up and Pile Cap**      **Quan: 1.10 CY    Hrs/Shft: 10.00    Cal: 50S    WC: MARINE**

Assume Concrete delivery to pull up to holes cut into deck, and chute concrete into forms below deck.

Each Location is 1.1 CY/EA

Figure Pour time at 1 HR / Location Includes Pour, Finish, Cure, and Point & Patch.

PILECO	Description	Pcs	Quantity Unit	Prod:	Lab Pcs:	Cal:	Eqp Pcs:	Total
803AC0185	Portable Air Comp - 18	1.00	1.00 HR	30.150		6.00	5	33
809FEL950	CAT 950H F.E. Loader 4	1.00	1.00 HR	84.726			31	93
811LGS0020D	20kW Large GenSet	1.00	1.00 HR	27.908			5	31
818PW350S	Portable Welder Skid 3	1.00	1.00 HR	12.781			2	14
820OHLDTTC42	LD Truck 4x2 1.75t	1.00	1.00 HR	46.798			7	51
822_CARPBARG	Barge Carpenter 12x40	1.00	1.00 HR	26.000			26	26
822_DEMO	Demo Small Tools	1.00	1.00 HR	14.000			14	14
822_WRKFL0T	9 x 20 Work Float	2.00	2.00 HR	12.000			24	24
CA01	Carpenter Foreman	1.00	1.00 MH	70.410	142			142
CA02	Carpenter	4.00	4.00 MH	64.010	531			531
OE08	Operator (GR 7) (Pvmt Bre	1.00	1.00 MH	56.030	119			119
\$1,078.20	5.4545 MH/CY		6.0000MH	[ 382.473 ]	792		114	172

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
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**BID ITEM = 5030** Land Item SCHEDULE: 1 100  
 Description = 18" Pile Replacement Unit = LOC Takeoff Quan: 1.000 Engr Quan: 1.000

**5030.25 Strip Falsework Complete** Quan: 1.00 EA Hrs/Shft: 10.00 Cal: 50S WC: MARINE

<u>PILECO</u>		Pile Concrete Crew		1.00	CH	Prod: 1.0000 HU	Lab Pcs:	6.00	Eqp Pcs:	9.00	
803AC0185	Portable Air Comp - 18	1.00	1.00 HR	30.150					5	28	33
809FEL950	CAT 950H F.E. Loader 4	1.00	1.00 HR	84.726					31	62	93
811LGS0020D	20kW Large GenSet	1.00	1.00 HR	27.908					5	26	31
818PW350S	Portable Welder Skid 3	1.00	1.00 HR	12.781					2	12	14
820OHLDT42	LD Truck 4x2 1.75t	1.00	1.00 HR	46.798					7	44	51
822_CARPBARG	Barge Carpenter 12x40	1.00	1.00 HR	26.000					26		26
822_DEMO	Demo Small Tools	1.00	1.00 HR	14.000					14		14
822_WRKFL0T	9 x 20 Work Float	2.00	2.00 HR	12.000					24		24
CA01	Carpenter Foreman	1.00	1.00 MH	70.410		142					142
CA02	Carpenter	4.00	4.00 MH	64.010		531					531
OE08	Operator (GR 7) (Pvmt Bre	1.00	1.00 MH	56.030		119					119
\$1,078.20	6.0000 MH/EA		6.0000MH	[ 420.72 ]		792			114	172	1,078

