

COST SUMMARY
NEW WORK DREDGING WITH DISPOSAL AT TIDAL WETLANDS WITH 26,000 FT. OF PIPELINE - SCENARIO 1
(21 CY Clamshell Dredge, with Lightly Loaded Scows, 43 N. Miles, Hydraulic Unloader and Boosters)

				Dredge Transport Placement		
Mobilization and Demobilization				\$ 669,000	121,941	294,034 253,024
Operating Costs						
1	Clamshell Dredge	1.00	Months @ \$	268,211	268,211	268,211
1	Hyd. Unloader	1.00	Months @ \$	434,486	434,486	434,486
2	Booster Pump	1.00	Months @ \$	144,040	288,080	288,080
4	Towing Tug	1.00	Months @ \$	224,232	896,928	896,928
2	Tending Tug	1.00	Months @ \$	80,840	161,680	80,840
1	Survey/Crewboat	1.00	Months @ \$	43,039	43,039	43,039
6	Dump Scows	1.00	Months @ \$	6,250	37,500	37,500
1	Shore Crew	1.00	Months @ \$	140,555	140,555	140,555
1	Superv/Engrg	1.00	Months @ \$	84,540	84,540	14,599 34,793 35,148
Total Operating Costs				\$ 2,355,019	406,689	969,221 979,109
Ownership Costs						
1	Clamshell Dredge	1.00	Months @ \$	171,079	171,079	171,079
1	Hyd. Unloader	1.00	Months @ \$	82,280	82,280	82,280
2	Booster Pump	1.00	Months @ \$	16,255	32,510	32,510
4	Towing Tug	1.00	Months @ \$	65,706	262,824	262,824
2	Tending Tug	1.00	Months @ \$	12,248	24,496	12,248
1	Survey/Crewboat	1.00	Months @ \$	8,252	8,252	8,252
6	Dump Scows	1.00	Months @ \$	36,994	221,964	221,964
Total Ownership Costs				\$ 803,405	191,579	484,788 127,038
Market Factor @ 50%				401,703	95,790	242,394 63,519
Overhead @ 15%						
Contingency @ 10%						
Profit @ 15%						
Bond @ 0.5%						
Total Direct Costs				\$ 2,756,722	502,479	1,211,615 1,042,628
Sub Total				\$ 3,170,230	75,372	181,742 156,394
Sub Total				\$ 3,170,230	577,851	1,393,357 1,199,022
Sub Total				\$ 3,170,230	57,785	139,336 119,902
Sub Total				\$ 3,170,230	86,678	209,004 179,853
Sub Total				\$ 3,962,788	722,313	1,741,696 1,498,778
Sub Total				\$ 3,962,788	3,612	8,708 7,494
Total Dredge Price				\$ 3,982,602	725,925	1,750,405 1,506,271
3,982,602 Dredge Price \$						
332,000 Pay Cubic Yards/ Month				= 12.00 \$/CY	2.19	5.27 4.54
669,000 Mobilization Price \$						
150,000 Total Pay Cubic Yards				= 4.46 \$/CY		

COST SUMMARY
NEW WORK DREDGING WITH DISPOSAL AT TIDAL WETLANDS WITH 10,000 FT. OF PIPELINE - SCENARIO 2
(21 CY Clamshell Dredge, with Lightly Loaded Scows, 20 N. Miles, Hydraulic Unloader and Boosters)

				Dredge	Transport	Place
Mobilization and Demobilization				\$ 627,000	176,668	221,642
Operating Costs						
1	Clamshell Dredge	1.00	Months @ \$	268,211	268,211	268,211
1	Hyd. Unloader	1.00	Months @ \$	358,646	358,646	
0	Booster Pump	1.00	Months @ \$	144,040	0	
2	Towing Tug	1.00	Months @ \$	224,232	448,464	448,464
2	Tending Tug	1.00	Months @ \$	80,840	161,680	80,840
1	Survey/Crewboat	1.00	Months @ \$	43,039	43,039	43,039
4	Dump Scows	1.00	Months @ \$	6,250	25,000	25,000
1	Shore Crew	1.00	Months @ \$	140,555	140,555	
1	Superv/Engrg	1.00	Months @ \$	84,540	84,540	22,930
Total Operating Costs				\$ 1,530,135	415,020	501,153
Ownership Costs						
1	Clamshell Dredge	1.00	Months @ \$	171,079	171,079	171,079
1	Hyd. Unloader	1.00	Months @ \$	82,280	82,280	
0	Booster Pump	1.00	Months @ \$	16,255	0	
2	Towing Tug	1.00	Months @ \$	65,706	131,412	131,412
2	Tending Tug	1.00	Months @ \$	12,248	24,496	12,248
1	Survey/Crewboat	1.00	Months @ \$	8,252	8,252	8,252
4	Dump Scows	1.00	Months @ \$	36,994	147,976	147,976
Total Ownership Costs				\$ 565,495	191,579	279,388
Market Factor @ 50%				282,748	95,790	139,694
Overhead @ 15%						
Contingency @ 10%						
Profit @ 15%						
Bond @ 0.5%						
Total Direct Costs				\$ 1,812,883	510,809	640,847
Sub Total				\$ 2,084,815	587,431	736,974
Sub Total				208,482	58,743	73,697
Sub Total				312,722	88,115	110,546
Sub Total				\$ 2,606,019	734,288	921,217
Sub Total				13,030	3,671	4,606
Total Dredge Price				\$ 2,619,049	737,960	925,823
2,619,049 Dredge Price \$						
332,000 Pay Cubic Yards/ Month				= 7.89 \$/CY	2.22	2.79
627,000 Mobilization Price \$						
5,000,000 Total Pay Cubic Yards				= 0.13 \$/CY		

COST SUMMARY
MAINTENANCE DREDGING WITH MECHANICAL UNLOADING FOR LEVEE REHABILITATION - SCENARIO 1
(21 CY Clamshell Dredge, with Scows, 74 N. Miles - Excluding Shore Crane & Crew Mob and Operating Cost)

