

FLOOD ZONE 9 ADVISORY BOARD MEETING
SEPTEMBER 21, 2015
SIR FRANCIS DRAKE HIGH SCHOOL STUDENT CENTER
STAFF REPORT

Item 1. Approval of Meeting Minutes for June 16, 2015 and Responses to Meeting Questions Raised as Attachment

Action by Board: Advisory Board members will review meeting minutes from the June 16, 2015 meeting, make corrections, and approve the minutes as corrected. Discuss responses to meeting questions raised.

Please find included as **Attachment C** draft responses to questions raised by the public at the last June 16, 2015 meeting.

Item 2. Open Time for Items Not on the Agenda

Comments will be heard for items not on the agenda (limited to three minutes per speaker).

Item 3. Ross Valley Flood Protection and Watershed Program Update

a) Program Outreach

1) *Fiscal Year 2013/2014 Annual Report Is Now Available*

The Fiscal Year 2013/2014 Annual Report is in a new format this year from previous years and contains additional information. It is printed and copies have been provided to each town/city in Ross Valley for their public information counter. It is also posted to the Program website www.RossValleyWatershed.org.

2) *Fact Sheets*

New fact sheets for the Program and projects were developed and are now posted to the Program website. These fact sheets provide concise, relevant information about each project in a consistent format. As new information becomes available, the fact sheets will be updated and posted to the Program website. Staff will also bring a limited supply of hard copies to outreach events such as the upcoming San Anselmo Country Fair Days on September 27 and the First Annual Marin County Flood Fair on October 24.

3) *Frequently Asked Questions (FAQs)*

Program and Memorial Park project FAQs were updated earlier this year and posted to the Program webpage. New FAQs are being developed from additional questions and themes that arise and will be posted to the website soon.

4) *San Anselmo Country Fair Days Event Booth*

Staff will set up a Ross Valley Flood Protection and Watershed Program public information booth at the San Anselmo Country Fair Days event on September 27. We will set up adjacent to the Town of San Anselmo's Hazard Mitigation Plan and Flooding booth.

Marin County Flood Control and Water Conservation District

5) Flood Preparedness Fair and Winter Preparedness Website Update

The 1st Annual Marin Flood Preparedness Week Fair is being held Saturday, October 24 at 10:00 AM at the Manzanita Room Marin Exhibition Hall at 10 Avenue of the Flags, San Rafael. The District invites agencies and stakeholders to participate as an exhibitor in its first flood preparedness fair in observance of 2015 California Flood Preparedness Week. Exhibitors can help educate others about the dangers of flooding, and help the community prepare for floods and plan for recovery. There is no fee for admission or exhibition. Interested potential exhibitors should contact Hannah Lee at HLee@marincounty.org with a short description of display content or hand-out and special requirements.

The public is invited to attend the Fair anytime between 10:00 AM and 2:00 PM.

The National Weather Service anticipates a strong El Niño this winter and their precipitation outlook indicates Marin is likely to receive more rain than normal. Also, tides could be significantly higher than predicted. Although two major flooding years in Marin's history occurred during years with El Niño episodes ('97/98 & '82/83), it is not unusual to flood in the absence of El Niño, such as in 2005/06. A Flood Zone 9 specific update regarding winter preparedness is available from the Marin County Watershed Program website available at www.marinwatersheds.org and also included as **Attachment D**.

6) Water Conservation and Rainwater Harvesting Class

A Water Conservation and Rainwater Harvesting Class scheduled for October 24, 10:00 AM to 1:00 PM at San Domenico Garden (western end of campus) is open to all community members and is brought to you by the Sleepy Hollow Creek Committee, San Domenico School, Marin Resource Conservation District, County of Marin, and Marin Municipal Water District. Flyers for the event are provided at this meeting and contain information regarding how to sign up for the event, as space is limited.

7) Program Website Update

The Ross Valley Flood Protection and Watershed Protection Program is just one piece of a much larger website organization on marinwatersheds.org. Phase II of the Strategic Implementation Plan presented at the May 20, 2015 Flood Zone 9 Advisory Board meeting involves District staff coordinating with MCSTOPPP, the Marin County Watershed Program, and the other flood control zone staff to enable a smooth website update and transition to a new content management system. This effort will enable shared information resources for the public on the website and easier ways for staff to update and manage content. It is expected that the full website update will take approximately 4-5 months until it is ready to go live. Staff will ensure that any new website roll out will not affect key public information resources (such as creek gauges or web cameras) during storm periods.

b) Ross Valley Creek Maintenance Update in Incorporated and Unincorporated Areas

The District continues to coordinate annual creek maintenance activities throughout the Ross Valley.

As fulfillment of the five year creek maintenance agreements (2013/2014 through 2018/2019) the District is assisting the municipalities by coordinating and reimbursing a total of \$30,000 between each of the City and Towns for Annual Creek Maintenance within their respective jurisdictions. On September 16 District staff and members of the Ross Valley Creek Maintenance Program Committee held a meeting to prioritize creek maintenance activities for 2015.

Marin County Flood Control and Water Conservation District

The District, in coordination with the Town of Ross, will be placing 'No Trespassing/No graffiti' signs at strategic locations to further deter trespassers from entering the Corte Madera Creek concrete channel.