**5030.26 Strip Forms** Quan: 30.00 SF Hrs/Shft: 10.00 Cal: 50S WC: MARINE

<u>PILECO</u>		Pile Concrete Crew		0.62	CH	Prod: 48.0000 UH	Lab Pcs:	6.00	Eqp Pcs:	9.00	
803AC0185	Portable Air Comp - 18	1.00	0.63 HR	30.150					3	18	21
809FEL950	CAT 950H F.E. Loader 4	1.00	0.63 HR	84.726					19	39	59
811LGS0020D	20kW Large GenSet	1.00	0.63 HR	27.908					3	16	19
818PW350S	Portable Welder Skid 3	1.00	0.63 HR	12.781					1	8	9
820OHLDT42	LD Truck 4x2 1.75t	1.00	0.63 HR	46.798					4	28	32
822_CARPBARG	Barge Carpenter 12x40	1.00	0.63 HR	26.000					16		16
822_DEMO	Demo Small Tools	1.00	0.63 HR	14.000					9		9
822_WRKFL0T	9 x 20 Work Float	2.00	1.25 HR	12.000					15		15
CA01	Carpenter Foreman	1.00	0.63 MH	70.410		90					90
CA02	Carpenter	4.00	2.50 MH	64.010		332					332
OE08	Operator (GR 7) (Pvmt Bre	1.00	0.63 MH	56.030		75					75
\$676.49	0.1253 MH/SF		3.7600MH	[ 8.788 ]		496			72	108	676

=====>	<b>Item Totals:</b>	<b>5030</b>	<b>- 18" Pile Replacement</b>								
\$230,665.04	556.5100	MH/LOC	556.51MH	[ 38175.68 ]	69,625	11,766	63,966	31,286	46,485	7,538	<b>230,665</b>
230,665.040	1	LOC			69,624.79	11,766.05	63,965.52	31,286.40	46,484.78	7,537.50	230,665.04

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
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**BID ITEM = 5040**  
 Description = End of Pier Fender Piles  
 Land Item SCHEDULE: 1 100  
 Unit = LF Takeoff Quan: 50.000 Engr Quan: 50.000  
 \*\*\*\* Notes from copying \*\*\*\*  
 18" Diameter FRP @ 6' OC x 70 feet long  
 50/6' = 9 EA + 2 EA end pcs = 11 EA

4010.01 Materials		Quan:	50.00 LF	Hrs/Shft:	10.00	Cal:	50S	WC:	MARINE	**Unreviewed
11 ea @ 70 ft long = 770 LF										
2FRPPILES	FRP Pile@109.75%	1.00	770.00 LF	65.000		54,930				54,930
3RIGGING	Rigging@109.75%	1.00	1.00 LS	5,000.000			5,488			5,488
5FREIGHT	Pile Freight	1.00	11.00 EA	500.000			5,500			5,500
\$65,917.38				[ ]		54,930	10,988			65,917

4010.04 Install & Connect Fender System		Quan:	11.00 EA	Hrs/Shft:	10.00	Cal:	50S	WC:	MARINE	**Unreviewed
<u>PDFNDR</u>	Pile Drive Crew - Fender	22.00	CH	<b>Prod:</b>	<b>2.0000 HU</b>	Lab Pcs:	10.00	Eqp Pcs:	10.00	
3S4000	Sm Tools - Gen@109.75%	1.00	22.00 CH	25.000			604			604
803AC0185	Portable Air Comp - 18	1.00	22.00 HR	30.150				113	615	728
811SGS15000D	15000w Small GenSet	1.00	22.00 HR	20.164				128	359	487
813CMLBC555	MANITOWOC 555 150t	1.00	22.00 HR	293.633				3,427	3,663	7,090
814CB150	Crane Barge - 150 Ton	1.00	22.00 HR	251.276				4,094	1,974	6,067
814ITB0250	Inland Tug - 250hp	1.00	22.00 HR	137.358				608	2,708	3,317
815DH01842	DELMAG D19-42 Dsl Ham	1.00	22.00 HR	79.836				913	1,014	1,928
815SL1133363	Swinging Lead 11x33x36	3.00	66.00 HR	4.330				314		314
818PW350S	Portable Welder Skid 3	1.00	22.00 HR	12.781				46	262	309
COE04	Crane Operator (GR 1) (>10	1.00	22.00 MH	65.370	2,931					2,931
COE06	Engr. Oiler (GR 1)	1.00	22.00 MH	56.110	2,623					2,623
COE14	Deck Engineer	1.00	22.00 MH	57.460	2,668					2,668
IB01	Captain	1.00	22.00 MH	61.410	2,043					2,043
IB03	Mate	1.00	22.00 MH	57.310	1,907					1,907
PD01	Piledriver Foreman	1.00	22.00 MH	64.620	3,014					3,014
PD02	Piledriver	4.00	88.00 MH	62.620	11,789					11,789
\$47,816.75	20.0000 MH/EA		220.0000MH	[ 1348.071 ]	26,975		604	9,643	10,595	47,817