				Dredge Transport Placement			
Mobilization and Demobilization				\$ 84,000	18,392	65,608	0
Operating Costs							
1	Clamshell Dredge	1.00	Months @ \$ 268,211	268,211	268,211		
0	Hyd. Unloader	1.00	Months @ \$ 434,486	0			0
0	Booster Pump	1.00	Months @ \$ 144,040	0			0
6	Towing Tug	1.00	Months @ \$ 224,232	1,345,392	1,345,392		
1	Tending Tug	1.00	Months @ \$ 80,840	80,840	80,840		
1	Survey/Crewboat	1.00	Months @ \$ 43,039	43,039	43,039		
8	Dump Scows	1.00	Months @ \$ 6,250	50,000	50,000		
0	Shore Crew	1.00	Months @ \$ 140,555	0			0
1	Superv/Engrg	1.00	Months @ \$ 84,540	84,540	18,544	65,996	0
Total Operating Costs				\$ 1,872,022	410,634	1,461,388	0
Ownership Costs							
1	Clamshell Dredge	1.00	Months @ \$ 171,079	171,079	171,079		
0	Hyd. Unloader	1.00	Months @ \$ 82,280	0			0
0	Booster Pump	1.00	Months @ \$ 16,255	0			0
6	Towing Tug	1.00	Months @ \$ 65,706	394,236	394,236		
1	Tending Tug	1.00	Months @ \$ 12,248	12,248	12,248		0
1	Survey/Crewboat	1.00	Months @ \$ 8,252	8,252	8,252		
8	Dump Scows	1.00	Months @ \$ 36,994	295,952	295,952		
Total Ownership Costs				\$ 881,767	191,579	690,188	0
Market Factor @ 50%				440,884	95,790	345,094	0
Overhead @ 15%							
Contingency @ 10%							
Profit @ 15%							
Bond @ 0.5%							
Total Direct Costs				\$ 2,312,906	506,424	1,806,482	0
Sub Total				\$ 2,659,842	582,387	2,077,454	0
				265,984	58,239	207,745	0
				398,976	87,358	311,618	0
Sub Total				\$ 3,324,802	727,984	2,596,818	0
				16,624	3,640	12,984	0
Total Dredge Price				\$ 3,341,426	731,624	2,609,802	0
3,341,426 Dredge Price \$							
436,000 Pay Cubic Yards/ Month				= 7.66 \$/CY	1.68	5.99	0.00
84,000 Mobilization Price \$							
150,000 Total Pay Cubic Yards				= 0.56 \$/CY			

COST SUMMARY
MAINTENANCE DREDGING WITH MECHANICAL UNLOADING FOR LEVEE REHABILITATION - SCENARIO 2
(21 CY Clamshell Dredge, with Scows, 22 N. Miles - Excluding Shore Crane & Crew Mob and Operating Cost)

Mobilization and Demobilization

	Dredge	Transport	Placement
\$ 84,000	37,280	46,720	0

Operating Costs

1	Clamshell Dredge	1.00	Months @ \$	268,211	268,211	268,211			
0	Hyd. Unloader	1.00	Months @ \$	434,486	0				0
0	Booster Pump	1.00	Months @ \$	144,040	0				0
2	Towing Tug	1.00	Months @ \$	224,232	448,464		448,464		0
1	Tending Tug	1.00	Months @ \$	80,840	80,840	80,840			0
1	Survey/Crewboat	1.00	Months @ \$	43,039	43,039	43,039			0
4	Dump Scows	1.00	Months @ \$	6,250	25,000		25,000		0
0	Shore Crew	1.00	Months @ \$	140,555	0				0
1	Superv/Engrg	1.00	Months @ \$	84,540	84,540	38,296	46,244		0

Total Operating Costs \$ 950,094

430,386	519,708	0
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Ownership Costs

1	Clamshell Dredge	1.00	Months @ \$	171,079	171,079	171,079			
0	Hyd. Unloader	1.00	Months @ \$	82,280	0				0
0	Booster Pump	1.00	Months @ \$	16,255	0				0
2	Towing Tug	1.00	Months @ \$	65,706	131,412		131,412		0
1	Tending Tug	1.00	Months @ \$	12,248	12,248	12,248			0
1	Survey/Crewboat	1.00	Months @ \$	8,252	8,252	8,252			0
4	Dump Scows	1.00	Months @ \$	36,994	147,976		147,976		0

Total Ownership Costs \$ 470,967

191,579	279,388	0
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Market Factor @ 50%

235,484

95,790	139,694	0
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Overhead @ 15%

Total Direct Costs

\$ 1,185,578

177,837

526,176	659,402	0
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78,926	98,910	0
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Sub Total

\$ 1,363,415

136,342

605,102	758,312	0
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60,510	75,831	0
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Contingency @ 10%

Profit @ 15%

204,512

90,765	113,747	0
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Sub Total

\$ 1,704,269

8,521

756,377	947,890	0
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3,782	4,739	0
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Bond @ 0.5%

Total Dredge Price

\$ 1,712,790

760,159	952,630	0
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1,712,790 Dredge Price \$

= 3.93 \$/CY

1.74	2.18	0.00
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436,000 Pay Cubic Yards/ Month

84,000 Mobilization Price \$

= 0.06 \$/CY

1,500,000 Total Pay Cubic Yards

COST SUMMARY

NEW WORK DREDGING WITH MECHANICAL UNLOADING FOR LEVEE REHABILITATION - SCENARIO 1
(21 CY Clamshell Dredge, with Scows, 74 N. Miles - Excluding Shore Crane & Crew Mob and Operating Cost)

