



# Napa County Flood Control and Water Conservation District

**PHILLIP MILLER, P.E.**  
**ACTING DISTRICT ENGINEER**

## MEMORANDUM

To: Financial Oversight Committee

From: Rick Thomasser, Flood Control & Watershed Operations Manager

Date: May 2, 2012

Subject: Napa Flood Project Operations, Maintenance and Monitoring

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This memo has been prepared to provide information for the Financial Oversight Committee regarding long term operation, maintenance and monitoring (OM&M) for the Napa River/Napa Creek Flood Protection Project (the Project). Staff will present and discuss this information at the committee meeting on May 2<sup>nd</sup>.

### **Project Background and Funding**

The Project is a federally-authorized flood control works of the US Army Corps of Engineers. The Flood Control District is the local sponsor for the Project. The agreement that outlines local and federal responsibilities for the Project is the Project Cooperation Agreement (PCA) signed by the Corps and the District. The PCA defines allowable Project costs and the local and federal responsibilities and cost share. Federal funds are used by the Corps for Project construction. The local cost share of the Project is funded by County Measure "A" and also State of California Department of Water Resources Flood Control Subventions reimbursements. Measure "A" funds are used by the District to acquire property and relocate utilities and other facilities to allow Project construction, and for lifecycle Project Operations, Maintenance and Monitoring (OM&M). State Subventions are received as reimbursements for local Project responsibilities after actual cost claims are filed with the State. District land purchases are 75% reimbursable and relocations are 90% reimbursable. The use of Measure "A" funds is specifically detailed in the Joint Powers Agreement (JPA), executed between the Flood Authority and other local jurisdictions, including the Flood Control District. A Financial Plan was prepared in support of the JPA to outline how the Project would be financed and how Measure "A" revenues would be distributed to the local jurisdictions over the 20 year life of the tax. The JPA also specifically addressed Project OM&M.

At the time of JPA execution, the primary document that defined expected Project costs was the General Design Memorandum (GDM), prepared by the Corps. It is essentially the conceptual design for the Project and the basis for the environmental review under CEQA and NEPA. The GDM includes a brief description of Project OM&M and an annualized cost estimate. The Project useful life (the period of time for maintenance) is defined as 50 years by the Corps. An annual cost estimate of \$325,000 (1997 dollars) was projected in the GDM for Project Operations, Maintenance and Monitoring. To fund long term OM&M, the JPA called for the creation of a Maintenance Fund of \$10M, which was established in FY 2009 from the Napa share of revenues, and defined additional annual (2006-2018) contributions to the Maintenance Fund from all upvalley entities totaling \$351,000 per year for the last twelve years of the tax. Together, the funding that has been directed toward Project OM&M, as defined by the JPA, is expected to result in \$14,563,000 (plus interest) available for OM&M beginning in FY 2019, the first year of long term OM&M after the Project is fully constructed. Interim OM&M until the Project is built is being funded by Measure "A" funds outside the Maintenance Fund.

Immediately following approval of Measure "A" in 1998, the Project detailed design began, the District began to acquire properties and relocate utilities and the first construction contract was awarded by the Corps in 2000. Now, 12 years into Project construction, several notable changes have occurred, which have bearing on Project finances and long term OM&M. These include:

- 1) Project costs have risen from an original estimate of approximately \$155M to a current estimate of approximately \$444M. The increased costs are related to significant increases in local real estate costs as well as construction cost increases.
- 2) Measure "A" tax revenues have exceeded original projections, helping keep abreast of Project cost increases. The current projection by the Napa County Auditor-Controller indicates a total of \$150.7M of Measure A tax revenues can be expected by the end of the tax in 2018.
- 3) State Subventions reimbursements have also exceeded projections. To date \$122.3M of local Project costs have been reimbursed by the State and an additional \$7M is budgeted and pending reimbursement in the Project 20 year forecast. Total eligible cost claims to date total \$137.4M. Based on future District land and relocations costs, at least an additional \$25M of reimbursements should be realized that are not included in the 20 year forecast.
- 4) The time to construct the Project, originally estimated to be 7 years, is now estimated to be at least 17 years, with current completion estimated to be in 2017. With the longer construction timeframe, the District has to conduct interim OM&M activities for a longer period of time.