====>	<b>Item Totals:</b>	<b>5040</b>	<b>- End of Pier Fender Piles</b>							
\$113,734.13	4.4000 MH/LF		220.00MH	[ 296.576 ]	26,975	54,930	11,591	9,643	10,595	<b>113,734</b>
2,274.683	50 LF				539.50	1,098.60	231.82	192.85	211.91	2,274.68

Cost Report

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
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**BID ITEM = 5050** Land Item SCHEDULE: 1 100  
 Description = Nonstructural Pile Jacket Unit = EA Takeoff Quan: 48.000 Engr Quan: 48.000  
 48 ea locations x 15' long = 720 LF. Pricing logic per past project, adjusted to reflect rough quantities associated with LF of nonstructural jackets.

**40020.01 18" Jacket Material** **Quan: 720.00 LF Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

\*\*Unreviewed

----- 18IN Jacket Material -----

48 Number of Pile  
 48 Number of Bents  
 480 LF of Pile Repairs above Water  
 240 LF of Pile Repairs Below Water

	Repair HGT	Jacket HGT	Total Repair	Total Jacket
48 Above Water Pile Repairs	10	10	480	480
48 Below Water Repairs	5	5	240	240
0 Below Water Repairs	15.4	16	0	0
			-----	-----
			720	720

	Area Top	Height	CF/EA	Piles	Total CF
Marine Epoxy Grout (Seal)	2	0.6	1.2	48	57.6

	Area Top	Lenght/EA	Piles	Total LF
Backer Rod	2	8.00	48	384.00

	Area Top	Lenght	EA	CF/EA	Total CF
N/S Grout (Jacket Fill)					
Above Water	2	10	48	20	960
Below Water	2	5	48	10	480
Below Water	0	0	0	0	0
					-----
					1440

	Area Top	Height	CF	Piles	Total CF
Trowel Grade Epoxy	2	0.58	1.17	48	56

	Lenght	EA	Total LF
Tongue & Groove Adhesive			
Above Water	10	48	480
Below Water	5	48	240
Below Water	0	0	0
			-----

Cost Report

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
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**BID ITEM = 5050**  
 Description = Nonstructural Pile Jacket  
 Land Item SCHEDULE: 1 100  
 Unit = EA Takeoff Quan: 48.000 Engr Quan: 48.000  
 720

Rebar							
#5 Vertical	Lenght	EA	Total LF	#/LF	Total LBS	Total TNs	
Above Water	10	0	0	1.043	0.00	0.00	
Below Water	5	0	0	1.043	0.00	0.00	
Below Water	0	0	0	1.043	0.00	0.00	
					-----	-----	
					0.00	0.00	

#4 Hoops								
Above Water	Jacket Lenght	Band Lenght	EA	Total LF	#/LF	Total LBS	Total TNs	
Below Water	10	7	0	0	0.668	0.00	0.00	
Below Water	5	7	0	0	0.668	0.00	0.00	
Below Water	0	7	0	0	0.668	0.00	0.00	
						-----	-----	
						0.00	0.00	

Rebar Total							
Above Water	Piles	Jacket Lenght	#5 Vert LBS	#4 Bands LBS	Total LBS	Total TNs	
Below Water	0	10	0.00	0.00	0.00	0.00	
Below Water	0	5	0.00	0.00	0.00	0.00	
Below Water	0	0	0.00	0.00	0.00	0.00	
					-----	-----	
					0.00	0.00	

SS Self-Tapping Screws					
Above Water	Jacket Lenght	Screws/Pile	Piles	Total Screws	
Below Water	10	20	48	960	
Below Water	5	10	48	480	
Below Water	0	0	0	0	
				-----	
				1,440	