				Dredge Transport Placement		
Mobilization and Demobilization				\$ 84,000	24,628	59,372 0
Operating Costs						
1	Clamshell Dredge	1.00	Months @ \$ 268,211	268,211	268,211	
0	Hyd. Unloader	1.00	Months @ \$ 434,486	0		0
0	Booster Pump	1.00	Months @ \$ 144,040	0		0
4	Towing Tug	1.00	Months @ \$ 224,232	896,928	896,928	
1	Tending Tug	1.00	Months @ \$ 80,840	80,840	80,840	
1	Survey/Crewboat	1.00	Months @ \$ 43,039	43,039	43,039	
6	Dump Scows	1.00	Months @ \$ 6,250	37,500	37,500	
0	Shore Crew	1.00	Months @ \$ 140,555	0		0
1	Superv/Engrg	1.00	Months @ \$ 84,540	84,540	24,988	59,552 0
Total Operating Costs				\$ 1,411,058	417,078	993,980 0
Ownership Costs						
1	Clamshell Dredge	1.00	Months @ \$ 171,079	171,079	171,079	
0	Hyd. Unloader	1.00	Months @ \$ 82,280	0		0
0	Booster Pump	1.00	Months @ \$ 16,255	0		0
4	Towing Tug	1.00	Months @ \$ 65,706	262,824	262,824	
1	Tending Tug	1.00	Months @ \$ 12,248	12,248	12,248	0
1	Survey/Crewboat	1.00	Months @ \$ 8,252	8,252	8,252	
6	Dump Scows	1.00	Months @ \$ 36,994	221,964	221,964	
Total Ownership Costs				\$ 676,367	191,579	484,788 0
Market Factor @ 50%				338,184	95,790	242,394 0
Overhead @ 15%						
Contingency @ 10%						
Profit @ 15%						
Bond @ 0.5%						
Total Direct Costs				\$ 1,749,242	512,868	1,236,374 0
Sub Total				\$ 2,011,628	589,798	1,421,830 0
Sub Total				\$ 201,163	58,980	142,183 0
Sub Total				\$ 301,744	88,470	213,274 0
Sub Total				\$ 2,514,535	737,247	1,777,287 0
Sub Total				\$ 12,573	3,686	8,886 0
Total Dredge Price				\$ 2,527,108	740,934	1,786,174 0
2,527,108 Dredge Price \$						
332,000 Pay Cubic Yards/ Month				= 7.61 \$/CY	2.23	5.38 0.00
84,000 Mobilization Price \$						
150,000 Total Pay Cubic Yards				= 0.56 \$/CY		

COST SUMMARY

NEW WORK DREDGING WITH MECHANICAL UNLOADING FOR LEVEE REHABILITATION - SCENARIO 2
(21 CY Clamshell Dredge, with Scows, 22 N. Miles - Excluding Shore Crane & Crew Mob and Operating Cost)

				Dredge	Transport	Placement
Mobilization and Demobilization				\$ 84,000	37,280	46,720
Operating Costs						
1	Clamshell Dredge	1.00	Months @ \$ 268,211	268,211	268,211	
0	Hyd. Unloader	1.00	Months @ \$ 434,486	0	0	0
0	Booster Pump	1.00	Months @ \$ 144,040	0	0	0
2	Towing Tug	1.00	Months @ \$ 224,232	448,464	448,464	
1	Tending Tug	1.00	Months @ \$ 80,840	80,840	80,840	
1	Survey/Crewboat	1.00	Months @ \$ 43,039	43,039	43,039	
4	Dump Scows	1.00	Months @ \$ 6,250	25,000	25,000	
0	Shore Crew	1.00	Months @ \$ 140,555	0	0	0
1	Superv/Engrg	1.00	Months @ \$ 84,540	84,540	38,296	46,244
Total Operating Costs				\$ 950,094	430,386	519,708
Ownership Costs						
1	Clamshell Dredge	1.00	Months @ \$ 171,079	171,079	171,079	
0	Hyd. Unloader	1.00	Months @ \$ 82,280	0	0	0
0	Booster Pump	1.00	Months @ \$ 16,255	0	0	0
2	Towing Tug	1.00	Months @ \$ 65,706	131,412	131,412	
1	Tending Tug	1.00	Months @ \$ 12,248	12,248	12,248	
1	Survey/Crewboat	1.00	Months @ \$ 8,252	8,252	8,252	
4	Dump Scows	1.00	Months @ \$ 36,994	147,976	147,976	
Total Ownership Costs				\$ 470,967	191,579	279,388
Market Factor @ 50%				235,484	95,790	139,694
Overhead @ 15%						
Contingency @ 10%						
Profit @ 15%						
Bond @ 0.5%						
Total Direct Costs				\$ 1,185,578	526,176	659,402
Sub Total				\$ 1,363,415	78,926	98,910
Sub Total				\$ 1,363,415	605,102	758,312
Sub Total				\$ 1,363,415	60,510	75,831
Sub Total				\$ 1,363,415	90,765	113,747
Sub Total				\$ 1,704,269	756,377	947,890
Sub Total				\$ 1,704,269	3,782	4,739
Total Dredge Price				\$ 1,712,790	760,159	952,630
1,712,790 Dredge Price \$						
332,000 Pay Cubic Yards/ Month				= 5.16 \$/CY	2.29	2.87
84,000 Mobilization Price \$						
5,000,000 Total Pay Cubic Yards				= 0.02 \$/CY		0.00

COST SUMMARY
MAINTENANCE DREDGING WITH DISPOSAL IN BAY - SCENARIO 1
(21 CY Clamshell Dredge, with Scows, 22 N. Miles)

				Dredge	Transport	Placement	
Mobilization and Demobilization				\$ 84,000	37,280	46,720	0
Operating Costs							
1	Clamshell Dredge	1.00	Months @ \$	268,211	268,211	268,211	
0	Hyd. Unloader	1.00	Months @ \$	434,486	0		0
0	Booster Pump	1.00	Months @ \$	144,040	0		0
2	Towing Tug	1.00	Months @ \$	224,232	448,464	448,464	
1	Tending Tug	1.00	Months @ \$	80,840	80,840	80,840	
1	Survey/Crewboat	1.00	Months @ \$	43,039	43,039	43,039	
4	Dump Scows	1.00	Months @ \$	6,250	25,000	25,000	
0	Shore Crew	1.00	Months @ \$	140,555	0		0
1	Superv/Engrg	1.00	Months @ \$	84,540	84,540	38,296	46,244
Total Operating Costs				\$ 950,094	430,386	519,708	0
Ownership Costs							
1	Clamshell Dredge	1.00	Months @ \$	171,079	171,079	171,079	
0	Hyd. Unloader	1.00	Months @ \$	82,280	0		0
0	Booster Pump	1.00	Months @ \$	16,255	0		0
2	Towing Tug	1.00	Months @ \$	65,706	131,412	131,412	
1	Tending Tug	1.00	Months @ \$	12,248	12,248	12,248	
1	Survey/Crewboat	1.00	Months @ \$	8,252	8,252	8,252	
4	Dump Scows	1.00	Months @ \$	36,994	147,976	147,976	
Total Ownership Costs				\$ 470,967	191,579	279,388	0
Market Factor @ 50%				235,484	95,790	139,694	0
Overhead @ 15%							
Contingency @ 10%							
Profit @ 15%							
Bond @ 0.5%							
Total Direct Costs				\$ 1,185,578	526,176	659,402	0
Sub Total				\$ 1,363,415	605,102	758,312	0
Sub Total				\$ 1,704,269	756,377	947,890	0
Sub Total				\$ 1,704,269	3,782	4,739	0
Total Dredge Price				\$ 1,712,790	760,159	952,630	0
1,712,790	Dredge Price \$						
436,000	Pay Cubic Yards/ Month			3.93	1.74	2.18	0.00
84,000	Mobilization Price \$						
150,000	Total Pay Cubic Yards			0.56			

