

Errata 1.0

August 24, 2011 - Errata for Delta Risk Management Strategies (DRMS) Phase 2

Section 8, Building Block 1.6: Armored “Pathway” (Through-Delta Conveyance)

Errata Item 1.1: Replace Table 8-4 Cost Estimate for Building Block 1.6, Armored “Pathway” (Through-Delta Conveyance), 15,000 cfs

Description of corrections: The unit prices on line items 4 and 5 have been updated and a footnote has been added.

Section 13, Building Block 3.1: Suisun Marsh Tidal Wetland Restoration and Managed Wetland Enhancements

Errata Item 1.2: Replace Table 13-5, Target Acreages for Tidal Restoration

Description of corrections: Rows 3 and 4 (Region 3 and Region 4) were updated. The total in column 1 (Total Area in Region) was updated.

Section 13, Building Block 3.1: Suisun Marsh Tidal Wetland Restoration and Managed Wetland Enhancements

Errata Item 1.3: Replace Table 13C-1, Levee Breach Cost Calculations

Description of corrections: The unit cost has been updated in the fifth column heading (“Upgraded Levee Cost”) of the sub-table titled “Levee Costs for Conceptual Restoration Areas.”

Table 8-4 Cost Estimate for Building Block 1.6, Armored “Pathway” (Through-Delta Conveyance), 15,000 cfs

Item	Description	Quantity	Unit	Unit Price	Total
1	Intake Facility	1	LS	\$200M	\$200M
2	Dredging	57.5	Mile	\$4M	\$230M
3	Bridges	2	EA	\$10M	\$20M
4	Setback Levees ¹	115	Mile	\$20.3M ²	\$2.33B
5	Riparian Benches & Plantings	115	Mile	\$2.8M	\$324M
6	Barrier Gates	7	EA	\$20M	\$140M
Subtotal					\$3.24B
Mobilization/Demobilization		5%			\$162M
Subtotal					\$3.40B
Eng., Admin., Legal, CM		30%			\$1.02B
Subtotal					\$4.43B
Contingency		30%			\$1.33B
Total¹					\$5.76B

¹Approximately 90 percent of the cost is for seismic-resistant setback levees.

²The unit price shown is a weighted average. Actual costs range from \$19M to \$38M based on depth of peat.

B = billion
 cfs = cubic feet per second
 CM = construction management
 EA = each
 LS = lump sum
 M = million

Table 13-5 Target Acreages for Tidal Restoration

Planning Region	Total Area in Region (acres)	Minimum Restoration Target (acres)	Midpoint Restoration Target (acres)*	Maximum Restoration Target (acres)
Region 1	17,721	500	1,375	2,250
Region 2	16,165	460	1,265	2,070
Region 3	6,662	180	495	810
Region 4	35,841	860	2,365	3,870
Total	76,389	2,000	5,500	9,000

* Minimum and maximum restoration targets based on alternatives presented in the Habitat Management, Preservation, and Restoration Plan for Suisun Marsh (SMCG in preparation). The midpoint restoration target was calculated by URS to facilitate the conceptual-level analyses presented in this report.

**Table 13C-1
Levee Breach Cost Calculations**

Levee Breach Cost Calculations

Planning Region	Total Conceptual Restoration Area (acres)	Approx. Land Surface Elevation Adjacent to Levee Crest Point (ft NAVD88)	Approx. Levee Crest Elev NAVD88 (ft)	MHW minus Land Surface Elevation (ft)	Tidal Prism (acre ft)	Total Length of Breach Required (ft)	Bottom of Breach (MLLW Elev) (ft)	Levee Crest Width (ft)	Total Volume (CY)	Earth Moving Cost (\$5/CY)
Region 1	1,422	3	---	---	---	---	---	---	---	\$0.00
Region 2	1,462	3	10.5	2.02	2,953	738	0.56	12	3,262	\$16,308.45
Region 3	2,317	2	11.25	3.02	6,997	1,749	0.56	12	8,311	\$41,556.42
Region 4	730	3	---	---	---	---	---	---	---	\$0.00

*Levee lowering only

Levee Lowering Cost Calculations

Planning Region	Total Conceptual Restoration Area (acres)	Length of Abandoned Water Control Levees (miles)	Approx. Levee Crest Elev NAVD88 (ft)	Lowered Levee Elevation (MHW Elev) (ft)	Levee Crest Width (ft)	Total Volume (CY)	Earth Moving Cost (\$5/CY)
Region 1	1,422	9.3	10	5.02	12	198,891	\$994,454.21
Region 2	1,462	13.6	10.5	5.02	12	334,627	\$1,673,137.04
Region 3	2,317	9.2	11.25	5.02	12	274,159	\$1,370,794.93
Region 4	730	4.1	11	5.02	12	114,879	\$574,396.81

Channel Excavation Cost Calculations

Planning Region	Approx. Levee crest elevation (ft NAVD88)	Approx. Land Surface Elevation Adjacent to Levee Crest Point (ft NAVD88)	MLW (ft)	Cut Depth (Elevation Difference) (ft)	Channel Area (Breach Width by 250 ft long) (sq ft)	Channel Volume (cu ft)	Total Volume (CY)	Cost (\$5/CY)
Region 1	10	3	1.15	1.85	0	0	0	\$0
Region 2	10.5	5	1.15	3.85	184,500	710,325	26,282	\$131,410
Region 3	11.25	3	1.15	1.85	437,250	808,913	29,930	\$149,649
Region 4	11	3	1.15	1.85	0	0	0	\$0

Levee Costs for Conceptual Restoration Areas

Planning Region	Length of New Flood Protection Levees (miles)	New Levee Cost (\$1.5M/mile)	Length of Exterior Levees for Upgrade (miles)	Upgraded Levee Cost (\$8M/mile)	Total Levee Cost
Region 1	0.5	\$750,000	0.7	\$5,600,000	\$6,350,000
Region 2	0.4	\$600,000	0.0	\$0	\$600,000
Region 3	6.7	\$10,050,000	0.0	\$0	\$10,050,000
Region 4	0.0	\$0	0.8	\$6,400,000	\$6,400,000

Levee Costs for Managed Wetland Enhancement

Managed Wetland Areas for Enhancement	Total Area of Managed Wetland Enhancement (acres)	# of Water Control Structures	# of Fish Screens	Total Length of Exterior Levee Upgrade (miles)	Upgraded Levee Cost (\$1M/mile)
Grizzly Island	22,582	78	13	46.6	\$46,600,000
Upper Joice Island	2,233	12	0	10.6	\$10,600,000
Total	24,815	90	13	57.2	\$57,200,000