----- End Calculation -----

2-BACKERD4"	4" Backer Rod@109.75%	1.05	384.00 LF	13.782	5,809	5,809
2-FX70JACK18	FX-70 Jacket f@109.75%	1.10	720.00 LF	79.387	62,732	62,732
2-JACKFRT	Jacket Materia@109.75%	1.00	48.00 EA	0.000		
2-JACKGRT	Jacket Grout@109.75%	1.10	1,440.00 CF	49.617	78,415	78,415
2-PUMPPORTS	Pumping Ports@109.75%	1.10	720.00 LF	4.410	3,485	3,485
2-SEALGRT	Marine Epoxy S@109.75%	1.10	57.60 CF	220.519	13,940	13,940
2-SSTAPSCREW	SS Self-Tappin@109.75%	1.05	1,440.00 EA	0.551	871	871
2-TNG&GVADH	Tongue & Groov@109.75%	1.10	720.00 LF	4.410	3,485	3,485
2-TRLEPOXY	Trowel Grade E@109.75%	1.00	56.00 CF	970.287	59,634	59,634
2CR060	Gr 60 Rebar@109.75%	1.05	0.00 LB	2.000		

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 5050</b>			Land Item	SCHEDULE: 1	100						
Description =	Nonstructural Pile Jacket		Unit =	EA	Takeoff Quan:	48.000	Engr Quan:		48.000		
2CRACC	Rebar Accessor@109.75%	1.05	0.00 LB	0.500							
\$228,370.61				[ ]		228,371					228,371

**40020.02 Demo Bad Concrete Above WL Quan: 172.80 CF Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

\*\*Unreviewed

Figure on Average Chipping 1" of Concrete Around Pile on all sides to loosen bad concrete if not roughen surface for grout to bond to existing pile.

Typical Production for Hand Chipping is Appx 1 CF/MH Figure 2 Men Chipping & 2 Stand-by Rotating.

120 CF/ 2 CF/MH = 60 CH

Figure 1 HR/Bent for Setup & Breakdown \* 12 Bents = 12 HRS

60 Chipping HRS + 12 Setup/Breakdown Hours = 72 CH

----- 16in Pile Demo Concrete -----

18" Piles

Piles 48 EA

Bents 48 EA

Piles/Bent 1

	Avg Lenght	Top Area	CF/EA	Piles	Total CF	#/CF	#/Pile	Total #	Total Ton
10 LF Repair Height	0.5	3.6	48	172.80	150	540	25920	12.96	
10 LF Jacket Height	0.5	3.6	48	172.8	150	540	25920	12.96	

----- End Calculation -----

<u>PDEMO</u>	Pile Demo Crew	103.68 CH	Prod:	1.6667 UH	Lab Pcs:	6.00	Eqp Pcs:	10.00	
3511	Disposal Fee-2@109.75%	1.00	1.44 LD	2,700.000			4,267		4,267
803AC0250	Portable Air Comp - 25	1.00	103.68 HR	36.929			841	3,361	4,202
811SGS2500D	2500w Small GenSet	1.00	103.68 HR	3.830			95	340	436
814CD10WB	Work Barge	1.00	103.68 HR	11.745			865	471	1,336
814CD10WT	Work Tugboat	1.00	103.68 HR	190.674			1,371	20,325	21,697
814RUN016	Runabout 16ft	1.00	103.68 HR	30.216			106	3,332	3,438
820OHLDTC421	LD Truck 4x2 1t	1.00	103.68 HR	34.824			506	3,457	3,963
822_CARPARG	Barge Carpenter 12x40	1.00	103.68 HR	0.000					
822_DEMO	Demo Small Tools	1.00	103.68 HR	0.000					
822_WRKFL0T	9 x 20 Work Float	2.00	207.36 HR	0.000					
CA01	Carpenter Foreman	1.00	103.68 MH	70.410	14,759				14,759
CA02	Carpenter	2.00	207.36 MH	64.010	27,512				27,512
IB04	Deckhand	1.00	103.68 MH	57.480	9,012				9,012
LA02	Laborer (CS)	1.00	103.68 MH	38.450	9,183				9,183
LA03	Laborer (Gr 2)	1.00	103.68 MH	37.600	9,050				9,050

