

## VALUE ENGINEERING PROPOSAL

PROPOSAL NO:	S-12	PAGE NO: 1 OF 3
DESCRIPTION	Use 35-ft Diameter Guard Dolpins for Upstream and Downstream Approach Walls	

### ORIGINAL DESIGN:

Existing design consists of construction of guard dolphins at the ends of the upstream and downstream approach walls. The guard dolphins consist of 41.39-ft. diameter by 42.0-ft high steel sheetpile coffercells. Coffercell quantities include PS-28 steel sheet piling, 90 ft. timber piles at the base of the coffercell with a concrete cap over the pile, gravel fill in the cell and a reinforced concrete cap on top. (See Drawing No. 1)

### PROPOSED DESIGN:

The proposed design revises the construction of the coffercell from a diameter of 41.39 ft to a diameter of 35 ft. The remainder of the construction of the coffercell remains the same as in the existing design.

### ADVANTAGES:

Reduced construction cost.

### DISADVANTAGES:

None

### JUSTIFICATION:

During the study, it was brought up that guard dolphins at the end of approach walls in this same waterway system are 35 ft. in diameter. Therefore, the recommended 35 ft. dolphin size should be sufficient to resist the waterway design horizontal / lateral load.



COST ESTIMATE WORKSHEET				
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<b>DELETIONS</b>				
ITEM	UNITS	QUANTITY	UNIT COST	TOTAL
Reduce Dolphin Dm.	LS	1	\$193,464.00	\$193,464
35.0/41.39 x 1,253,129 = 1,0059,665				
1,253,129 - 1,059,665 = 193,464				
			Total Deletions	\$193,464
<b>ADDITIONS</b>				
ITEM	UNITS	QUANTITY	UNIT COST	TOTAL
			Total Additions	
			Net Savings	\$193,464
			*	Markups
			Total Savings	\$193,464
* Markups included:				