COST SUMMARY
NEW WORK DREDGING WITH DISPOSAL IN BAY - SCENARIO 1
(21 CY Clamshell Dredge, with Scows, 22 N. Miles)

Mobilization and Demobilization

\$ **84,000**

Dredge	Transport	Placement
37,280	46,720	

Operating Costs

1	Clamshell Dredge	1.00	Months @ \$	268,211	268,211
0	Hyd. Unloader	1.00	Months @ \$	434,486	0
0	Booster Pump	1.00	Months @ \$	144,040	0
2	Towing Tug	1.00	Months @ \$	224,232	448,464
1	Tending Tug	1.00	Months @ \$	80,840	80,840
1	Survey/Crewboat	1.00	Months @ \$	43,039	43,039
4	Dump Scows	1.00	Months @ \$	6,250	25,000
0	Shore Crew	1.00	Months @ \$	140,555	0
1	Superv/Engrg	1.00	Months @ \$	84,540	84,540

268,211		
	448,464	
80,840		
43,039		
	25,000	
38,296	46,244	

Total Operating Costs

\$ **950,094**

430,386	519,708	
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Ownership Costs

1	Clamshell Dredge	1.00	Months @ \$	171,079	171,079
0	Hyd. Unloader	1.00	Months @ \$	82,280	0
0	Booster Pump	1.00	Months @ \$	16,255	0
2	Towing Tug	1.00	Months @ \$	65,706	131,412
1	Tending Tug	1.00	Months @ \$	12,248	12,248
1	Survey/Crewboat	1.00	Months @ \$	8,252	8,252
4	Dump Scows	1.00	Months @ \$	36,994	147,976

171,079		
	131,412	
12,248		
8,252		
	147,976	

Total Ownership Costs

\$ **470,967**

191,579	279,388	
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Market Factor @ **50%**

235,484

95,790	139,694	
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Overhead @ **15%**

Total Direct Costs

\$ **1,185,578**
177,837

526,176	659,402	
78,926	98,910	

Sub Total

\$ **1,363,415**
136,342
204,512

605,102	758,312	
60,510	75,831	
90,765	113,747	

Contingency @ **10%**
 Profit @ **15%**

Sub Total

\$ **1,704,269**
8,521

756,377	947,890	
3,782	4,739	

Bond @ **0.5%**

Total Dredge Price

\$ **1,712,790**

760,159	952,630	
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1,712,790 Dredge Price \$

= **5.16** \$/CY

2.29	2.87	0.00
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332,000 Pay Cubic Yards/ Month

84,000 Mobilization Price \$

= **0.56** \$/CY

150,000 Total Pay Cubic Yards

COST SUMMARY
NEW WORK DREDGING WITH DISPOSAL IN BAY - SCENARIO 2
(21 CY Clamshell Dredge, with Scows, 5 N. Miles)

				Dredge	Transport	Placement	
Mobilization and Demobilization				\$ 84,000	50,198	33,802	0
Operating Costs							
1	Clamshell Dredge	1.00	Months @ \$ 268,211	268,211	268,211		
0	Hyd. Unloader	1.00	Months @ \$ 434,486	0			0
0	Booster Pump	1.00	Months @ \$ 144,040	0			0
1	Towing Tug	1.00	Months @ \$ 224,232	224,232	224,232		
1	Tending Tug	1.00	Months @ \$ 80,840	80,840			
1	Survey/Crewboat	1.00	Months @ \$ 43,039	43,039			
3	Dump Scows	1.00	Months @ \$ 6,250	18,750	18,750		
0	Shore Crew	1.00	Months @ \$ 140,555	0			0
1	Superv/Engrg	1.00	Months @ \$ 84,540	84,540	52,195	32,345	0
Total Operating Costs				\$ 719,612	444,285	275,327	0
Ownership Costs							
1	Clamshell Dredge	1.00	Months @ \$ 171,079	171,079	171,079		
0	Hyd. Unloader	1.00	Months @ \$ 82,280	0			0
0	Booster Pump	1.00	Months @ \$ 16,255	0			0
1	Towing Tug	1.00	Months @ \$ 65,706	65,706	65,706		
1	Tending Tug	1.00	Months @ \$ 12,248	12,248			
1	Survey/Crewboat	1.00	Months @ \$ 8,252	8,252			
3	Dump Scows	1.00	Months @ \$ 36,994	110,982	110,982		
Total Ownership Costs				\$ 368,267	191,579	176,688	0
Market Factor @ 50%				184,134	95,790	88,344	0
Overhead @ 15%							
Contingency @ 10%							
Profit @ 15%							
Bond @ 0.5%							
Total Direct Costs				\$ 903,746	540,074	363,671	0
Sub Total				\$ 1,039,308	621,085	418,222	0
				103,931	62,109	41,822	0
				155,896	93,163	62,733	0
Sub Total				\$ 1,299,135	776,356	522,778	0
				6,496	3,882	2,614	0
Total Dredge Price				\$ 1,305,631	780,238	525,392	0
1,305,631 Dredge Price \$							
332,000 Pay Cubic Yards/ Month				= 3.93 \$/CY	2.35	1.58	0.00
84,000 Mobilization Price \$							
5,000,000 Total Pay Cubic Yards				= 0.02 \$/CY			