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Mat/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 5050</b>			Land Item	SCHEDULE: 1	100						
Description =	Nonstructural Pile Jacket		Unit =	EA	Takeoff Quan:	48.000	Engr Quan:		48.000		
\$108,855.98	3.6000 MH/CF		622.0800MH	[ 219.094 ]	69,517		4,267	3,786	31,286		108,856

**40020.03 Demo Bad Concrete Below WL** **Quan: 86.40 CF Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

\*\*Unreviewed

Above Water crew to assist Dive Crew.

Figure on Average Chipping 1" of Concrete Around Pile on all sides to loosen bad concrete if not roughen surface for grout to bond to existing pile.

Typical Production for Hand Chipping is Appx 1 CF/MH Figure 2 Men Chipping & 2 Stand-by Rotating.

118.80 CF/ 2 CF/MH = 59.4 CH

Figure 1 HR/Bent for Setup & Breakdown \* 12 Bents = 12 HRS

59.4 Chipping HRS + 12 Setup/Breakdown Hours = 71.4 CH

Figure Divers on 8 HR Days = 71.4 HRS/8 = 8.925 Day Figure 9 Days

----- 16in Demo Below Water -----

18" Piles  
 Piles 48 EA  
 Bents 48 EA  
 Piles/Bent 1

				Top Area	CF/EA	Piles	Total CF	#/CF	#/Pile	Total #	Total Ton
Pile 1	Avg Lenght 5	LF	Repair Height	0.3	1.8	48	86.4	150	270	12960	6.48
	Avg Lenght 5	LF	Jacket Height	0.3	1.8	48	86.4	150	270	12960	6.48
Pile 2	Avg Lenght 0	LF	Repair Height	0.3	0	48	0	150	0	0	0.00
	Avg Lenght 0	LF	Jacket Height	0.3	0	48	0	150	0	0	0.00
Pile Totals						96	86.4			12960	6.48

----- End Calculation -----

DIVEAS Diver Assist Crew 51.92 CH **Prod: 1.6639 UH** Lab Pcs: 5.00 Eqp Pcs: 11.00

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 5050</b>			Land Item	SCHEDULE: 1	100						
Description =	Nonstructural Pile Jacket			Unit = EA	Takeoff Quan:	48.000		Engr Quan:		48.000	
3511	Disposal Fee-2@109.75%	1.00	0.73 LD	2,700.000				2,163			2,163
4DIVE	Diving Sub	1.00	6.55 DAY	5,500.000						36,025	36,025
4DIVEAIRTOOL	Diver Air Tools	1.00	6.55 DAY	500.000						3,275	3,275
4DIVEBURNRIG	Diver Burning Rig	1.00	6.55 DAY	250.000						1,638	1,638
4DIVECHIP	Diver Chipping Guns	1.00	6.55 DAY	150.000						983	983
4DIVEDREDGE	Diver 6" Hydraulic Dredge	1.00	6.55 DAY	800.000						5,240	5,240
4DIVEHYDGRIN	Hydraulic Grinder	1.00	6.55 DAY	125.000						819	819
4DIVEHYDHOSE	Diver Hydraulic Hose 300'	1.00	6.55 DAY	120.000						786	786
4DIVEHYDRAUL	Diver Hydraulic Unit	1.00	6.55 DAY	250.000						1,638	1,638
4DIVEJET	Diver Jet Pump	1.00	6.55 DAY	125.000						819	819
4DIVETRAILER	Dive Gear Trailer	1.00	6.55 DAY	100.000						655	655
4DIVEWATBLST	Diver Water Blaster	1.00	6.55 DAY	200.000						1,310	1,310
803AC0250	Portable Air Comp - 25	1.00	51.93 HR	36.929				421	1,683		2,105
811SGS2500D	2500w Small GenSet	1.00	51.93 HR	3.830				48	171		218
814CD10WB	Work Barge	1.00	51.93 HR	11.745				433	236		669
814CD10WT	Work Tugboat	1.00	51.93 HR	190.674				687	10,180		10,867
814RUN016	Runabout 16ft	1.00	51.93 HR	30.216				53	1,669		1,722
820OHLDTC421	LD Truck 4x2 1t	1.00	51.93 HR	34.824				253	1,731		1,985
822_CARPBARG	Barge Carpenter 12x40	1.00	51.93 HR	0.000							
822_DEMO	Demo Small Tools	1.00	51.93 HR	0.000							
822_G RTPUMP	Chemgrout CG555 Pump &	1.00	51.93 HR	0.000							
822_WRKFL0T	9 x 20 Work Float	2.00	103.85 HR	0.000							
CA01	Carpenter Foreman	1.00	51.93 MH	70.410	7,393						7,393
CA02	Carpenter	1.00	51.93 MH	64.010	6,890						6,890
IB04	Deckhand	1.00	51.93 MH	57.480	4,514						4,514
LA02	Laborer (CS)	1.00	51.93 MH	38.450	4,600						4,600
LA03	Laborer (Gr 2)	1.00	51.93 MH	37.600	4,533						4,533
\$100,844.45	3.0052 MH/CF		259.6500MH	[ 177.154 ]	27,929		2,163	1,896	15,670	53,186	100,844