For unincorporated areas of Ross Valley, the District has performed the following creek maintenance tasks:

- Fire Fuel Reduction along the right bank of Corte Madera Creek earthen channel upstream from Bon Air Road Bridge.
- Vegetation maintenance along the channel and sediment removal within the fish resting pools per U.S. Army Corp of Engineers' requirements.
- Supported the biennial inspection of the Corte Madera Creek Flood Control Channel Project in July by the U.S. Army Corps of Engineers "Readiness Branch".

District creek maintenance tasks which are still pending include cleaning, greasing and/or repairing flap gates along the Corte Madera Creek concrete channel, and removing old patches and reapplying concrete patches to cracks within the Corte Madera Creek concrete channel (will be performed during the 2016 season). The District will also be providing assistance and guidance to other unincorporated community groups interested in leading creek cleaning efforts with local residents and volunteers. This includes assisting with a Creek Cleaning Education Program training session in the Kent Avenue area scheduled for late September and also assisting the Sleepy Hollow Creek Committee during their Creek Cleaning Day scheduled for early October.

c) Presentation on Potential Acceleration Measures

A presentation will be shown on methods and associated risks to potentially accelerate the program schedule.

d) Flow Reduction Study Update and Request for Action to Revise Baseline Measure Projects

Since the June Advisory Board (AB) meeting, staff has been coordinating with owners of the five (5) primary and five (5) backup detention basin sites selected in the Flow Reduction Study to obtain written concurrence, or at least acknowledgement, to include their property in the future Program Environmental Impact Report (EIR). On September 3, 2015 the Technical Working Group was provided an update regarding outreach with the owners of potential detention basin sites. Some detention basin sites involve more than one property owner. The following table indicates the property owners who have provided the requested written statements and those property owners who have not, as of this date:

Marin County Flood Control and Water Conservation District

FLOW REDUCTION STUDY DETENTION BASIN SITES			
PROPERTY OWNER ACKNOWLEDGEMENT TO INCLUDE IN PROGRAM EIR			
<u>Detention Basin Name</u>	<u>Property Owners Name</u>	<u>Date Request Made</u>	<u>Date Acknowledgement Received</u>
PRIMARY SITES			
1. Phoenix Lake	Marin Municipal Water District	8/19/2015	
2. Memorial Park	Town of San Anselmo	8/19/2015	9/8/2015
3. Lefty Gomez	Ross Valley School District	8/13/2015	9/1/2015
4. Former Nursery Site	Perrys	8/18/2015	9/10/2015
5. Deer Park	Ross Valley School District	8/13/2015	9/1/2015
	Marin Municipal Water District	7/30/2015	
BACKUP SITES			
1. Camp Bothin	Girl Scouts of America	7/29/2015	8/6/2015
2. Loma Alta	County of Marin	8/19/2015	8/20/2015
	Ross Valley School District	8/13/2015	9/1/2015
3. Red Hill Park	Tamalpais Union School District	7/29/2015	9/2/2015
4. Hidden Valley Elementary	Ross Valley School District	8/13/2015	9/1/2015
5. Brookside Elementary	Ross Valley School District	8/13/2015	9/1/2015

As shown in the table, Marin Municipal Water District (MMWD) has not yet provided the requested written statement; however, the District expects to receive their statement by the end of September.

The Deer Park Site and Former Nursery Site which are designated as primary sites have to this date not been included as Baseline Measures within the 10-Year Work Plan. District Staff recommends including both Deer Park and Former Nursery Site, identified as primary sites, within the 10-Year Work Plan Baseline Measures and removing Loma Alta as a Baseline Measure because it is now designated as a backup site.

Recommended Action: Recommend revising the Baseline Measure Projects by removing Loma Alta as a Baseline Measure and adding Former Nursery and Deer Park sites to Baseline Measure Project list.

Item 4. Project Status Updates (Information Item):

The Current Cost Estimate covering environmental and feasibility studies, design and construction of

Marin County Flood Control and Water Conservation District

10-year Work Plan Baseline Measures is included as **Attachment A** to this Staff Report. The Flood Control Baseline Measures have been revised in **Attachment A** to conform to the results of the Flow Reduction Study as approved by the AB at the June 2015 meeting. The current cost estimate for Deer Park, the Former Nursery, and Lefty Gomez are not shown pending presentation of the cost estimates to the Flood Zone 9 Advisory Board Budget Subcommittee. The Lefty Gomez cost estimate is being revised based on the results of the "Geotechnical Engineering Analysis and Conceptual Design Report" prepared by URS. A summary of project descriptions, cost estimates, project construction start dates, and grant funding sources is included as **Attachment B** to this Staff Report.

a) Phoenix Lake Integrated Regional Water Management (IRWM) Retrofit Project

The draft Geotechnical Data Report, draft Dam Materials Characterization Report, and draft Earthquake Ground Motion Analysis Technical Memo has been submitted to the CA Division of Safety of Dams (DSOD) for review. A conference call was held between URS, County staff, and DSOD staff on Aug. 27, 2015 to discuss the earthquake ground motion analysis and the analysis parameters were agreed upon by all participants. URS is performing static analysis, rapid draw-down analysis, and potential liquefaction analysis of the existing dam.

Stetson Engineers is currently preparing the Hydrologic Study of Long-Term Yield of Phoenix Lake and the Phoenix Lake Coordinated Operations Plan. These studies are expected to be complete by October 31, 2015.

