



NORTH MARIN WATER DISTRICT
AGENDA - REGULAR MEETING
 August 19, 2014 – 7:30 p.m.
 District Headquarters
 999 Rush Creek Place
 Novato, California

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Est. Time	Item	Subject
7:30 p.m.		CALL TO ORDER
	1.	APPROVE MINUTES FROM REGULAR MEETING , August 5, 2014
	2.	GENERAL MANAGER'S REPORT
	3.	OPEN TIME: (Please observe a three-minute time limit)
		This section of the agenda is provided so that the public may express comments on any issues not listed on the agenda that are of interest to the public and within the jurisdiction of the North Marin Water District. When comments are made about matters not on the agenda, Board members can ask questions for clarification, respond to statements or questions from members of the public, refer a matter to staff, or direct staff to place a matter of business on a future agenda. The public may also express comments on agenda items at the time of Board consideration.
	4.	STAFF/DIRECTORS REPORTS
	5.	MONTHLY PROGRESS REPORT
	6.	PRELIMINARY FY 2013/14 FINANCIAL STATEMENT
		CONSENT CALENDAR
		The General Manager has reviewed the following items. To his knowledge, there is no opposition to the action. The items can be acted on in one consolidated motion as recommended or may be removed from the Consent Calendar and separately considered at the request of any person.
	7.	Consent – Approve Request Out-of-State Travel for Stacie Goodpaster for AWWA Fall 2014 Conference
	8.	Consent – Approve Request Out-of-State Travel for Robert Clark for AWWA Fall 2014 Conference
8:00 p.m.		ACTION CALENDAR
	9.	Approve: Atherton Tank Rehabilitation Contract Award – Blastco Inc.
	10.	Approve: Atherton Tank Rehabilitation Coating Inspection Award
	11.	Approve: 2014 West Marin Water System Master Plan – Acceptance of Final Report
	12.	Approve: Authorization to Solicit Bid Proposal for Fire Service Testing
	13.	Consider: Resolutions Supporting Fresh Water Flows in the San Francisco Bay Delta Estuary

All times are approximate and for reference only.

The Board of Directors may consider an item at a different time than set forth herein.

(Continued)

INFORMATION ITEMS

14. SCWA Temporary Urgency Change Petition
15. NBWRA Update
16. Collaboration: Sea-level Marin Adaption Response Team (C-SMART) Participation

17. **MISCELLANEOUS**

Disbursements

FY14 4th Quarter Labor Cost Report

Self-Insured Workers' Comp – 4th Quarter Status Report

Summary NMWD Water Use Prohibitions for 2014 – Novato

Summary NMWD Water Use Prohibitions for 2014 – West Marin

Letter from customer at 331 Grandview Ave.

News Articles:

Editorial: Marin Municipal Water District's 'smiley face' conservation program worth a look

Marin water officials unfazed by downgraded El Nino predictions

North Bay Water Suppliers Deploy New Water Management Tools in Response to

Ongoing Drought

Water Bond Could Provide Significant Resources to Sonoma County

18. **Closed Session:** In accordance with California Government Code Section 54957 for Public Employee Performance Evaluation (One), Title: General Manager

9:30 p.m.

19. **ADJOURNMENT**

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DRAFT
NORTH MARIN WATER DISTRICT
MINUTES OF REGULAR MEETING
OF THE BOARD OF DIRECTORS
August 5, 2014

CALL TO ORDER

President Rodoni called the regular meeting of the Board of Directors of North Marin Water District to order at 7:30 p.m. at the District headquarters and the agenda was accepted as amended. Present were Directors Jack Baker, Rick Fraites, Stephen Petterle, Dennis Rodoni and John Schoonover. Also present were General Manager Chris DeGabriele, District Secretary Katie Young, and Auditor-Controller David Bentley. Chief Engineer Drew McIntyre was absent.

Indian Valley Golf Course owners Jeff McAndrew and Terry Leach, District's Legal Counsel, Bob Maddow, District employees Robert Clark (Operations/Maintenance Superintendent), Ryan Grisso (Water Conservation Coordinator), and Tony Arendell (Construction/Maintenance Superintendent) were in the audience.

On motion of Director Petterle, seconded by Director Baker, and unanimously carried, the Board amended the agenda to adjourn in memory of Dick Velloza, former employee of the North Marin Water District who died on August 1st.