**40020.04 High-Pressure Blast Rebar** **Quan: 24.00 BENT Hrs/Shft: 10.00 Cal: 50S WC: MARINE**

\*\*Unreviewed

Allow for High-Pressure Waterblast to clean exposed rebar and concrete.

<u>DIVEAS</u>	Diver Assist Crew		72.00 CH	Prod: 3.0000 HU	Lab Pcs:	5.00	Eqp Pcs:	11.00		
4DIVE	Diving Sub	1.00	10.00 DAY	5,500.000					55,000	55,000
4DIVEAIRTOOL	Diver Air Tools	1.00	10.00 DAY	500.000					5,000	5,000
4DIVEBURNRIG	Diver Burning Rig	1.00	10.00 DAY	250.000					2,500	2,500
4DIVECHIP	Diver Chipping Guns	1.00	10.00 DAY	150.000					1,500	1,500
4DIVEDREDGE	Diver 6" Hydraulic Dredge	1.00	10.00 DAY	800.000					8,000	8,000
4DIVEHYDGRIN	Hydraulic Grinder	1.00	10.00 DAY	125.000					1,250	1,250

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 5050</b>			Land Item	SCHEDULE: 1	100						
Description =	Nonstructural Pile Jacket		Unit =	EA	Takeoff Quan:	48.000	Engr Quan:		48.000		
4DIVEHYDHOSE	Diver Hydraulic Hose 300'	1.00	10.00 DAY	120.000						1,200	1,200
4DIVEHYDRAUL	Diver Hydraulic Unit	1.00	10.00 DAY	250.000						2,500	2,500
4DIVEJET	Diver Jet Pump	1.00	10.00 DAY	125.000						1,250	1,250
4DIVETRAILER	Dive Gear Trailer	1.00	10.00 DAY	100.000						1,000	1,000
4DIVEWATBLST	Diver Water Blaster	1.00	10.00 DAY	200.000						2,000	2,000
803AC0250	Portable Air Comp - 25	1.00	72.00 HR	36.929				584	2,334		2,918
811SGS2500D	2500w Small GenSet	1.00	72.00 HR	3.830				66	236		303
814CD10WB	Work Barge	1.00	72.00 HR	11.745				601	327		928
814CD10WT	Work Tugboat	1.00	72.00 HR	190.674				952	14,115		15,067
814RUN016	Runabout 16ft	1.00	72.00 HR	30.216				74	2,314		2,388
820OHLDTC421	LD Truck 4x2 1t	1.00	72.00 HR	34.824				351	2,400		2,752
822_CARPBAR	Barge Carpenter 12x40	1.00	72.00 HR	0.000							
822_DEMO	Demo Small Tools	1.00	72.00 HR	0.000							
822_G RTPUMP	Chemgrout CG555 Pump &	1.00	72.00 HR	0.000							
822_WRKFL0T	9 x 20 Work Float	2.00	144.00 HR	0.000							
CA01	Carpenter Foreman	1.00	72.00 MH	70.410	10,250						10,250
CA02	Carpenter	1.00	72.00 MH	64.010	9,553						9,553
IB04	Deckhand	1.00	72.00 MH	57.480	6,259						6,259
LA02	Laborer (CS)	1.00	72.00 MH	38.450	6,377						6,377
LA03	Laborer (Gr 2)	1.00	72.00 MH	37.600	6,285						6,285
\$144,278.33	15.0000 MH/BENT		360.0000MH	[ 884.235 ]	38,723			2,629	21,726	81,200	144,278