District staff is working to obtain concurrence with including the Phoenix Lake IRWM Retrofit Project in the Program EIR since the improvements would occur on MMWD property.

To date, no concurrence has been received, but a response is expected by September 30, 2015.

b) Memorial Park Dual-Use Facility

The pending initiative election is scheduled for November 2, 2015. No work is proceeding at this time.

c) Lefty Gomez Field Dual-Use Facility

URS has completed laboratory analyses of the soil samples, submitted final boring logs, sediment loading analyses, a geotechnical report, an updated conceptual design plan, and an updated cost estimate. The updated conceptual design plan has been submitted to the Ross Valley School District for review. CH2M is currently performing a peer review of the updated cost estimate. Staff will present the geotechnical findings, sediment loading calculations, and updated cost estimate performed by URS to the Advisory Board at a future meeting.

Staff continues to look for appropriate grant opportunities for this project.

The Ross Valley School District Board approved including Lefty Gomez Field Dual-Use Facility in the Program EIR.

Staff requests a carry forward of the \$50,000 budget approved in Fiscal Year 2014/15 for future grant application costs that was not spent for the project into Fiscal Year 2015/16 budget. In addition, based on other recent Federal Emergency Management Agency/California Office of Emergency Services grants applications, staff recommends increasing the project budget in FY 15/16 by an additional \$20,000 for future grant applications for a total of \$70,000 in Professional

Marin County Flood Control and Water Conservation District

Services.

Recommended Action: Recommend the Board of Supervisors approve a budget of \$70,000 in the Lefty Gomez Dual-Use Facility Fiscal Year 2015/16 budget for “Professional Services”.

d) Deer Park Dual-Use Facility

The Ross Valley School District Board approved including Deer Park Dual-Use Facility in the Program EIR.

Staff met with MMWD staff on July 30, 2015 to discuss concurrence with including the Deer Park Dual-Use Facility in the Program EIR since the improvements would occur on MMWD property. To date, no concurrence has been received, but a response is expected by September 30, 2015.

e) Former Nursery Growing Grounds

Staff met with attorneys representing the property owners on Aug. 18, 2015. General discussion regarding acquisition of a portion of the property for use as a multi-use detention basin was positive on both sides of the potential acquisition. After review of the ways to structure the acquisition by both sides, another meeting will occur.

The attorneys provided a letter stating the owners’ concurrence with including this property in the Program EIR.

f) Bridge Replacements in Town of San Anselmo

Building Bridge 2

The Town has been informed by Federal Emergency Management Agency that the Building Bridge 2 Project is eligible under the Pre-Disaster Mitigation Grant Program and they are planning to apply for the grant in 2016. The Town of San Anselmo is currently updating their Local Hazard Mitigation Plan in order to be eligible for this and other grants.

Nokomis and Madrone Bridge Replacements

The project design team has conducted field reviews with Caltrans for both projects and Caltrans have authorized the environmental review phases to proceed. Over the next couple of months the design team will finalize the hydraulic reports for each of the projects and initial public input is expected in October 2015. The Town of San Anselmo applied for project management costs to be reimbursed but Caltrans rejected the request. The project management costs were included in the executed cost sharing agreement in case they were deemed non-reimbursable and so will be paid using Flood Zone 9 flood fee funds.

Center Boulevard/Sycamore Avenue Bridge Replacement

The project is still undergoing the feasibility study which is all that has been authorized by Caltrans to-date. The current alternatives will be refined and a recommended alternative presented to the Town of San Anselmo later this month. Initial public input is targeted for October 2015. The design team will present the recommended alternative to Caltrans in December 2015 who will need to give authorization in order for the preliminary engineering phase to proceed further.

g) Winship Avenue Bridge Replacement in Town of Ross

Marin County Flood Control and Water Conservation District

The project design team has conducted the field review with Caltrans for the project and Caltrans has authorized the environmental review phase to proceed. Over the next couple of months the design team will complete the hydraulic study and present the preliminary plan to the Town of Ross in October 2015. Initial public input is targeted for October or November 2015.

h) Azalea Avenue Bridge Replacement in Town of Fairfax

The Town of Fairfax has received authorization by Caltrans to begin reimbursable work to the initial amount of \$15,000. This initial work will result in the Caltrans field review that is required before the environmental review process begins. The District is negotiating a cost sharing agreement with the Town to assist in any non-reimbursable costs for the project. These costs are anticipated to include work to perform CEQA review for the project. Other costs may be needed to cover project management and these will be applied for reimbursement by Caltrans but may not be granted.

i) Corte Madera Creek Units 3 and 4 Project

The Project Design Team (PDT) consisting of the U.S. Army Corps of Engineers – San Francisco Office (USACE) and the District continues to proceed with work needed to reach the first milestone that is now scheduled to be reached in October, 2015.

The design process has been delayed by about a month partially due to confirmation on whether the project that was authorized by the United States Congress included the concrete channel section of the creek (from the fish ladder near the Ross post office to the downstream end in Kentfield). This was resolved by the Corps legal staff that performed an “Authority Analysis”. The authority analysis resulted in the decision that the original authorization in 1944 could be used to perform the study to include the whole length of the creek from Sir Francis Drake Boulevard Bridge (Town of Ross) to the bay. However, the Congressional authority for construction of Unit 4 improvements that was authorized in 1986 does not specify any improvements along the concrete channel section. After the Feasibility Design has been completed and a USACE Chief’s Report has been finalized, it is likely the District will need to secure congressional authorization to complete construction of any improvements along the concrete channel in Units 2 and 3. The schedule delay has also come about as a result of frequent changes to key USACE project personnel on the PDT.