MINUTES

On motion of Director Schoonover, seconded by Director Baker and unanimously carried the Board approved the minutes from the previous meeting as presented.

GENERAL MANAGER'S REPORT

Oceana Marin Homeowner's Association

Mr. DeGabriele advised the Board that he attended the Oceana Marin Homeowner's Association meeting on Saturday, July 19th in Tomales. He stated that approximately 62 people attended the meeting. Mr. DeGabriele provided the Board with the discussion items at the meeting in the agenda packet and advised the Board that he provided the Oceana Marin HOA with this year's budget for Oceana Marin.

KWMMR Radio

Mr. DeGabriele informed the Board that he was interviewed by KWMMR radio station and spoke about the West Marin water supply and the mandatory water conservation requirements. He also invited the public to attend the Drought-Drive Up on Saturday, August 9th at the White House Pool parking lot.

1 SCWA Water Rate Study Planning Meeting

2 Mr. DeGabriele informed the Board that he has a meeting scheduled with the Chief Engineer
3 from Sonoma County Water Agency next week to kick start the water rate study that the Water
4 Agency embarked on 18 months ago. He believes it's important to pursue off-peak water rates to
5 pursue interest in aquifer storage and recovery by SCWA. He stated that they will discuss strategy
6 and advocate interest in back feeding Stafford Lake. Mr. DeGabriele would like to look at the
7 Restructured Agreement to accommodate the aquifer storage projects in order to improve reliability
8 of the region's and District's water supply from the Russian River.

9 Tour of Aqueduct Energy Efficiency Project

10 Mr. DeGabriele advised the Board that next week he and Drew McIntyre will be providing a
11 tour of the Aqueduct Energy Efficiency Project to members of the community who had an impact on
12 the project in the past. He stated that John Nelson, Jerry Gilbert, Dietrich Stroeh, Krishna Kumar,
13 Carl Nelson, and Bob Maddow will be attending the tour.

14 **OPEN TIME**

15 President Rodoni asked if anyone in the audience wished to bring up an item not on the
16 agenda and there was no response.

17 **STAFF / DIRECTORS' REPORTS**

18 President Rodoni asked if staff or Directors wished to bring up an item not on the agenda
19 and the following items were discussed:

20 David Bentley informed the Board that Dick Velloza, former Warehouse Manager of the
21 District, passed away and worked for the District for over 20 years. He noted that the District will
22 make a contribution to the Jake Velloza Memorial Fund in honor of Dick Velloza in the amount of
23 \$50.

24 Mr. Bentley advised the Board that he and Construction/Maintenance Superintendent, Tony
25 Arendell attended a small claims court hearing today for an outstanding invoice of a contractor. He
26 noted that the contractor did not show and that the District will attempt to collect the payment
27 through the small claims court one more time but will be contacting the state bonding company to
28 put a hold on the contractor's license for non-payment.

29 Director Baker informed the Board and staff that he attended the North Bay Water Reuse
30 meeting with Director Schoonover and stated that it was well attended.

1 President Rodoni advised the Board that he was on the KWMMR radio station about a week
2 before Mr. DeGabriele where he was scheduled to discuss the mandatory cutbacks and advised the
3 community were really interested in the State Boards Emergency Water Conservation regulations.
4 He noted that the public wanted to be assured that the District was not going to charge \$500 fines.
5 He stated that he discussed the Gallagher Well Pipeline Project which the community was not fully
6 aware of the impact of the project so he was happy to be able to discuss the project and let the
7 community know.

8 **CONSENT CALENDAR**

9 On the motion of Director Petterle, seconded by Director Schoonover and unanimously
10 carried, the following items were approved on the consent calendar:

11 **TEXT FOR NOVATO "WATER LINE", VOLUME 16, ISSUE 33**

12 The Board approved the text and design for the 2014 summer Novato "Water Line", Volume
13 16, Issue 33. The issue focuses on the current drought and additional outdoor irrigation
14 requirements for this summer, the District's water conservation program, water conservation tips,
15 and an advertisement for the free water bottle giveaway.

16 The summer 2014 Novato "Water Line" is expected to be mailed mid-August 2014.

17 **APPROVAL FOR OUT-OF-STATE TRAVEL TO ATTEND CA-NV AWWA FALL 2014**
18 **CONFERENCE**

19 The Board approved out-of-state travel for Chief Engineer, Drew McIntyre to attend the
20 California-Nevada AWWA Annual Fall Conference in October, in Reno, Nevada. The conference
21 will be covering a variety of emerging and timely issues regarding emergency planning, pipeline
22 rehabilitation, water tank rehabilitation, material performance, large meter replacement programs,
23 residential fire service applications and asset management programs.