### **OM&M Activities and Annualized Cost Estimate**

Staff has been evaluating the expected annual Project OM&M costs and has provided information to the Flood District Board (the Board) at least annually over the last several years. When the Maintenance Fund was first established in FY 2009, a conservative future annual OM&M estimate of \$1.1M (in 2018 dollars) was used to make a recommendation to the Board that the Fund should be allowed to grow until the completion of the Project in 2018 and that additional funds should be added to the Maintenance Fund when feasible to supplement the JPA-required amounts. The feasibility to add to the Fund is based on State Subventions reimbursements when the Project land acquisitions and relocations are complete.

Staff has recently reviewed assumptions and OM&M activities. Based on current information, an annualized cost of approximately \$800,000 (\$900,800 in 2018 dollars), is staff's current best estimate to cover the total costs to operate and maintain the completed Napa Project. Table 1 summarizes the OM&M activities and the updated annualized cost for labor, indirect and contractual services. To develop its estimates, staff has reviewed the cost experience of other flood control districts such as the

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Santa Clara Valley Water District in operation and maintenance of the Guadalupe Project, a relatively similar federal flood project in the South Bay, also built by the Corps. In addition, some of the required Napa Project OM&M is currently being performed as interim costs; therefore actual Project cost experience is available for many activities.

### **Project Lifecycle OM&M Financial Evaluations**

Project lifecycle financial evaluations have been conducted to evaluate the sufficiency of available funds for long term OM&M. These evaluations have also been updated to reflect recent economic conditions. In each scenario, it is assumed that there is 2% annual cost inflation and 3% earnings on fund balance. These assumptions were discussed with the Auditor-Controller who indicated that this is reasonable at this time. As stated above, the current estimated annual O&M cost of the fully completed Project is \$900,800 to fund the first year of long term OM&M in FY 2019.

Table 2 shows cash flow projections beginning in FY 2019 using the JPA-defined Maintenance Fund as currently established, without considering additional contributions to the Fund from State Subventions reimbursements. Under this scenario, sufficient OM&M funding is available for nearly 20 years, but falls short of the full Project lifecycle.

As noted above, based on future District land and relocations costs at least \$25M of additional revenue will be reimbursed to the District that has not been factored into the 20 year forecast because the associated costs have not yet been incurred. Table 3 shows cash flow projections conservatively assuming these reimbursements are paid no later than 5 years after the Project is fully constructed (2023). In actuality, the District files claims for reimbursements quarterly immediately after costs are incurred and payments are generally made within a year to 18 months following a claim submittal. Furthermore, the District's land and relocations costs will be incurred at least a year prior to the Corps construction completion, and most will be complete several years in advance. The 50 year Project lifecycle OM&M costs are fully covered under this scenario.

Given the ongoing uncertainty in the timing of federal funding to complete the Project and the construction timeframe is drawn out, staff has recommended that the District remain fiscally conservative. The following are additional recommendations staff has been following:

- 1) Staff continues to hold the federal government to its PCA commitments in terms of Project element turnover to keep interim OM&M costs controlled. This means the District will not take over completed Project elements until warranty or any defects are addressed and a completed OM&M manual is provided by the Corps.
- 2) Staff will review long term OM&M funding status at least once annually and report to the Flood Board.
- 3) Staff will ensure proper interim maintenance of completed improvements to reduce deferred maintenance costs or degradation, and ensure that regulatory requirements are met and inspections documented to prevent fines or loss of coverage for post flood recovery.
- 4) Staff will continue to review Project designs with a focus on lowering O&M costs and minimizing potential repairs associated with inadequate design.
- 5) Staff will continue to submit both State Subventions claims and LERRDs crediting to the Corps to maximize reimbursements and Project cost credits.