**40020.06 Install Pile Jackets** **Quan: 720.00 LF** **Hrs/Shft: 10.00** **Cal: 50S** **WC: MARINE**

\*\*Unreviewed

Allow for crew to install fx-70 Fiberglass Jackets including bottom seals, grout, and other materials. Non-shrink grout will be mixed and pumped inside the jackets.

Figure Topside crew to assist divers in fabricating jackets and mixing grout in pump.

Figure Install at 5 VF/HR  
 636 LF @ 5 VF/HR = 127.2 CH

Figure 0.5 HRS/Pile for Move Time = 0.5 \* 24 = 12 HRS

127.2 HRS + 12 HRS = 139.2 CH

Figure Divers on 8 HR Days = 139.2 HRS/8 = 17.4 Days Figure 18 Days

<u>DIVEAS</u>	Description	Quantity	Unit	Unit Cost	Lab Pcs:	5.00	Eqp Pcs:	11.00	Sub-Contract	Total
4DIVE	Diver Assist Crew	157.58	CH	<b>Prod: 4,5690 UH</b>						
4DIVE	Diving Sub	1.00	20.38 DAY	5,500.000					112,090	112,090
4DIVEAIRTOOL	Diver Air Tools	1.00	20.38 DAY	500.000					10,190	10,190

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
<b>BID ITEM = 5050</b>			Land Item	SCHEDULE: 1	100						
Description = Nonstructural Pile Jacket				Unit = EA	Takeoff Quan:	48.000	Engr Quan:	48.000			
4DIVEBURNRIG	Diver Burning Rig	1.00	20.38 DAY	250.000						5,095	5,095
4DIVECHIP	Diver Chipping Guns	1.00	20.38 DAY	150.000						3,057	3,057
4DIVEDREDGE	Diver 6" Hydraulic Dredge	1.00	20.38 DAY	800.000						16,304	16,304
4DIVEHYDGRIN	Hydraulic Grinder	1.00	20.38 DAY	125.000						2,548	2,548
4DIVEHYDHOSE	Diver Hydraulic Hose 300'	1.00	20.38 DAY	120.000						2,446	2,446
4DIVEHYDRAUL	Diver Hydraulic Unit	1.00	20.38 DAY	250.000						5,095	5,095
4DIVEJET	Diver Jet Pump	1.00	20.38 DAY	125.000						2,548	2,548
4DIVETRAILER	Dive Gear Trailer	1.00	20.38 DAY	100.000						2,038	2,038
4DIVEWATBLST	Diver Water Blaster	1.00	20.38 DAY	200.000						4,076	4,076
803AC0250	Portable Air Comp - 25	1.00	157.58 HR	36.929				1,279	5,108		6,387
811SGS2500D	2500w Small GenSet	1.00	157.58 HR	3.830				145	517		662
814CD10WB	Work Barge	1.00	157.58 HR	11.745				1,315	716		2,031
814CD10WT	Work Tugboat	1.00	157.58 HR	190.674				2,084	30,891		32,976
814RUN016	Runabout 16ft	1.00	157.58 HR	30.216				162	5,064		5,226
820OHLDTC421	LD Truck 4x2 1t	1.00	157.58 HR	34.824				769	5,254		6,023
822_CARPBARG	Barge Carpenter 12x40	1.00	157.58 HR	0.000							
822_DEMO	Demo Small Tools	1.00	157.58 HR	0.000							
822_G RTPUMP	Chemgrout CG555 Pump &	1.00	157.58 HR	0.000							
822_WRKFL0T	9 x 20 Work Float	2.00	315.17 HR	0.000							
CA01	Carpenter Foreman	1.00	157.58 MH	70.410	22,433						22,433
CA02	Carpenter	1.00	157.58 MH	64.010	20,907						20,907
IB04	Deckhand	1.00	157.58 MH	57.480	13,698						13,698
LA02	Laborer (CS)	1.00	157.58 MH	38.450	13,957						13,957
LA03	Laborer (Gr 2)	1.00	157.58 MH	37.600	13,755						13,755
\$303,539.72	1.0943 MH/LF		787.9000MH	[ 64.508 ]	84,750			5,754	47,551	165,486	303,540
<b>====&gt; Item Totals: 5050 - Nonstructural Pile Jacket</b>											
\$885,889.09	42.2839 MH/EA		2,029.63MH	[ 2517.355 ]	220,919	228,371	6,430	14,064	116,233	299,872	<b>885,889</b>
18,456.023	48 EA				4,602.48	4,757.72	133.96	293.00	2,421.53	6,247.33	18,456.02
<b>\$15,763,173.71</b>	<b>*** Report Totals ***</b>	52,988.12	MH		6,349,366	4,576,426	1,324,546	954,305	1,928,194	630,337	<b>15,763,174</b>