24 Mr. McIntyre has been active in the CA-NV AWWA section for over ten years serving in
25 various leadership roles including chair of the Pipeline Rehabilitation Committee and on the
26 governing board as the Water Distribution Division Chair. He has also been nominated as a Trustee.

27 **ACTION CALENDAR**

28 **BILL ADJUSTMENT – HIGH WATER USE – 864 EUCALYPTUS AVE.**

29 Mr. DeGabriele advised the Board that when Mr. Bentley was out of the office staff received
30 a letter from Ms. Carey at 864 Eucalyptus Ave on July 12th. He informed the Board that he called Ms.
31 Carey the day staff received the letter to advise her that he was would investigate her concerns. Mr.
32 DeGabriele advised the Board that consumer services' staff drafted a memo stating that they had a

1 field service representative go out to the property five different times to investigate the issue. He
2 stated that at one point the property had a leak and Ms. Carey was given a bill adjustment. Mr.
3 DeGabriele informed the Board that Ms. Carey was unsatisfied with the District's service and she
4 stated that the District in her opinion has a significant problem within the organization.

5 Mr. DeGabriele informed the Board that he called Ms. Carey on Friday and provided her with
6 the agenda item and he received an email response which he distributed to the Board. Mr.
7 DeGabriele recommends that the bill stands as rendered.

8 Mr. Bentley advised the Board that Ms. Carey is an absentee owner and it is a real challenge
9 to keep track of the water being used.

10 President Rodoni stated that the District rarely has an upset customer and that the District is
11 always providing great service, but obviously something upset Ms. Carey. He asked that staff review
12 the situation to be certain any circumstance which may have triggered her unsatisfactory opinion of
13 the District be avoided in the future.

14 Director Petterle asked for clarification of the bill adjustment. Mr. Bentley stated that Ms.
15 Carey received a \$379 adjustment and paid the remaining balance of \$320.

16 Director Petterle stated that he was not clear on what Ms. Carey was requesting but stated
17 that she does seem upset. He noted that since there is no actual request he believes the Board
18 does not have to take action on the situation.

19 On motion of Director Fraites, seconded by Director Petterle, and unanimously carried, the
20 Board agreed with staff recommendation to take no further action.

21 **DROUGHT EMERGENCY WATER CONSERVATION REGULATIONS**

22 Mr. DeGabriele advised the Board that the Novato customers have reduced water
23 consumption by 21% since February compared to one year ago. He noted that in July, Novato water
24 production was down 25% compared to last year and that the customer performance has been
25 excellent. He informed the Board that West Marin customers have a long way to go and have only
26 conserved 7.5% since February compared to one year ago and 8.5% in July. Mr. DeGabriele stated
27 that there is adequate water supply in Lagunitas Creek and the District has not had any salinity
28 intrusion issues in West Marin to-date.

29 Mr. DeGabriele advised the Board that he attended the July 15th State Water Resources
30 Control Board meeting and included a copy of the State Board Resolutions and Emergency Water
31 Conservation Regulations in the agenda packet. He informed the Board that he has discussed with

1 District legal counsel about the District's approach on the regulations and that legal counsel believes
2 the Districts restrictions to be adopted by resolution are satisfactory.

3 Mr. DeGabriele advised the Board that he is recommending that the District not pursue full
4 mandatory restrictions until it is necessary. He stated that the Sonoma County Water Agency is
5 going to file another Temporary Urgency Change Petition to lower flows in the Russian River and
6 that the State Board may order other obligations along with the authorization to lower stream flows in
7 the Russian River.

8 President Rodoni asked about the performance in West Marin and any expectations upon
9 agreements associated with our water rights. Mr. DeGabriele stated that the District is fulfilling the
10 agreements with environmental groups who originally protested the NMWD water right license
11 change and that there are no obligations from the State Board for that requirement. He noted that
12 the customers have not performed fully but at the same time, there is ample water in Lagunitas
13 Creek.

14 President Rodoni asked when the next billing cycle would occur in West Marin. Mr. Bentley
15 responded next week. President Rodoni stated that the customers would probably get the message
16 to conserve after receiving their first bill containing a drought surcharge.