Through the USACE planning process, a suite of preliminary alternatives to achieve the project goals will be submitted in a report to the USACE Headquarters in DC for their approval by the first milestone. This report will also be included in the draft environmental review document.

The next phase of the project to reach Milestone 2 will include preliminary technical analyses on the alternatives in order to compare effectiveness and costs and further screen out the alternatives to reach what is called the “Tentatively-Selected Plan” by the middle of 2016. The draft Environmental Impact Statement/Environmental Impact Report document will be released by this milestone also.

On September 3, 2015 the Technical Working Group was provided an update of the project status.

j) Lower Corte Madera Creek Improvement Project

In response to the recommendations by the Advisory Board at the May meeting, District staff is currently negotiating a cost sharing agreement with the City of Larkspur that includes terms specifically for the proposed pump station project in the Hillview neighborhood.

Marin County Flood Control and Water Conservation District

District staff is also working closely with the City of Larkspur in evaluating a “geomorphic dredge” approach along Lower Corte Madera Creek. District staff presented the steps to this approach to the Technical Working Group on September 3. This approach is used to develop channel sections along Lower Corte Madera Creek that could be expected to be in equilibrium with the available tidal prism. The District is finalizing a contract with a specialized consultant, Watershed Sciences, to assist with the study that is expected to continue into 2016.

The District has also begun discussions with the College of Marin about future use of areas identified in the District’s 2011 Capital Improvements Plan Report. One of these areas is called “Lot 13” that could possibly be converted to enlarge tidal prism and reduce future dredging needs along Lower Corte Madera Creek.

Item 5. Adjourn, Confirm Next Meeting on December 15, 2015

At last year’s December 16, 2014 Flood Zone 9 Advisory Board meeting, the Flood Zone 9 Advisory Board established December 15, 2015 as the next regular Advisory Board meeting date.