COST SUMMARY
MAINTENANCE DREDGING WITH DISPOSAL IN OCEAN - SCENARIO 1
(21 CY Clamshell Dredge, with Scows, 80 N. Miles)

Mobilization and Demobilization

\$ **84,000**

Dredge	Transport	Placement
18,392	65,608	0

Operating Costs

1	Clamshell Dredge	1.00	Months @ \$	268,211	268,211
0	Hyd. Unloader	1.00	Months @ \$	434,486	0
0	Booster Pump	1.00	Months @ \$	144,040	0
6	Towing Tug	1.00	Months @ \$	224,232	1,345,392
1	Tending Tug	1.00	Months @ \$	80,840	80,840
1	Survey/Crewboat	1.00	Months @ \$	43,039	43,039
8	Dump Scows	1.00	Months @ \$	6,250	50,000
0	Shore Crew	1.00	Months @ \$	140,555	0
1	Superv/Engrg	1.00	Months @ \$	84,540	84,540

268,211		
		0
		0
	1,345,392	
80,840		
43,039		
	50,000	
		0
18,544	65,996	0

Total Operating Costs

\$ **1,872,022**

410,634	1,461,388	0
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Ownership Costs

1	Clamshell Dredge	1.00	Months @ \$	171,079	171,079
0	Hyd. Unloader	1.00	Months @ \$	82,280	0
0	Booster Pump	1.00	Months @ \$	16,255	0
6	Towing Tug	1.00	Months @ \$	65,706	394,236
1	Tending Tug	1.00	Months @ \$	12,248	12,248
1	Survey/Crewboat	1.00	Months @ \$	8,252	8,252
8	Dump Scows	1.00	Months @ \$	36,994	295,952

171,079		
		0
		0
	394,236	
12,248		0
8,252		
	295,952	

Total Ownership Costs

\$ **881,767**

191,579	690,188	0
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Market Factor @ **50%**

440,884

95,790	345,094	0
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Overhead @ **15%**

Total Direct Costs

\$ **2,312,906**

346,936

506,424	1,806,482	0
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75,964	270,972	0
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Sub Total

\$ **2,659,842**

265,984

582,387	2,077,454	0
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58,239	207,745	0
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Contingency @ **10%**

Profit @ **15%**

398,976

87,358	311,618	0
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Sub Total

\$ **3,324,802**

16,624

727,984	2,596,818	0
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3,640	12,984	0
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Bond @ **0.5%**

Total Dredge Price

\$ **3,341,426**

731,624	2,609,802	0
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3,341,426 Dredge Price \$

= **7.66** \$/CY

1.68	5.99	0.00
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436,000 Pay Cubic Yards/ Month

84,000 Mobilization Price \$

= **0.56** \$/CY

150,000 Total Pay Cubic Yards

COST SUMMARY
NEW WORK DREDGING WITH DISPOSAL IN OCEAN - SCENARIO 1
(21 CY Clamshell Dredge, with Scows, 80 N. Miles)

Mobilization and Demobilization

Dredge	Transport	Placement
\$ 84,000	21,058	62,942 0

Operating Costs

1	Clamshell Dredge	1.00	Months @ \$	268,211	268,211	268,211			
0	Hyd. Unloader	1.00	Months @ \$	434,486	0				0
0	Booster Pump	1.00	Months @ \$	144,040	0				0
5	Towing Tug	1.00	Months @ \$	224,232	1,121,160		1,121,160		
1	Tending Tug	1.00	Months @ \$	80,840	80,840		80,840		
1	Survey/Crewboat	1.00	Months @ \$	43,039	43,039		43,039		
7	Dump Scows	1.00	Months @ \$	6,250	43,750		43,750		
0	Shore Crew	1.00	Months @ \$	140,555	0				0
1	Superv/Engrg	1.00	Months @ \$	84,540	84,540		21,289	63,251	0

Total Operating Costs	\$ 1,641,540	413,379	1,228,161	0
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Ownership Costs

1	Clamshell Dredge	1.00	Months @ \$	171,079	171,079	171,079			
0	Hyd. Unloader	1.00	Months @ \$	82,280	0				0
0	Booster Pump	1.00	Months @ \$	16,255	0				0
5	Towing Tug	1.00	Months @ \$	65,706	328,530		328,530		
1	Tending Tug	1.00	Months @ \$	12,248	12,248		12,248		0
1	Survey/Crewboat	1.00	Months @ \$	8,252	8,252		8,252		
7	Dump Scows	1.00	Months @ \$	36,994	258,958		258,958		

Total Ownership Costs	\$ 779,067	191,579	587,488	0
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Market Factor @	50%	389,534	95,790	293,744	0
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Overhead @	15%				
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Total Direct Costs	\$ 2,031,074	509,169	1,521,905	0
	304,661	76,375	228,286	0

Contingency @	10%				
Profit @	15%				

Sub Total	\$ 2,335,735	585,544	1,750,191	0
	233,574	58,554	175,019	0
	350,360	87,832	262,529	0

Bond @	0.5%				
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Sub Total	\$ 2,919,669	731,930	2,187,738	0
	14,598	3,660	10,939	0

Total Dredge Price	\$ 2,934,267	735,590	2,198,677	0
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2,934,267 Dredge Price \$	=	8.84 \$/CY	2.22	6.62	0.00
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332,000 Pay Cubic Yards/ Month

84,000 Mobilization Price \$	=	0.56 \$/CY
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150,000 Total Pay Cubic Yards

COST SUMMARY
NEW WORK DREDGING WITH DISPOSAL IN OCEAN - SCENARIO 2
(21 CY Clamshell Dredge, with Scows, 62 N. Miles)

Mobilization and Demobilization

\$ **84,000**

Dredge	Transport	Placement
24,628	59,372	

Operating Costs

1	Clamshell Dredge	1.00	Months @ \$	268,211	268,211
0	Hyd. Unloader	1.00	Months @ \$	434,486	0
0	Booster Pump	1.00	Months @ \$	144,040	0
4	Towing Tug	1.00	Months @ \$	224,232	896,928
1	Tending Tug	1.00	Months @ \$	80,840	80,840
1	Survey/Crewboat	1.00	Months @ \$	43,039	43,039
6	Dump Scows	1.00	Months @ \$	6,250	37,500
0	Shore Crew	1.00	Months @ \$	140,555	0
1	Superv/Engrg	1.00	Months @ \$	84,540	84,540