17 Ryan Grisso, Water Conservation Coordinator reviewed the resolution that staff is proposing
18 to fulfill the State Board's request. He stated that the water conservation requirements included in
19 the Resolution impose limitations on outdoor water use, a commitment to continue enforcement of
20 the current water waste and non-essential use prohibitions and staff direction to report monthly
21 water usage to the State Board as mandated.

22 President Rodoni asked for a handout with bullet points regarding the mandated water use
23 restrictions. Mr. DeGabriele stated that the summer 2014 "*Water Line*" contains all of the mandatory
24 restrictions.

25 Director Baker suggested having a summary of the restrictions so the customers know
26 exactly what is being requested of them to do. Director Schoonover suggested a phone number as
27 well in case customers had questions.

28 Mr. Grisso advised the Board that there is a phone number and email address provided on
29 all outreach materials for the Water Conservation Department.

30 Bob Maddow, District's legal counsel indicated that he believes that the District, with regards
31 to water conservation, has a huge success story. He stated that customers have done a great job,

1 as well as the Board and efforts from staff to get the message out to conserve. He advised the
2 Board that the State is looking at drastic situations in a lot of places and the Russian River isn't as
3 bad as other places. Mr. Maddow informed the Board that the approach the District is taking is great
4 and that adding additional regulations about outside watering is exactly what the State is looking for.

5 Jeff McAndrew from the Indian Valley Golf Course wanted to clarify that the reduction is
6 20% on landscaped watering. President Rodoni answered yes.

7 Mr. DeGabriele stated that Indian Valley Golf Course has done a good job to date and has
8 been diligent about reducing by water use in the spring. He informed the Board that the entire
9 community has done a good job conserving and he couldn't be more pleased.

10 Director Petterle stated that it is very apparent that the water has been reduced dramatically
11 at the Indian Valley Golf course and he applauded the owners.

12 Director Baker asked Mr. McAndrew if Indian Valley Golf Course had active wells producing
13 water or if the golf course only received water from Stafford Lake. Mr. McAndrew stated that the golf
14 course solely receives water from Stafford Lake.

15 On motion of Director Schoonover, seconded by Director Petterle and unanimously carried,
16 the Board approved Resolution 14-18 entitled: "Resolution of the Board of Directors of the North
17 Marin Water District Implementing the State Water Resources Control Board's Mandate on Urban
18 Water Suppliers to Activate Those Portions of Their Water Shortage Contingency Plans Related to
19 Mandatory Restrictions on Outdoor Water Use."

20 **KOREAN CHURCH (APN 125-130-13) – NEW EASEMENT AND TREE REMOVAL COSTS**

21 Mr. DeGabriele advised the Board that the new easement and tree removal cost for the
22 Korean Church is part of the Aqueduct Energy Efficiency Project. He informed the Board that 15
23 trees would need to be removed (\$9,750) and the District will be purchasing a larger easement
24 (\$9,357) across the Korean Church's property to accommodate the AEEP project. Mr. DeGabriele
25 stated that this reach of the project across the Korean Church property is needed to install a parallel
26 36-inch diameter aqueduct and is not part of the CalTrans' relocation and will be fully funded by the
27 District. He gave Joe Kauwe, Engineering Tech IV, a lot of credit for work on this project and for
28 having a good relationship with the church.

29 On motion of Director Fraites, seconded by Director Baker and unanimously carried, the
30 Board authorized the payment of \$9,750 to compensate the Korean Church for the loss of 15 trees

1 and authorized the payment of \$9,357 to compensate the Korean Church for receipt of a fully
2 executed 7,072 square foot easement.

3 **INFORMATION ITEMS**

4 **MARIN COUNTY LONG TERM WATER SUPPLY WORKSHOP**

5 Mr. DeGabriele provided the Board with the slides that were presented to the Marin County
6 Board of Supervisors on July 29th. He noted that the Board of Supervisors invited Krishna Kumar,
7 Marin Municipal's General Manager and himself to address the following issues: Efforts to improve
8 the Water Supply for Dry Years in Marin, Obligations related to Urban Water Management Plans
9 and their updates, How growth projections from Local General Plans are factored into Water
10 Management Plans, Policies and Review Process for Development, Compliance with SB-1087 (re:
11 preference for affordable housing), Water Use of Multi-Family vs. Single Family homes, and How the
12 Districts manage water supply for second units.