**ROSS VALLEY FLOOD PROTECTION AND WATERSHED PROGRAM
COSTS AND REVENUES ESTIMATES
Attachment A**

								Last Updated: September 17, 2015
FLOOD CONTROL MEASURES - 10-Year Work Plan*	Implementing Agency	Current Cost Estimate**	Grants Secured***	Grants In Pursuit****	Current Cost Estimates minus Secured Grants	70% Outside Funding Target	% of Funding Target	Current Work Program
BASELINE MEASURES 10 YWP								
Lower Corte Madera Creek Improvement Project (Dredge) - (Includes Past Grant Application Costs)	FC District	\$6,220,265	\$0	PENDING	\$6,220,265	\$4,354,186	0%	\$6,220,265
Former Nursery Site	FC District	PENDING						PENDING
Deer Park	FC District	PENDING						PENDING
Lefty Gomez	FC District	\$6,400,000	\$0	GRANT READY	\$6,400,000	\$4,480,000	0%	\$6,400,000
Memorial Park (Prop 1E Scope+Past Grant Application Costs)	San Anselmo	\$17,633,683	\$8,720,500		\$8,913,183	\$12,343,578	71%	\$8,913,183
Phoenix Lake (Prop 1E Scope+Past Grant Application Costs)	FC District	\$19,740,150	\$7,661,000		\$12,079,150	\$13,818,105	55%	\$12,079,150
Azalea Ave - FX [135]	Fairfax	\$2,326,520	\$15,000	\$2,311,520	\$2,311,520	\$1,628,564	1%	\$2,311,520
Nokomis Ave SA [083]	San Anselmo	\$2,493,917	\$2,409,042	\$64,500	\$84,875	\$1,745,742	138%	\$84,875
Madrone Ave SA [077]	San Anselmo	\$2,487,917	\$2,127,413	\$57,102	\$360,504	\$1,741,542	122%	\$360,504
Sycamore Ave (Center Blvd) SA [063]	San Anselmo	\$5,930,375	\$5,131,752	\$84,104	\$798,623	\$4,151,263	124%	\$798,623
Winship Ave RS [005]	Ross	\$2,413,075	\$2,329,340		\$83,735	\$1,689,153	138%	\$83,735
Sir Francis Drake Blvd Bridge RS [021]	Ross	\$6,125,000	\$0	PENDING	\$6,125,000	\$4,287,500	0%	\$6,125,000
Bldg Bridge #2 [046] (Includes Past Grant Application Costs)	San Anselmo	\$3,425,200	\$0	GRANT READY	\$3,425,200	\$2,397,640	0%	\$3,425,200
Corte Madera Creek Units 3 and 4 Project (Assumptions)								
- Planning and Design (Includes Past Grant Application Costs)	FC District/USACE	\$2,810,265	\$400,000	\$2,400,000	\$2,410,265	\$1,967,186	20%	\$2,410,265
- Construction	FC District/USACE	\$6,560,000	\$0	\$6,560,000	\$6,560,000	\$4,592,000	0%	\$6,560,000
- Real Estate, easements and disposal areas	FC District	\$4,500,000	\$0	PENDING	\$4,500,000	\$3,150,000	0%	\$4,500,000
TOTAL - Baseline Measures		\$89,066,368	\$28,794,047	\$11,477,225	\$60,272,321	\$62,346,457		\$60,272,321
% of TOTAL Current Cost Estimates		100%	32%	13%	68%	70%	46%	68%
ADDITIONAL MEASURES 10 YWP								
Merwin Avenue Bridge Replacement [124]*	TBD	\$989,000	\$0	\$741,750	\$989,000	100%	0%	\$0
Channel Modifications at Merwin Bridge Area[121][122][123][125][126][127][128]	TBD	\$957,000	\$0		\$957,000	100%	0%	\$0
Install new wing wall [142]	TBD	\$126,000	\$0		\$126,000	100%	0%	\$0
Install new wing wall [143]	TBD	\$136,000	\$0		\$136,000	100%	0%	\$0
Install Floodwall/Berm as wing wall extension [144]	TBD	\$70,000	\$0		\$70,000	100%	0%	\$0
Supplement: Floodwall <3.6' RS662-700 (35 ft long)	TBD	\$50,000	\$0		\$50,000	100%	0%	\$0
Supplement:Floodwall <3.3' RS662-791 (129 ft long)	TBD	\$655,000	\$0		\$655,000	100%	0%	\$0
Supplement:Floodwall <2.0' RS956-1283 (327 ft long)	TBD	\$150,000	\$0		\$150,000	100%	0%	\$0
Taylor Avenue Bridge Replacement [203]	TBD	\$991,000	\$0	\$991,000	\$991,000	100%	0%	\$0
Replace Existing Retaining Wall [209]	TBD	\$216,000	\$0		\$216,000	100%	0%	\$0
Retrofit/Replace Existing Retaining Wall [213]	TBD	\$77,000	\$0		\$77,000	100%	0%	\$0
Construct new retaining wall [216]	TBD	\$99,000	\$0		\$99,000	100%	0%	\$0
Supplement: Floodwall<1.0' RB RS2762-2796 (34 ft long)	TBD	\$10,000	\$0		\$10,000	100%	0%	\$0
Construct new retaining wall as wingwall [219]	TBD	\$382,000	\$0		\$382,000	100%	0%	\$0
Construct new retaining wall [220]	TBD	\$387,000	\$0		\$387,000	100%	0%	\$0
Broadmoor Avenue Bridge Replacement [224]	TBD	\$1,354,000	\$0		\$1,354,000	100%	0%	\$0
Channel Modifications RS3400-3442 [225][227][228]	TBD	\$249,000	\$0		\$249,000	100%	0%	\$0
Floodwall <2.0' LB RS3646 +/- 80' (160 ft long)	TBD	\$65,000	\$0		\$65,000	100%	0%	\$0
Floodwall <2.0' LB RS4085 +/- 120' (240 ft long)	TBD	\$90,000	\$0		\$90,000	100%	0%	\$0
All Flood Control Measures (22) from RS437000-45970	TBD	\$9,214,000	\$0		\$9,214,000	100%	0%	\$0
Floodwall <1.0' RB RS43397-43512 (115 ft long)	TBD	\$15,000	\$0		\$15,000	100%	0%	\$0
Supplement:Floodwall <3.0' RB RS43716-43773 (57 ft long)	TBD	\$50,000	\$0		\$50,000	100%	0%	\$0
Supplement:Floodwall <32.5' RB RS43828-43838 (10 ft long)	TBD	\$5,000	\$0		\$5,000	100%	0%	\$0
ADDED MEASURES - SUPPLEMENT TO 10YWP								
SUBTOTAL - Additional Measures		\$16,337,000	\$0	\$1,732,750	\$16,337,000			\$0
PROGRAM MANAGEMENT and PUBLIC OUTREACH								
Staff (July 1st, 2011 to June 30th 2014)	NA	\$1,199,708			\$1,199,708			\$1,199,708
Staff (July 1st, 2014 to June 30, 2022) = 7 Years @ \$388,089	NA	\$2,877,603			\$2,877,603			\$2,877,603
Annual Updates to Storm Drainage Fee @ \$50,000 every 3 Years	NA	\$166,667			\$166,667			\$166,667
Flow Reduction Study (for Program)	NA	\$162,000			\$162,000			\$162,000
Hydraulic & Hydrologic Engineering, Future Grant Application Prep (2 Years \$120,000) for 8 Years (July 1st 2011 through June 30th 2019)	NA	\$480,000			\$480,000			\$480,000
Outreach Services + Website Updates (FY 14/15 & 15/16)	NA	\$218,968			\$218,968			\$218,968
SUBTOTAL		\$5,104,946			\$5,104,946			\$5,104,946
GRAND TOTAL *****		\$110,508,314	\$28,794,047	\$13,209,975	\$81,714,267			\$65,377,267
Deficit/Surplus with an annual 3% rise in fee amount					-\$31,909,916			-\$15,572,916
Expected Revenue - With No Rise in Fee Amounts:		\$43,146,194						
Expected Revenue - With 3% Rise in Fee Amounts:		\$49,804,351						

NOTES:
* Pending review and certification of environmental documents and alternatives to the listed project.
** Cost Estimates include grant application costs spent to date for Phoenix Lake IRWM Retrofit and Memorial Park Dual-Use Detention Basin. For Operations and Maintenance costs
*** Executed grant agreements, E76, or notified the grant application was selected.
**** In grant application process, or working with ACOE on obtaining federal funding.
***** GRAND TOTAL does not include annual zone operation and maintenance costs such as that needed for: website maintenance, precipitation and stream gauge maintenance, ALERT System, Creek Maintenance Program, Routine Maintenance Program, Maintenance of Unit 1-3, Utilities, Maintenance & Repair Services, Land & Buildings, Rent & Operating Leases, Professional Development, Travel, Dues, Office Supplies, Maintenance & Repair Supplies & Equipment, Land & Building Supplies, and Miscellaneous Supplies.