>>> indicates Non Additive Activity

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

The estimate was prepared with TAKEOFF Quantities.

This report shows TAKEOFF Quantities with the resources.

**Cost Report**

Activity Resource	Description	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equipment Ownership	Equipment Operation	Sub-Contract	Total
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**BID ITEM = 5050** Land Item SCHEDULE: 1 100  
 Description = Nonstructural Pile Jacket Unit = EA Takeoff Quan: 48.000 Engr Quan: 48.000

'Unreviewed' Activities are marked.

Bid Date: Owner: Engineering Firm:  
 Estimator-In-Charge:

**JOB NOTES**

Estimate created on: 12/20/2017 by User#: 0 -  
 Source used: C:\HBSOURCE\COMPLETE SOURCE\COMPLETETRUNKSOURCE\UTILITY\BLANK\BLANK.zip (a backup) from 10/18/2016 12:28:49 PM

\*\*\*\*\*Estimate created on: 05/30/2018 by User#: 0 -  
 Source used: C:\HEAVYBID\COMP\UTILITY\BLANK\BLANK.zip (a backup) from 05/24/2018 8:52:18

\*\*\*\*\*Estimate created on: 03/19/2025 by User#: 16 - Brian Watts  
 Source used: L:\HEAVYBID\UTILITY\BLANK\BLANK.zip (a backup) from 08/07/2024 10:44:22 AM

\*\*\*\*\*Estimate created on: 03/19/2025 by User#: 16 - Brian Watts  
 Source estimate used: L:\HEAVYBID\EST\BLANK

\*\*\*\*\*Estimate created on: 06/03/2025 by User#: 16 - Brian Watts  
 Source estimate used: L:\HEAVYBID\EST\2024-NOCALFX

\* 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-----

- 40D 5 x 8 Hr - Double
- 40S 5 x 8 Hr - Single Shift
- 40T 5 x 8 Hr - Triple
- 50D 5 x 10 Hr - Double
- 50S 5 x 10 Hr - Single (Default Calendar)**
- 56S 7 x 8-hr - Single
- 724 7 Days x 24 Hrs
- 84S 7 x 12-hr Single
- OS Off Shift (Midnight to 6 AM)
- R48 Rolling 48 Hr Schedule
- S24 24 Hr Shipping Schedule