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Monterey County Water Resources Agency
Nacimiento Dam - Deferred Maintenance Projects

#	Project Name	Planning/ Administration ¹	Design ²	Construction ³	Subtotal	Project Contingency ⁴	Environmental Monitoring Contingency ⁵	Pumping Contingency ⁶	Total	Project Description/Notes
1	Nacimiento Drive Road Repair	\$ 425,000	\$ 595,000	\$ 1,700,000	\$ 2,720,000	\$ 816,000	--	--	\$ 3,536,000	Remove and replace 2 miles of road. Includes 13 survey monuments.
2	Replacement of 3 Low-level Outlets	\$ 40,000	\$ 60,000	\$ 400,000	\$ 500,000	\$ 50,000	\$ 300,000	\$ 30,000	\$ 880,000	Contractor to install, MCWRA to purchase valves and provide, consultant to prepare bid package for contractor, no env req'd, no permits, consultant to provide install oversight, MCWRA staff time for Project management, timing of construction will result in additional monitoring costs and potentially pumping costs.
3	Repair and Modify Low-level Valve 6 - Flow Control Energy Dissipating Outlet	\$ 675,000	--	\$ 1,500,000	\$ 2,175,000	\$ 217,500	\$ 1,125,000	\$ 30,000	\$ 3,547,500	No Design or ESDC required, project is already funded, will require permitting with RWQCB, Fish & Wildlife, FERC, DSOD.
4	Bridge over Spillway Maintenance	\$ 15,000	\$ 35,000	\$ 100,000	\$ 150,000	\$ 45,000	--	--	\$ 195,000	Need engineer to inspect and provide report, need costs for contractor to repair, no env. required, no permits, swallow habitat (timing issues with contractor).
5	Bradley and Camp Roberts Warning System	\$ 37,500	\$ 112,500	\$ 250,000	\$ 400,000	\$ 120,000	--	--	\$ 520,000	CDF to allow a tower that would be connected to dam (pressure transducers). We also need to add Camp Roberts.
6	Hydraulic Intake Valve Actuators (3)	\$ 63,750	\$ 63,750	\$ 425,000	\$ 552,500	\$ 165,750	\$ 318,750	\$ 30,000	\$ 1,067,000	MCWRA will purchase actuators, plus additional materials. Will require dive team for installation.
7	Geologic Review and Minor Improvements of Slope Above Power House: Phase I (FERC Part 12D Requirements)	\$ 25,000	\$ 35,000	\$ 100,000	\$ 160,000	--	--	--	\$ 160,000	Study is being conducted right now. If the slope repairs are too much, may need to look at alternative routing to get to the hydro plant. Break point of \$5,000,000. Consultants report will be available by the first of the year so we will have better numbers for the Engineer's Report.
8	Spillway Investigation (FERC Part 12D Requirements)	\$ 75,000	--	\$ 1,500,000	\$ 1,575,000	--	\$ 750,000	--	\$ 2,325,000	In the fall MCWRA will be drilling holes.
9	Spillway Plunge Pool Erosion and Boil Prevention: Phase I (FERC Part 12D Requirements)	\$ 1,250,000	\$ 1,750,000	\$ 5,000,000	\$ 8,000,000	\$ 2,400,000	\$ 2,500,000	--	\$ 12,900,000	AECOM on board, will give a report with alternatives around the first of the year for the Engineer's Report. Will require Env and permitting
10	Seismic Stability for Embankment (FERC Part 12D Requirements)	\$ 162,500	\$ 227,500	\$ 650,000	\$ 1,040,000	\$ 312,000	--	--	\$ 1,352,000	If the dam land is liquefiable, would result in a very large project. Not going to account for this at this time.
11	Security Plan Requirements (lights/cameras)	\$ 5,000	\$ 7,000	\$ 20,000	\$ 32,000	\$ 9,600	--	--	\$ 41,600	
12	Misc. Projects	\$ 150,000	\$ 210,000	\$ 600,000	\$ 960,000	\$ 288,000	--	--	\$ 1,248,000	
Phase I Subtotal					\$ 18,264,500	\$ 4,423,850	\$ 4,993,750	\$ 90,000	\$ 27,772,100	
7a	Slope Stability Above Power House: Phase II	\$ 1,250,000	\$ 1,750,000	\$ 5,000,000	\$ 8,000,000	\$ 2,400,000	--	--	\$ 10,400,000	
8a	Spillway Repairs (Depends on Investigation)	\$ 2,500,000	\$ 3,500,000	\$ 10,000,000	\$ 16,000,000	\$ 4,800,000	\$ 5,000,000	--	\$ 25,800,000	
9a	Downstream Boils: Phase II	\$ 1,250,000	\$ 1,750,000	\$ 5,000,000	\$ 8,000,000	\$ 2,400,000	\$ 2,500,000	--	\$ 12,900,000	
Phase II Subtotal					\$ 32,000,000	\$ 9,600,000	\$ 7,500,000	\$ -	\$ 49,100,000	
Grand Total					\$ 50,264,500	\$ 14,023,850	\$ 12,493,750	\$ 90,000	\$ 76,872,100	