ATTACHMENT B

BASELINE MEASURE	DESCRIPTION	GRANT AMOUNT
<p><i>Phoenix Lake IRWM Retrofit Project</i> Implementing Agency: <i>Marin County Flood Control and Water Conservation District</i> Cost Estimate: \$19,740,150 (Source – DWR Prop 1E Grant Agreement 5/8/2013 + Grant Application Expenses To Date) Projected Construction Start Date: <i>Summer 2019</i></p>	<p>The proposed Phoenix Lake Integrated Regional Water Management (IRWM) Retrofit Project involves modifying the Phoenix Lake reservoir, dam, spillway and outlet works to increase water storage capacity in order to reduce or prevent flooding within the Ross Valley watershed during large storms.</p>	<p align="center">\$7,661,000</p>
<p><i>Memorial Park Dual-Use Detention Project</i> Implementing Agency: <i>Town of San Anselmo</i> Cost Estimate: \$17,633,683 (Source – DWR Prop 1E Grant Application 9/20/2013 + Grant Application Expenses To Date) Projected Construction Start Date: <i>2018</i></p>	<p>The proposed Memorial Park Dual-Use Facility will provide a new detention basin and restoration and improvement of the park recreational facilities.</p>	<p align="center">\$8,720,500</p>
<p><i>Lefty Gomez Field Dual-Use Facility</i> Implementing Agency: <i>Marin County Flood Control and Water Conservation District</i> Cost Estimate: \$6,400,000 (Source – Ross Valley Capital Improvement Plan, May 2011) Projected Construction Start Date: <i>Approximately 4 years after secured funding (~2 years environmental review, ~ 2 years engineering design)</i></p>	<p>The proposed Lefty Gomez Field Dual-Use Facility could include conversion of the existing Lefty Gomez Field at White Hill Middle School to a dual-use facility allowing the field to be used to detain high creek flows during infrequent, large flood events. The proposed project also could include recreation improvements to the existing field at the site.</p>	<p align="center">GRANT READY</p>
<p><i>Former Nursery Growing Grounds</i> Implementing Agency: <i>Marin County Flood Control and Water Conservation District</i> Cost Estimate: <i>PENDING</i> Project Construction Start Date: <i>Pending</i></p>	<p>The proposed Former Nursery Growing Grounds was identified in the Flow Reduction Study as having potential to provide detention storage.</p>	<p align="center">NOT GRANT READY</p>
<p><i>Deer Park Dual-Use Facility</i> Implementing Agency: <i>Marin County Flood Control and Water Conservation District</i> Cost Estimate: <i>PENDING</i> Project Construction Start Date: <i>Pending</i></p>	<p>The proposed Deer Park Dual-Use Facility was identified in the Flow Reduction Study as having potential to provide detention storage, while also providing opportunities to further expand the park amenities and providing connections to local trails while reducing flooding on Deer Creek.</p>	<p align="center">NOT GRANT READY</p>
<p><i>Building Bridge 2</i> Implementing Agency: <i>Town of San Anselmo</i> Cost Estimate: \$3,425,200 (Source – Grant Application Proposal for FEMA Hazard Mitigation Grant Program 6/12/14 + Grant Application Expenses To Date) Projected Construction Start Date: <i>~3 years after secured funding</i></p>	<p>This project proposes the removal of Building Bridge #2 and a commercial building spanning the San Anselmo Creek in downtown San Anselmo.</p>	<p align="center">GRANT READY</p>
<p><i>Nokomis Avenue Bridge</i> Implementing Agency: <i>Town of San Anselmo</i> Cost Estimate: \$2,493,917 (Source –Town of San Anselmo) Projected Construction Start Date: <i>2017</i></p>	<p>This project proposes the removal and replacement of the Nokomis Avenue Bridge over San Anselmo Creek in the Town of San Anselmo.</p>	<p align="center">\$2,409,042</p>
<p><i>Madrone Avenue Bridge</i> Implementing Agency: <i>Town of San Anselmo</i> Cost Estimate: \$2,487,917 (Source –Town of San Anselmo) Projected Construction Start Date: <i>2017</i></p>	<p>This project proposes the removal and replacement of the Madrone Avenue Bridge over San Anselmo Creek in the Town of San Anselmo.</p>	<p align="center">\$2,127,413</p>
<p><i>Sycamore Avenue/Center Boulevard</i> Implementing Agency: <i>Town of San Anselmo</i> Cost Estimate: \$5,930,375 (Source –Town of San Anselmo) Projected Construction Start Date: <i>~3 years after project and grant funding approval</i></p>	<p>This project proposes the removal of the bridge at Sycamore Avenue and replacement with a new bridge at Center Boulevard over San Anselmo Creek in the Town of San Anselmo.</p>	<p align="center">\$5,131,752</p>
<p><i>Winship Avenue Bridge</i> Implementing Agency: <i>Town of Ross</i> Cost Estimate: \$2,413,075 (Source – Town of Ross) Projected Construction Start Date: <i>2017</i></p>	<p>This project proposes the removal and replacement of the Winship Avenue Bridge over San Anselmo Creek in the Town of Ross.</p>	<p align="center">\$2,329,340</p>
<p><i>Azalea Avenue Bridge</i> Implementing Agency: <i>Town of Fairfax</i> Cost Estimate: \$2,326,520 (Source – Town of Fairfax) Projected Construction Start Date: <i>~3 years after receipt of grant</i></p>	<p>This project proposes the removal and replacement of the Azalea Avenue Bridge over Fairfax Creek in the Town of Fairfax.</p>	<p align="center">PENDING</p>
<p><i>Corte Madera Creek Units 3 and 4 Project</i> Implementing Agency: <i>Marin County Flood Control and Water Conservation District</i> Cost Estimate – <i>Environmental, Permitting, Design & Construction: \$9,370,265 (Source – USACE + Grant Application Costs To Date), Right-of-way Acquisition: \$4,500,000 (Source: District)</i> Projected Construction Start Date: <i>Summer 2018</i></p>	<p>The proposed Corte Madera Creek Units 3 and 4 Project would improve the existing concrete channel and the earthen channel up to the Sir Francis Drake Boulevard bridge in Ross including removing the old wooden fish ladder that is currently in the creek. The proposed project is part of a prior U.S. Army Corps of Engineers (USACE) Flood Control Project and therefore the USACE is our partner and potential funding source.</p>	<p align="center">\$400,000</p>
<p><i>Lower Corte Madera Creek Improvement Project (Dredge)</i> Implementing Agency: <i>Marin County Flood Control and Water Conservation District</i> Cost Estimate: \$6,220,265 (Source - Flood Zone 9/Ross Valley 10-Year Work Plan + Grant Application Costs To Date) Projected Construction Start Date: <i>Approximately 4 years after secured funding (~2 years environmental review, ~ 2 years engineering design)</i></p>	<p>This proposed project will remove accumulated sediment from the lower sections of Corte Madera Creek in Kentfield, Larkspur, and Greenbrae. As the design moves forward, Staff will consider habitat improvements and beneficial sediment reuse opportunities that complement the project.</p>	<p align="center">PENDING</p>