268,211		
	896,928	
80,840		
43,039		
	37,500	
24,988	59,552	

Total Operating Costs

\$ **1,411,058**

417,078	993,980	
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Ownership Costs

1	Clamshell Dredge	1.00	Months @ \$	171,079	171,079
0	Hyd. Unloader	1.00	Months @ \$	82,280	0
0	Booster Pump	1.00	Months @ \$	16,255	0
4	Towing Tug	1.00	Months @ \$	65,706	262,824
1	Tending Tug	1.00	Months @ \$	12,248	12,248
1	Survey/Crewboat	1.00	Months @ \$	8,252	8,252
6	Dump Scows	1.00	Months @ \$	36,994	221,964

171,079		
	262,824	
12,248		
8,252		
	221,964	

Total Ownership Costs

\$ **676,367**

191,579	484,788	
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Market Factor @ **50%**

338,184

95,790	242,394	
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Overhead @ **15%**

Total Direct Costs

\$ **1,749,242**

262,386

512,868	1,236,374	
76,930	185,456	

Sub Total

\$ **2,011,628**

201,163

589,798	1,421,830	
58,980	142,183	

Contingency @ **10%**

Profit @ **15%**

301,744

88,470	213,274	
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Sub Total

\$ **2,514,535**

12,573

737,247	1,777,287	
3,686	8,886	

Bond @ **0.5%**

Total Dredge Price

\$ **2,527,108**

740,934	1,786,174	
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2,527,108 Dredge Price \$

= **7.61** \$/CY

2.23	5.38	0.00
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332,000 Pay Cubic Yards/ Month

84,000 Mobilization Price \$

= **0.02** \$/CY

5,000,000 Total Pay Cubic Yards

COST SUMMARY

MAINTENANCE DREDGING WITH DISPOSAL AT LANDFILL REHANDLING FACILITY W/ 26,000 FT. OF PIPELINE - SCENARIO 1
(21 CY Clamshell Dredge, with Lightly Loaded Scows, 43 N. Miles, Hydraulic Unloader and Boosters)

Mobilization and Demobilization

Dredge	Transport	Placement
\$ 669,000	110,335	329,822 228,843

Operating Costs

1	Clamshell Dredge	1.00	Months @ \$	268,211	268,211	268,211		
1	Hyd. Unloader	1.00	Months @ \$	434,486	434,486			434,486
2	Booster Pump	1.00	Months @ \$	144,040	288,080			288,080
5	Towing Tug	1.00	Months @ \$	224,232	1,121,160		1,121,160	
2	Tending Tug	1.00	Months @ \$	80,840	161,680		80,840	80,840
1	Survey/Crewboat	1.00	Months @ \$	43,039	43,039		43,039	
7	Dump Scows	1.00	Months @ \$	6,250	43,750		43,750	
1	Shore Crew	1.00	Months @ \$	140,555	140,555			140,555
1	Superv/Engrg	1.00	Months @ \$	84,540	84,540		13,254	39,377 31,909

Total Operating Costs	\$ 2,585,501	405,344 1,204,287 975,870
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Ownership Costs

1	Clamshell Dredge	1.00	Months @ \$	171,079	171,079	171,079		
1	Hyd. Unloader	1.00	Months @ \$	82,280	82,280			82,280
2	Booster Pump	1.00	Months @ \$	16,255	32,510			32,510
5	Towing Tug	1.00	Months @ \$	65,706	328,530		328,530	
2	Tending Tug	1.00	Months @ \$	12,248	24,496		12,248	12,248
1	Survey/Crewboat	1.00	Months @ \$	8,252	8,252		8,252	
7	Dump Scows	1.00	Months @ \$	36,994	258,958		258,958	

Total Ownership Costs	\$ 906,105	191,579 587,488 127,038
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Market Factor @ 50%	453,053	95,790 293,744 63,519
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Overhead @ 15%	455,783	501,133 1,498,031 1,039,389
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Contingency @ 10%	349,434	57,630 172,274 119,530
Profit @ 15%	524,151	86,445 258,410 179,295

Bond @ 0.5%	21,840	720,379 2,153,420 1,494,121
		3,602 10,767 7,471

Total Dredge Price	\$ 4,389,762	723,981 2,164,187 1,501,592
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4,389,762 Dredge Price \$	=	10.07 \$/CY	1.66 4.96 3.44
436,000 Pay Cubic Yards/ Month			
669,000 Mobilization Price \$	=	4.46 \$/CY	
150,000 Total Pay Cubic Yards			

COST SUMMARY

MAINTENANCE DREDGING WITH DISPOSAL AT LANDFILL REHANDLING FACILITY W/ 26,000 FT. OF PIPELINE - SCENARIO 1
(21 CY Clamshell Dredge, with Lightly Loaded Scows, 20 N. Miles, Hydraulic Unloader and Boosters)