13 Mr. DeGabriele stated that the Board of Supervisors had good questions and that the
14 presentation was well received. He noted that several supervisors commented on the significant
15 population growth over the long term and Marin County's ability to accommodate it with no increase
16 in overall water demands due to water conservation and recycled water.

17 Director Petterle stated that he attended the presentation and was pleased to see that the
18 presentation contained more information about the District compared to the water supply
19 presentation in February.

20 President Rodoni stated that customers throughout Marin County criticize the fees for new
21 development and that new development shouldn't be made when customers are being asked to
22 conserve water. Mr. DeGabriele reminded the Board that the District's connection fees are high, but
23 the new development has been paying for the Recycled Water Expansion.

24 **RESOLUTIONS SUPPORTING FRESH WATER FLOWS IN THE SAN FRANCISCO BAY**
25 **DELTA ESTUARY**

26 Mr. DeGabriele advised the Board that Director Fraites asked that the Board consider
27 supporting a resolution for fresh water flows in the San Francisco Bay Delta Estuary. He noted that
28 Director Fraites had requested the support of the resolution after hearing a presentation at the North
29 Bay Watershed Association by Friends of the San Francisco Estuary. Mr. DeGabriele provided the
30 Board with information and wanted the discussion to be open. Mr. DeGabriele suggested keeping
31 the Board informed about the Bay Delta issues and suggested having a District representative at the
32 Friends of Estuary Conference that is being held in September. He noted that he did not advocate

1 that the Board adopt such a resolution fearing that the District's local water supply may be affected
2 should dam removal be a part of such call for additional fresh water flows.

3 Director Fraites stated that he would like the Board members to be provided with the
4 different resolutions regarding the fresh water flows adopted by various agencies and expressed his
5 concern about the State's push for "twin-tunnels" diversion from the Sacramento River around the
6 Delta.

7 Director Baker requested Mr. DeGabriele to provide the differences in the various
8 resolutions.

9 President Rodoni asked if any agencies in the North Bay Watershed Association were
10 looking at supporting a resolution. Director Fraites was unsure.

11 District legal counsel Bob Maddow stated that he was unfamiliar with all of the various
12 resolutions but provided his knowledge in regards to the Bay Delta Conservation Plan.

13 **WAC/TAC MEETING – AUGUST 4, 2014**

14 Mr. DeGabriele provided the Board with a summary of the August 4th Water Advisory and
15 Technical Advisory Committee meeting. He advised the Board that the water supply conditions were
16 reviewed as well as the State Board Regulations on Emergency Water Conservation at the meeting.
17 He advised the Board that Sonoma County Water Agency intends to file another Temporary
18 Urgency Change Petition with the State Board and that their concern that the State Board may
19 restrict Agency diversion to the water contractors upon approval of such petition. Mr. DeGabriele
20 advised the Board that there will be a tour of the Mirabel fish screen in the fall once the construction
21 site is safe.

22 **MISCELLANEOUS**

23 The Board received the following miscellaneous information: Disbursements, District
24 Incentive Program, Oceana Marin Association Meeting – July 19, 2014, Letter to LGVSD re:
25 STRAW, Dominican Leadership Class, and MST Recycled Water Pipeline Project.

26 The Board received the following news articles: Changed Conditions on Russian River Near
27 Wohler Bridge, Movers & Shakers: Novato hires new public works director, Marin water official
28 appointed to California Water Commission, Water restrictions backed by 75 percent of Californians,
29 poll says; Marin residents agree, and What's happening with Coast Guard Property.

30 The Board also received the following items at the meeting: Reply from 864 Eucalyptus Ave,
31 and WAC/TAC- August 4th Summary. The Board also received the following miscellaneous items:

1 Marin water wasters will soon get a nudge from WaterSmart, West Marin Water Customers of the
2 North Marin Water District have reduced their use by 8.5%, Committees: The Backbone of CA-NV
3 AWWA, and Helen Pratt's obituary.

4 Mr. DeGabriele informed the Board that the District has started a new safety incentive
5 program hoping that more employees participate and has provided the Board with a copy of the
6 program. He also advised the Board that Drew McIntyre will be starting a leadership class at
7 Dominican University in the fall.