1 Planning/Administration: Includes MCWRA staff time, environmental, preliminary engineering, permitting. Up to 30% of construction.
2 Design: Includes consultant engineering, inspection, construction administration, and engineering services during construction. Up to 35% of construction.
3 Construction: Includes construction costs, including parts purchasing
4 Project Contingency: All project costs are preliminary. Up to 30% contingency has been provided for planning, administration, design, and construction for unknowns.
5 Environmental Monitoring Contingency: Provides a contingency for environmental monitoring during construction depending on lake level. Up to 75% of construction costs.
6 Pumping Contingency: Provides a contingency for pumping during construction depending on lake level. \$30,000/week

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Monterey County Water Resources Agency
San Antonio Dam - Deferred Maintenance Projects

#	Project Name	Planning/ Administration ¹	Design ²	Construction ³	Subtotal	Project Contingency ⁴	Environmental Monitoring Contingency ⁵	Pumping Contingency ⁶	Total	Project Description/Notes
1	Install Intake Bulkhead Gate	\$ 22,500	\$ -	\$ 150,000	\$ 172,500	\$ 51,750	--	--	\$ 224,250	Includes 2 dives, remove and replace, fabrication. No Env. Monitoring, MCWRA to do the project planning and oversight.
2	Install Hatch in 84" Penstock	\$ 30,000	\$ -	\$ 200,000	\$ 230,000	\$ 69,000	--	\$ 30,000	\$ 329,000	Design being done.
3	Install Intake Structure Trash Racks	\$ 41,250	\$ -	\$ 275,000	\$ 316,250	\$ 94,875	--	\$ 150,000	\$ 561,125	3 trash racks, installed underwater
4	Replace Air Release Valves (8)	\$ 12,000	\$ 28,000	\$ 80,000	\$ 120,000	\$ 36,000	--	--	\$ 156,000	
5	Low Level Discharge Valve Maintenance	\$ 15,000	\$ 100,000	\$ -	\$ 115,000	\$ 34,500	--	--	\$ 149,500	Need a full inspection and service.
6	Interior and Exterior Paint of Penstock Piping	\$ 150,000	\$ 525,000	\$ 1,500,000	\$ 2,175,000	\$ 652,500	--	--	\$ 2,827,500	Consultant to prepare specification
7	Update Dam Stability Analysis	\$ 12,750	\$ 85,000	\$ -	\$ 97,750	\$ 29,325	--	--	\$ 127,075	This is for a study only, no repairs. Repair costs are not included in estimate, no field exploration. If inner lake tunnel moves project, this project may go away
8	Potential Failure Mode Analysis	\$ 12,750	\$ 85,000	\$ -	\$ 97,750	\$ 29,325	--	--	\$ 127,075	This is for a study only, no repairs. Repair costs are not included in estimate, no field exploration. If inner lake tunnel
9	New Piezometers (5)	\$ 175,000	\$ 245,000	\$ 700,000	\$ 1,120,000	\$ 336,000	--	--	\$ 1,456,000	GEI provided an estimate of \$90k per hole. If inner lake tunnel moves project, this project may go away. DSOD fee required
10	BFV Hydraulic Upgrade	\$ 62,500	\$ 87,500	\$ 250,000	\$ 400,000	\$ 120,000	--	--	\$ 520,000	96" BFV, would require fabrication, engineering. DSOD fee required.
11	Horizontal Drain Repair	\$ 50,000	\$ 70,000	\$ 200,000	\$ 320,000	\$ 96,000	--	--	\$ 416,000	125 feet long, 12" drain, slip lining, existing AC coated Corrugated metal pipe (CMP). New exit, 8" PVC well casing with slots for drain
12	Closed Circuit TV in Valve Chamber	\$ 12,500	\$ -	\$ 50,000	\$ 62,500	\$ 18,750	--	--	\$ 81,250	
13	Replace Boat Barrier Buoy Line and Spillway Log Boom	\$ 50,000	\$ 70,000	\$ 200,000	\$ 320,000	\$ 96,000	--	--	\$ 416,000	Replace 1,700 ft
14	Road Pavement Repair	\$ 62,500	\$ 87,500	\$ 250,000	\$ 400,000	\$ 120,000	--	--	\$ 520,000	Internal roads inside the gate, chip seal (1.5 miles, 20 ft wide) plus 0.75 miles of Vista Road crack repairs, minor repairs, chip
15	Toe Drain Repair	\$ 25,000	\$ 35,000	\$ 100,000	\$ 160,000	\$ 48,000	--	--	\$ 208,000	
16	Sidehill Drain	\$ 62,500	\$ 87,500	\$ 250,000	\$ 400,000	\$ 120,000	--	--	\$ 520,000	
17	Staff Gauge Improvements	\$ 8,750	\$ -	\$ 35,000	\$ 43,750	\$ 13,125	--	--	\$ 56,875	
Phase I Subtotal					\$ 6,550,500	\$ 1,965,150	\$ -	\$ 180,000	\$ 8,695,650	
18	Chute Major Repair/Replacement (MCWRA Cost Estimate)	\$ 9,000,000		\$ 36,000,000	\$ 45,000,000	\$ 15,000,000	--	--	\$ 60,000,000	
Phase II Subtotal					\$ 45,000,000	\$ 15,000,000	\$ -	\$ -	\$ 60,000,000	
Grand Total					\$ 51,550,500	\$ 16,965,150	\$ -	\$ 180,000	\$ 68,695,650	

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