				Dredge	Transport	Place
Mobilization and Demobilization				\$ 627,000	176,668	221,642
Operating Costs						
1	Clamshell Dredge	1.00	Months @ \$ 268,211	268,211		
1	Hyd. Unloader	1.00	Months @ \$ 358,646	358,646		358
0	Booster Pump	1.00	Months @ \$ 144,040	0		
2	Towing Tug	1.00	Months @ \$ 224,232	448,464	448,464	
2	Tending Tug	1.00	Months @ \$ 80,840	161,680		80
1	Survey/Crewboat	1.00	Months @ \$ 43,039	43,039		
4	Dump Scows	1.00	Months @ \$ 6,250	25,000	25,000	
1	Shore Crew	1.00	Months @ \$ 140,555	140,555		140
1	Superv/Engrg	1.00	Months @ \$ 84,540	84,540	22,930	33
Total Operating Costs				\$ 1,530,135	415,020	501,153
Ownership Costs						
1	Clamshell Dredge	1.00	Months @ \$ 171,079	171,079	171,079	
1	Hyd. Unloader	1.00	Months @ \$ 82,280	82,280		82
0	Booster Pump	1.00	Months @ \$ 16,255	0		
2	Towing Tug	1.00	Months @ \$ 65,706	131,412	131,412	
2	Tending Tug	1.00	Months @ \$ 12,248	24,496		12
1	Survey/Crewboat	1.00	Months @ \$ 8,252	8,252		
4	Dump Scows	1.00	Months @ \$ 36,994	147,976	147,976	
Total Ownership Costs				\$ 565,495	191,579	279,388
Market Factor @ 50%				282,748	95,790	139,694
Overhead @ 15%						
Contingency @ 10%						
Profit @ 15%						
Bond @ 0.5%						
Total Direct Costs				\$ 1,812,883	510,809	640,847
Sub Total				\$ 2,084,815	587,431	736,974
				208,482	58,743	73,697
				312,722	88,115	110,546
Sub Total				\$ 2,606,019	734,288	921,217
				13,030	3,671	4,606
Total Dredge Price				\$ 2,619,049	737,960	925,823
2,619,049 Dredge Price \$						
436,000 Pay Cubic Yards/ Month				= 6.01 \$/CY	1.69	2.12
627,000 Mobilization Price \$						
1,500,000 Total Pay Cubic Yards				= 0.42 \$/CY		

COST SUMMARY

NEW WORK DREDGING WITH DISPOSAL AT LANDFILL REHANDLING FACILITY W/ 26,000 FT. OF PIPELINE - SCENARIO 1
(21 CY Clamshell Dredge, with Lightly Loaded Scows, 43 N. Miles, Hydraulic Unloader and Boosters)

				Dredge		Transport		Placement	
Mobilization and Demobilization				\$	669,000	121,941	294,034	253,024	
Operating Costs									
1	Clamshell Dredge	1.00	Months @ \$	268,211	268,211	268,211			
1	Hyd. Unloader	1.00	Months @ \$	434,486	434,486			434,486	
2	Booster Pump	1.00	Months @ \$	144,040	288,080			288,080	
4	Towing Tug	1.00	Months @ \$	224,232	896,928		896,928		
2	Tending Tug	1.00	Months @ \$	80,840	161,680	80,840		80,840	
1	Survey/Crewboat	1.00	Months @ \$	43,039	43,039	43,039			
6	Dump Scows	1.00	Months @ \$	6,250	37,500		37,500		
1	Shore Crew	1.00	Months @ \$	140,555	140,555			140,555	
1	Superv/Engrg	1.00	Months @ \$	84,540	84,540	14,599	34,793	35,148	
Total Operating Costs				\$	2,355,019	406,689	969,221	979,109	
Ownership Costs									
1	Clamshell Dredge	1.00	Months @ \$	171,079	171,079	171,079			
1	Hyd. Unloader	1.00	Months @ \$	82,280	82,280			82,280	
2	Booster Pump	1.00	Months @ \$	16,255	32,510			32,510	
4	Towing Tug	1.00	Months @ \$	65,706	262,824		262,824		
2	Tending Tug	1.00	Months @ \$	12,248	24,496	12,248		12,248	
1	Survey/Crewboat	1.00	Months @ \$	8,252	8,252	8,252			
6	Dump Scows	1.00	Months @ \$	36,994	221,964		221,964		
Total Ownership Costs				\$	803,405	191,579	484,788	127,038	
Market Factor @				50%	401,703	95,790	242,394	63,519	
Overhead @				15%					
Contingency @				10%					
Profit @				15%					
Bond @				0.5%					
Total Direct Costs				\$	2,756,722	502,479	1,211,615	1,042,628	
Sub Total				\$	3,170,230	577,851	1,393,357	1,199,022	
					317,023	57,785	139,336	119,902	
					475,535	86,678	209,004	179,853	
Sub Total				\$	3,962,788	722,313	1,741,696	1,498,778	
					19,814	3,612	8,708	7,494	
Total Dredge Price				\$	3,982,602	725,925	1,750,405	1,506,271	
3,982,602 Dredge Price \$									
332,000 Pay Cubic Yards/ Month				=	12.00	\$/CY	2.19	5.27	4.54
669,000 Mobilization Price \$									
150,000 Total Pay Cubic Yards				=	4.46	\$/CY			

COST SUMMARY

NEW WORK DREDGING WITH DISPOSAL AT LANDFILL REHANDLING FACILITY W/ 26,000 FT. OF PIPELINE - SCENARIO 1
(21 CY Clamshell Dredge, with Lightly Loaded Scows, 20 N. Miles, Hydraulic Unloader and Boosters)

Mobilization and Demobilization

\$ 627,000

Dredge	Transport	Placement
176,668	221,642	228,690

Operating Costs

1	Clamshell Dredge	1.00	Months @ \$	268,211	268,211
1	Hyd. Unloader	1.00	Months @ \$	358,646	358,646
0	Booster Pump	1.00	Months @ \$	144,040	0
2	Towing Tug	1.00	Months @ \$	224,232	448,464
2	Tending Tug	1.00	Months @ \$	80,840	161,680
1	Survey/Crewboat	1.00	Months @ \$	43,039	43,039
4	Dump Scows	1.00	Months @ \$	6,250	25,000
1	Shore Crew	1.00	Months @ \$	140,555	140,555
1	Superv/Engrg	1.00	Months @ \$	84,540	84,540

268,211		
		358,646
		0
	448,464	
80,840		80,840
43,039		
	25,000	
		140,555
22,930	27,689	33,921

Total Operating Costs

\$ 1,530,135

415,020	501,153	613,962
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Ownership Costs

1	Clamshell Dredge	1.00	Months @ \$	171,079	171,079
1	Hyd. Unloader	1.00	Months @ \$	82,280	82,280
0	Booster Pump	1.00	Months @ \$	16,255	0
2	Towing Tug	1.00	Months @ \$	65,706	131,412
2	Tending Tug	1.00	Months @ \$	12,248	24,496
1	Survey/Crewboat	1.00	Months @ \$	8,252	8,252
4	Dump Scows	1.00	Months @ \$	36,994	147,976

171,079		
		82,280
		0
	131,412	
12,248		12,248
8,252		
	147,976	

Total Ownership Costs

\$ 565,495

191,579	279,388	94,528
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Market Factor @ 50%