**TABLE 1**  
**NAPA RIVER/NAPA CREEK FLOOD PROTECTION PROJECT**  
**ESTIMATED ANNUALIZED**  
**OPERATIONS, MAINTENANCE AND MONITORING COSTS**

<b>LABOR</b>			
<i>Position</i>	<i>Salary and Benefits</i>	<i>% to O&amp;M</i>	<i>\$ to O&amp;M</i>
District Engineer	\$193,025	0.05	\$9,651
Operations Mgr	\$164,432	0.3	\$49,330
Civil Engineer	\$124,859	0.5	\$62,430
Resources Specialist	\$124,879	0.75	\$93,659
O&M Technicians (two 0.5 FTEs)	\$69,394	1	\$69,394
Account Clerk	\$85,420	0.25	\$21,355
Staff Analyst	\$146,435	0.1	\$14,644
Front Office Support	\$73,206	0.15	\$10,981
<b>Subtotal Salary and Benefits (FTEs)</b>		<b>3.1</b>	<b>\$331,443</b>

<b>OFFICE/SUPPLIES</b>			
<i>Assumes staff will continue to be provided by Napa County. The County applies an overhead burden to labor to cover shared office and supplies costs for accrual to projects. Based on FY 2013 budget average cost per employee is shown.</i>			
<b>Overhead burden per employee (2013)</b>	\$ 15,951	3.1 FTEs	<b>\$49,448</b>

<b>CONTRACT SERVICES</b>			
<i>Activity</i>	<i>Contract Amount</i>	<i>Annual Factor*</i>	<i>Annualized Cost</i>
Vegetation Monitoring/Surveys	\$45,000	0.2	\$9,000
Topo/Channel Surveys/Aerials	\$30,000	0.2	\$6,000
Hydraulic model upkeep	\$30,000	0.2	\$6,000
Levee and Miscellaneous Mowing, Rodent Abatement	\$20,000	1	\$20,000
Vegetation Management/Habitat Protection	\$40,000	0.5	\$20,000
Invasives Management	\$20,000	1	\$20,000
Mosquito Abatement	\$40,000	1	\$40,000
Erosion/RSP Management	\$225,000	0.2	\$45,000
Sediment Management	\$300,000	0.1	\$30,000
Annual Flood Operations/Debris Management	\$25,000	1	\$25,000
Post Flood Debris Cleanup	\$100,000	0.2	\$20,000
Regulatory Permits/Reporting	\$15,000	0.2	\$3,000
Pump stations (3), including power, fuel, permits, upkeep	\$90,000	1	\$90,000
Alert Gauges/Instumentation	\$10,000	1	\$10,000
Legal Support	\$15,000	1	\$15,000
Public Information/Signage/Outreach	\$10,000	1	\$10,000
Miscellaneous Repairs/Replacements	\$50,000	1	\$50,000
<i>* Annual cost factor is used to adjust the expected frequency of activity. For example, a cost factor of 0.2 assumes costs occur once every 5 years. A factor of 1 assumes the costs will be annual.</i>			
<b>Subtotal Annualized Contract Costs</b>			<b>\$419,000</b>

<b>Total Annualized OM&amp;M Costs (FY 2013 dollars)</b>	<b>\$799,891</b>
<b>Escalated Assuming 2% Annual Inflation (FY 2019 dollars)</b>	<b>\$900,800</b>

**TABLE 2**  
**NAPA RIVER/NAPA CREEK FLOOD PROTECTION PROJECT**  
**CASH FLOW PROJECTIONS FY 2019-2038**  
**(without State Subventions Reimbursements)**

