

SECTION XIII – COST ESTIMATE

13.01 INTRODUCTION

a. General.

The following tables show general cost estimates for Corps development of proposed new actions and replacement facilities at Mark Twain Lake. The quantities and costs represent a typical Corps guide specification level of design and materials. Costs for Mark Twain State Park facilities were provided by the State.

During actual detailed design of each element, variations in types and quantities of materials, modifications of facilities, inflationary trends, and results from additional engineering tests, will undoubtedly occur. Costs are based on current prices received for similar items of work in the St. Louis District. Price level is 2004.

b. Summary of Costs.

Cost estimates for proposed new actions and proposed replacement facilities for Corps and State facilities are listed in the TABLE 13-1.

c. Financial Analysis

An efficiency analysis for proposed facilities is presented in TABLE 13-2.

Mark Twain Lake Master Plan

TABLE 13-1 Summary of Cost Estimate

GOVERNMENT ESTIMATE WORKSHEET					Sheet 1 of 1
Project:	Mark Twain Lake Master Plan - Conceptual Cost Estimates			DATE: March 2004	
	Proposed New and Replacement Facilities				
	ESTIMATED QUANTITY	UNIT	UNIT PRICE	ESTIMATED AMOUNT	
Ray Behrens Recreation Area					
High Water Boat Ramp	1	each	\$9,000	\$9,000	
Fee Booth w/water and sewer	1	each	\$35,100	\$35,100	
Floating Breakwater by others	1	each	\$750,000	\$750,000	
Sixty-five Site Campground Loop, Infrastructure and Support Facilities	1	each	\$1,187,000	\$1,187,000	
Robert Allen Recreation Area					
Relocate vault toilet	1	each	\$20,000	\$20,000	
Fish Cleaning Station	1	each	\$10,000	\$10,000	
South Fork Recreation Area					
Enlarge parking lot	1	LS	\$40,000	\$40,000	
Relocate vault toilet	1	each	\$20,000	\$20,000	
Fish Cleaning Station	1	each	\$10,000	\$10,000	
Indian Creek Recreation Area					
Unisex Vault/Changing Station	1	each	\$55,000	\$55,000	
Relocate east ramp vault toilet	1	each	\$20,000	\$20,000	
Fishing pier	1	each	\$5,400	\$5,400	
Playground	1	each	\$45,000	\$45,000	
Seventy-five Site Campground Loop, Infrastructure and Support Facilities	1	each	\$1,370,000	\$1,370,000	
Frank Russell Recreation Area					
Replace vault toilets w/waterborne comfort stations	3	each	\$80,000	\$240,000	
Upgrade electric to 50 amp	65	each	\$1,100	\$71,500	
Sewer and water hookups	20	each	\$3,250	\$65,000	
Bluff View Recreation Area					
Fish Cleaning Station	1	each	\$10,000	\$10,000	
SUBTOTAL:				\$3,963,000	
Contingency - 15%				\$594,000	
SUBTOTAL:				\$4,557,000	
Planning, Engineering, & Design - 15%				\$684,000	
Construction Management - 10%				\$456,000	
CORPS TOTAL PROJECT COST				\$5,697,000	
MDNR Proposed Projects					
Mark Twain State Park					
Visitor Contact Station	1	each	\$185,000	\$185,000	
Cabins	6	each	\$7,500	\$45,000	
Fee Booth	1	each	\$35,000	\$35,000	
Campsites	50	each	\$2,500	\$125,000	
Electric Service to Campsites	19	each	\$2,000	\$38,000	
Washhouse	1	each	\$375,000	\$375,000	
Mountain Bike Trail - 10 mi.	1	each	\$30,000	\$30,000	
Hiking Trail - 3 miles	1	each	\$8,000	\$8,000	
Mark Twain State Park - North Extension					
Equestrian Trailhead w/parking	1	each	\$15,000	\$15,000	
Equestrian Campground	1	each	\$25,000	\$25,000	
Equestrian Trailhead <1/4 mile	1	each	\$2,000	\$2,000	
Restroom facilities	1	each	\$125,000	\$125,000	
Fish cleaning station w/parking	1	each	\$30,000	\$30,000	
Subtotal				\$1,038,000	
Contingency 15%				\$156,000	
MDNR TOTAL PROJECT COST				\$1,194,000	

TABLE 13-2 Efficiency Analysis for New Proposed Items

Frank Russell Water & Sewer Hookups							
Benefits	Days	Occupancy Rate	Total Days Occupied	Daily Increase in Fee	Annual	Number of Campsites	Total Annual Revenue
Increased fee collection - \$2.00/campsite/hookup	150	0.45	67.5	4	270.00	20	\$5,400.00
Increased fee collection - \$2.00/campsite/hookup	30	0.4	12	4	48.00	20	\$960.00
Total Additional Revenue							\$6,360.00
Costs							
Increased O&M expenses					100.00		
Annualized Construction Cost					5267.32		
Total Costs					5367.32		
Benefit/Cost Ratio					1.18		

Ray Behrens Campground Loop								
Benefits	Days	Occupancy Rate	Total Days Occupied	Daily Increase in Fee	Annual	Number of Campsites	Total Annual Revenue	Initial Cost
Increased fee collection	150	0.5	75	20	1,500	65	97500	
Increased fee collection	30	0.4	12	20	240	65	15600	
Total Additional Revenue							113100	
Costs								
Increased O&M expenses					10,000			
Initial Construction Cost					96,189			\$1,187,000
Total Costs					106,189			
Benefit/Cost Ratio					1.07			
Indian Creek Campground Loop								
Benefits	Days	Occupancy Rate	Total Days Occupied	Daily Increase in Fee	Annual	Number of Campsites	Total Annual Revenue	Initial Cost
Increased fee collection	150	0.5	75	20	1,500	75	112500	
Increased fee collection	30	0.4	12	20	240	75	18000	
Total Additional Revenue							130500	
Costs								
Increased O&M expenses					10,000			
Initial Construction Cost					111,019			\$1,370,000
Total Costs					121,019			
Benefit/Cost Ratio					1.08			