282,748

95,790	139,694	47,264
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Overhead @ 15%

Total Direct Costs

\$ 1,812,883

510,809	640,847	661,226
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271,932

76,621	96,127	99,184
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Sub Total

\$ 2,084,815

587,431	736,974	760,410
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Contingency @ 10%

208,482

58,743	73,697	76,041
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Profit @ 15%

312,722

88,115	110,546	114,062
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Sub Total

\$ 2,606,019

734,288	921,217	950,513
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Bond @ 0.5%

13,030

3,671	4,606	4,753
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Total Dredge Price

\$ 2,619,049

737,960	925,823	955,268
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2,619,049 Dredge Price \$

= 7.89 \$/CY

2.22	2.79	2.88
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332,000 Pay Cubic Yards/ Month

627,000 Mobilization Price \$

= 0.13 \$/CY

5,000,000 Total Pay Cubic Yards

COST SUMMARY
SMALL PROJECT DREDGING WITH MECHANICAL UNLOADING FOR LEVEE REHABILITATION - SCENARIO 1
(21 CY Clamshell Dredge, with Scows, 74 N. Miles)

				Dredge	Transport	Placement
Mobilization and Demobilization				\$ 168,000	36,784	82,010 49,206
Operating Costs						
1	Clamshell Dredge	1.00	Months @ \$ 268,211	268,211	268,211	
0	Hyd. Unloader	1.00	Months @ \$ 434,486	0		
0	Booster Pump	1.00	Months @ \$ 144,040	0		
6	Towing Tug	1.00	Months @ \$ 224,232	1,345,392		
1	Tending Tug	1.00	Months @ \$ 80,840	80,840	1,345,392	
1	Survey/Crewboat	1.00	Months @ \$ 43,039	43,039		
8	Dump Scows	1.00	Months @ \$ 6,250	50,000	50,000	
0	Shore Crew	1.00	Months @ \$ 140,555	0		
1	Superv/Engrg	1.00	Months @ \$ 84,540	84,540	18,544	65,996
Total Operating Costs				\$ 1,872,022	410,634	1,461,388
Ownership Costs						
1	Clamshell Dredge	1.00	Months @ \$ 171,079	171,079	171,079	
0	Hyd. Unloader	1.00	Months @ \$ 82,280	0		
0	Booster Pump	1.00	Months @ \$ 16,255	0		
6	Towing Tug	1.00	Months @ \$ 65,706	394,236	394,236	
1	Tending Tug	1.00	Months @ \$ 12,248	12,248	12,248	
1	Survey/Crewboat	1.00	Months @ \$ 8,252	8,252	8,252	
8	Dump Scows	1.00	Months @ \$ 36,994	295,952	295,952	
Total Ownership Costs				\$ 881,767	191,579	690,188
Market Factor @ 50%				440,884	95,790	345,094
Overhead @ 15%						
Contingency @ 10%						
Profit @ 15%						
Bond @ 0.5%						
Total Direct Costs				\$ 2,312,906	506,424	1,806,482
Sub Total				\$ 2,659,842	582,387	2,077,454
				265,984	58,239	207,745
				398,976	87,358	311,618
Sub Total				\$ 3,324,802	727,984	2,596,818
				16,624	3,640	12,984
Total Dredge Price				\$ 3,341,426	731,624	2,609,802
					1.68	5.99 2.00

$$\frac{168,000 \text{ Mobilization Price } \$}{10,000 \text{ Total Pay Cubic Yards}} = 16.80 \text{ } \$/\text{CY}$$

COST SUMMARY
SMALL PROJECT DREDGING WITH MECHANICAL UNLOADING FOR LEVEE REHABILITATION - SCENARIO 2
(21 CY Clamshell Dredge, with Scows, 22 N. Miles - Excluding Shore Crane & Crew Mob and Operating Cost)

				Dredge	Transport	Placement
Mobilization and Demobilization				\$ 168,000	36,784	82,010 49,206
Operating Costs						
1	Clamshell Dredge	1.00	Months @ \$ 268,211	268,211	268,211	
0	Hyd. Unloader	1.00	Months @ \$ 434,486	0		
0	Booster Pump	1.00	Months @ \$ 144,040	0		
2	Towing Tug	1.00	Months @ \$ 224,232	448,464	448,464	
1	Tending Tug	1.00	Months @ \$ 80,840	80,840	80,840	
1	Survey/Crewboat	1.00	Months @ \$ 43,039	43,039	43,039	
4	Dump Scows	1.00	Months @ \$ 6,250	25,000	25,000	
0	Shore Crew	1.00	Months @ \$ 140,555	0		
1	Superv/Engrg	1.00	Months @ \$ 84,540	84,540	38,296	46,244
Total Operating Costs				\$ 950,094	430,386	519,708
Ownership Costs						
1	Clamshell Dredge	1.00	Months @ \$ 171,079	171,079	171,079	
0	Hyd. Unloader	1.00	Months @ \$ 82,280	0		
0	Booster Pump	1.00	Months @ \$ 16,255	0		
2	Towing Tug	1.00	Months @ \$ 65,706	131,412	131,412	
1	Tending Tug	1.00	Months @ \$ 12,248	12,248	12,248	
1	Survey/Crewboat	1.00	Months @ \$ 8,252	8,252	8,252	
4	Dump Scows	1.00	Months @ \$ 36,994	147,976	147,976	
Total Ownership Costs				\$ 470,967	191,579	279,388
Market Factor @ 50%				235,484	95,790	139,694
Overhead @ 15%						
Contingency @ 10%						
Profit @ 15%						
Bond @ 0.5%						
Total Direct Costs				\$ 1,185,578	526,176	659,402
Sub Total				\$ 1,363,415	605,102	758,312
Sub Total				136,342	60,510	75,831
Sub Total				204,512	90,765	113,747
Sub Total				\$ 1,704,269	756,377	947,890
Sub Total				8,521	3,782	4,739
Total Dredge Price				\$ 1,712,790	760,159	952,630
					1.74	2.18 2.00

$$\frac{168,000 \text{ Mobilization Price } \$}{50,000 \text{ Total Pay Cubic Yards}} = 3.36 \text{ } \$/\text{CY}$$