ATTACHMENT C

DRAFT RESPONSES TO QUESTIONS FROM 6/16/15 FLOOD ZONE 9 ADVISORY BOARD MEETING:

(3a) What percentage of downtown San Anselmo flooding comes from Sleepy Hollow Creek versus the subterranean creek passing through Memorial Park?

During a 100-year flood the percentage of the estimated 2,450 cubic-feet-per-second (cfs) out of bank flow at San Anselmo Creek caused by the estimated 750 cfs in-creek flow at Sleepy Hollow creek is estimated to be 30.6%. During a similar flood event, the percentage of the estimated 2,450 cfs out-of-bank flow at San Anselmo Creek caused by the estimated 200 cfs in-creek flow at Sorich Creek is estimated to be about 8%.

For more detailed information, please refer to the following documents found on the District's website at www.rossvalleywatershed.org:

- a. Technical Memorandum No. 1 from the Corte Madera Creek Watershed Flood Damage Reduction and Creek Management Strategy Study, Figure 3 on page 4 (Stetson Engineers, September 10, 2010)
- b. Technical Memorandum No. 1, Figure 5 on page 5 (Stetson, 2010)
- c. The Department of Water Resources Proposition 1E Stormwater Flood Management Grant Application, Round 2, for the Memorial Park Dual-Use Facility (bottom of the third paragraph on page 6 of Attachment 3 Work Plan by Stetson, February 2013)

(3b) Are Hidden Valley and Brookside Elementary Schools on Sleepy Hollow Creek?

Yes, Hidden Valley and Brookside Elementary Schools are adjacent to Sleepy Hollow Creek.

(3c) Why is the percentage of total flow contributed by each creek and each proposed detention basin site not shown?

This information can be found on the following document that is posted on the District's website at www.rossvalleywatershed.org:

- a. Technical Memorandum No. 2 from the Corte Madera Creek Watershed Flood Damage Reduction and Creek Management Strategy Study (Page 16 through 24 by Stetson Engineers, September 10, 2010)
- b. Draft Flow Reduction Study (CH2M-Hill, June 2015)

(9a) Confirm if 80 acre-feet of flood water storage is expected at Memorial park

The Proposition 1E Stormwater Flood Management Grant Application, Round 2, for the Memorial Park Dual-Use Facility states within bottom of the second paragraph on page 3 of Attachment 3 Work Plan (Stetson Engineers, February 2013): "When full to the spillway crest...the basin will inundate 7 acres and detain 79 acre-feet of floodwater."

ATTACHMENT C

(9b and 13d) Is Memorial Park proposed detention basin facility expected to reduce flood water surface elevation by 2 inches or 2 feet?