Year #	Fiscal Year	FY Beginning Fund Balance	Annual OM&M Cost
1	2019	\$14,563,000	\$900,800
2	2020	\$14,072,066	\$918,816
3	2021	\$13,547,848	\$937,192
4	2022	\$12,988,975	\$955,936
5	2023	\$12,394,030	\$975,055
6	2024	\$11,761,544	\$994,556
7	2025	\$11,089,998	\$1,014,447
8	2026	\$10,377,817	\$1,034,736
9	2027	\$9,623,374	\$1,055,431
10	2028	\$8,824,981	\$1,076,539
11	2029	\$7,980,895	\$1,098,070
12	2030	\$7,089,310	\$1,120,032
13	2031	\$6,148,356	\$1,142,432
14	2032	\$5,156,102	\$1,165,281
15	2033	\$4,110,546	\$1,188,586
16	2034	\$3,009,618	\$1,212,358
17	2035	\$1,851,178	\$1,236,605
18	2036	\$633,009	\$1,261,337
19	2037	<b>-\$628,328</b>	\$1,286,564
20	2038	<b>-\$1,914,892</b>	\$1,312,296

Assumes 2% Annual Inflation and 3% Earnings on Fund Balance

**TABLE 3**  
**NAPA RIVER/NAPA CREEK FLOOD PROTECTION PROJECT**  
**CASH FLOW PROJECTIONS FY 2019-2068**  
**(with State Subventions Reimbursements)**

Year #	Fiscal Year	FY Beginning Fund Balance	Annual OM&M Cost
1	2019	\$14,563,000	\$900,800
2	2020	\$14,072,066	\$918,816
3	2021	\$13,547,848	\$937,192
4	2022	\$12,988,975	\$955,936
5	2023	\$37,394,030	\$975,055
6	2024	\$37,511,544	\$994,556
7	2025	\$37,612,498	\$1,014,447
8	2026	\$37,695,992	\$1,034,736
9	2027	\$37,761,094	\$1,055,431
10	2028	\$37,806,833	\$1,076,539
11	2029	\$37,832,202	\$1,098,070
12	2030	\$37,836,156	\$1,120,032
13	2031	\$37,817,608	\$1,142,432
14	2032	\$37,775,431	\$1,165,281
15	2033	\$37,708,455	\$1,188,586
16	2034	\$37,615,465	\$1,212,358
17	2035	\$37,495,200	\$1,236,605
18	2036	\$37,346,352	\$1,261,337
19	2037	\$37,167,565	\$1,286,564
20	2038	\$36,957,431	\$1,312,296
21	2039	\$36,714,490	\$1,338,541
22	2040	\$36,437,227	\$1,365,312
23	2041	\$36,124,072	\$1,392,618
24	2042	\$35,773,397	\$1,420,471
25	2043	\$35,383,514	\$1,448,880
26	2044	\$34,952,673	\$1,477,858
27	2045	\$34,479,059	\$1,507,415
28	2046	\$33,960,793	\$1,537,563
29	2047	\$33,395,927	\$1,568,315
30	2048	\$32,782,441	\$1,599,681
31	2049	\$32,118,243	\$1,631,675
32	2050	\$31,401,165	\$1,664,308
33	2051	\$30,628,963	\$1,697,594
34	2052	\$29,799,310	\$1,731,546
35	2053	\$28,909,797	\$1,766,177
36	2054	\$27,957,928	\$1,801,501
37	2055	\$26,941,121	\$1,837,531
38	2056	\$25,856,698	\$1,874,281
39	2057	\$24,701,889	\$1,911,767
40	2058	\$23,473,826	\$1,950,002
41	2059	\$22,169,539	\$1,989,002
42	2060	\$20,785,953	\$2,028,782
43	2061	\$19,319,886	\$2,069,358
44	2062	\$17,768,044	\$2,110,745
45	2063	\$16,127,018	\$2,152,960
46	2064	\$14,393,279	\$2,196,019
47	2065	\$12,563,178	\$2,239,939
48	2066	\$10,632,936	\$2,284,738
49	2067	\$8,598,644	\$2,330,433
50	2068	\$6,456,257	\$2,377,042
51	2069	\$4,201,592	\$2,424,582

← \$25M State Subventions Reimbursed by 2023

Assumes 2% Annual Inflation and 3% Earnings on Fund Balance  
State Subventions reimbursements owed to Napa Project (\$25M) paid in 2023