The depth of flood reduction in downtown San Anselmo due to the Memorial Park detention basin as a standalone project is not available and will likely vary at different locations. Proposition 1E Stormwater Flood Management Grant Application, Round 2, for the Memorial Park Dual-Use Facility states within Table 1 of Section 1.3 "Technical Justification Memorandum" (Stetson Engineers, February 2013) that over 1,700 buildings will have reduced depth of flooding in the 100 year flood and 31 buildings will be completely removed from the flooded area due to the Memorial Park detention basin. This document was uploaded to the Ross Valley Flood Protection and Watershed Program and the web address is:

http://www.marinwatersheds.org/rossvalleywatershed.org/documents/Att7_SWF_TechJust_1of1.pdf

(9c) Does the San Anselmo Memorial Park detention basin facility cost estimate include \$3 to \$4 million dedicated to recreation facilities?

The Proposition 1E Stormwater Flood Management Grant Application, Round 2, for the Memorial Park Dual-Use Facility Attachment 3 "Work Plan" provides a cost estimate of \$3,595,000 for park rehabilitation within pages 76 through 78 (PDF pages 78 through 80). This document was uploaded to the Ross Valley Flood Protection and Watershed Program and the web address is:

http://www.marinwatersheds.org/rossvalleywatershed.org/documents/Att3_SWF_WorkPlan_1of2.pdf

(11) Public comment was provided by Jody Holstein of San Anselmo asking if fee revenue can be used to clean up trees and debris within the creeks to prevent flooding.

The proposal to use flood fee revenue to clean up trees and debris within creeks to prevent flooding is already in place. Flood fee revenue is used for annual creek maintenance in addition to for the development and implementation of the 10-year work plan projects.

ATTACHMENT D
Marin County Flood Control & Water Conservation District

2015-2016 Maintenance & Storm Preparedness Summary
Zone 9

Updated: September 3, 2015

Winter Weather Outlook

The National Weather Service's [Climate Prediction Center](#) anticipates that there will be a strong El Niño this upcoming winter and their latest [precipitation outlook](#) for December through March indicates that Marin is likely to receive higher than average amounts of precipitation. Additionally, due in part to warmer than average ocean waters, tides could be significantly higher than predicted.

Maintenance Overview

Regardless of predictions, the Marin County Flood Control & Water Conservation District (District) prepares for every year as though it is an “El Niño year.” Although two major flooding years in Marin's history occurred during years with El Niño episodes (1997/98 and 1982/83), it is not unusual to experience major flooding in the absence of El Niño, such as in 2005/06. Flooding can even occur during a drought year such as last year, when the County suffered some of its worst flooding damage since 2006.

It is for these reasons that the District follows a consistent system of facility and creek maintenance each year which mitigates the risk of flooding. We conduct regular inspections of the creeks, floodwalls, and levees within our jurisdiction, and frequently test our pumps, motors, and generators. Creeks, drainage ditches, pipes, trash racks, and pump wet wells are cleared of vegetation, sediment, and trash in the fall and throughout the winter as needed. A flood control zone-specific update regarding maintenance, storm preparedness and response in your local area is provided below.

Pump Station Maintenance

There are no District-operated pump stations in Flood Control Zone 9 – Ross Valley.

Vegetation Maintenance

Vegetation maintenance is performed as needed by the cities and towns in Ross Valley where they have right-of-way. A Creek Cleaning Education Program training session is scheduled for the Kent Avenue area in late September and an annual creek cleaning event in Sleepy Hollow will take place in early October.

Sediment Removal

Localized sediment removal is performed by the cities and towns in Ross Valley where they have right-of-way and on an as-needed basis. Sediment removal is also performed by the District within the fish resting pools located along the bottom of the Corte Madera Creek concrete channel. A feasibility study is currently underway to evaluate sediment management within the lower reach of Corte Madera Creek partially located within the City of Larkspur.

ATTACHMENT D
Marin County Flood Control & Water Conservation District

Levee/Floodwall Maintenance & Rodent Control

The Corte Madera Creek channel is inspected every other summer by the Army Corps of Engineers and District staff, including this summer. Patching of the concrete channel is conducted by county staff and/or contractors as needed. Each year county staff inspects, cleans, greases, and repairs as necessary the tide gates on the pipes that penetrate the channel wall.

Precipitation and Stream Gauge Maintenance

The District owns several precipitation and stream gauges throughout the County which help inform us of water levels in creeks and heavy rainfall in real-time. The nearest rain gauge is in Kentfield and there is a stream gauge on Corte Madera Creek in the Town of Ross. For more information on the gauges visit:

<https://marin.onerain.com/home.php>.

Preventative maintenance on the gauges is performed twice annually - September/October and February/March - and as needed. A grant has recently been awarded to install additional rain and stream gauges, and to upgrade the gauge software. This work is expected to be underway after this rainy season.

Storm Response

Before, during, and after storms, the Conservation Corps North Bay inspects and clears facilities as needed. They are also available for sandbagging and/or tarping levees and creek banks if requested. The District has a fleet of portable pumps which are maintained and tested prior to the winter season and some are pre-deployed in key locations.

The District is evaluating and has received a bid for temporary removable flood barriers which could be deployed quickly and in lieu of sandbags at flood threatened locations. The barriers are made of high strength plastic and achieve their stability by filling them with water.