8 **ADJOURNMENT**

9 On motion of Director Petterle, seconded by Director Baker and unanimously carried,
10 President Rodoni adjourned the meeting at 8:48 p.m. in memory of Dick Velloza, former employee of
11 the North Marin Water District.

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Submitted by

Katie Young
District Secretary

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NORTH MARIN WATER DISTRICT
MONTHLY PROGRESS REPORT FOR July 2014
 August 19, 2014

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Novato Potable Water Prod - RR & STP Combined - in Million Gallons - FYTD

Month	FY14/15	FY13/14	FY12/13	FY11/12	FY10/11	15 vs 14 %
July	315	385	389	371	379	-18%

West Marin Potable Water Production - in Million Gallons - FY to Date

Month	FY14/15	FY13/14	FY12/13	FY11/12	FY10/11	15 vs 14 %
July	8.6	9.3	9.8	9.2	9.9	-7%

Stafford Treatment Plant Production - in Million Gallons - FY to Date

Month	FY14/15	FY13/14	FY12/13	FY11/12	FY10/11	15 vs 14 %
July	83	98	49	115	109	-15%

Recycled Water Production - in Million Gallons - FY to Date

Month	FY14/15	FY13/14	FY12/13	FY11/12	FY10/11	15 vs 14 %
July	26.4	27.6	11.2	11.0	11.9	-4%

2. Stafford Lake Data

	July Average	July 2013	July 2014
Rainfall this month	0.01 Inches	0.0 Inches	0.0 Inches
Rainfall this FY to date	0.01 Inches	0.0 Inches	0.0 Inches
Lake elevation*	187.8 Feet	186.4 Feet	181.2 Feet
Lake storage**	847 MG	764 MG	513 MG

* Spillway elevation is 196.0 feet

** Lake storage less 390 MG = quantity available for delivery

Temperature (in degrees)

	Minimum	Maximum	Average
July 2013 (Novato)	51	110	76
July 2014 (Novato)	51	109	77

3. Number of Services

July 31	Novato Water			Recycled Water			West Marin Water			Oceana Marin Sw		
	FY15	FY14	Incr %	FY15	FY14	Incr %	FY15	FY14	Incr %	FY15	FY14	Incr %
Total meters	20,750	20,738	0.1%	48	34	41%	820	819	0.1%	-	-	-
Total meters active	20,505	20,485	0.1%	44	31	42%	776	776	0.0%	-	-	-
Active dwelling units	23,949	23,942	0.0%	0	0	-	822	811	0.2%	229	227	0.9%

4. Oceana Marin Monthly Status Report (July)

Description	July 2013	July 2014
Effluent Flow Volume (MG)	0.644	0.604
Irrigation Field Discharge (MG)	0.304	0.000
Treatment Pond Freeboard (ft)	3.2	6.4
Storage Pond Freeboard (ft)	6.4	4.3

5. Developer Projects Status Report (July)

Job No.	Project	% Complete	% This month
1.2768.00	OMA Village Water Facilities	50	50

District Projects Status Report - Const Dept (July)

Job No.	Project	% Complete	% This month
8738.03	SMART Crossing Rework – Hanna Ranch	100	20
7142.00	Shields Lane 6" C.I. Replacement	100	5

Employee Hours to Date, FY 13/14

As of Pay Period Ending July 31, 2014
Percent of Fiscal Year Passed = 8 %

Developer Projects	Actual	Budget	% YTD Budget	District Projects			
				Actual	Budget	% YTD Budget	
Construction	254	1,400	18	Construction	328	4,979	7
Engineering	9	1,480	1	Engineering	408	3,546	12

6. Safety/Liability

	Industrial Injury with Lost Time				Liability Claims Paid	
	Lost Days	OH Cost of Lost Days (\$)	No. of Emp. Involved	No. of Incidents	Incurred (FYTD)	Paid (FYTD) (\$)
FY through July 14	22	11,088	0	0	0	0
FY through July 13	0	0	0	0	0	0

Days without a lost time accident through July 31, 2014= 62 days

7. Energy Cost

FYE	Kwh	July		Fiscal Year-to-Date thru July		
		¢/Kwh	Cost/Day	Kwh	¢/Kwh	Cost/Day
2015 Stafford TP	79,299	8.6¢	\$219	79,299	8.6¢	\$219
Pumping	162,035	17.0¢	\$919	162,035	17.0¢	\$919
Other*	45,749	23.6¢	\$360	45,749	23.6¢	\$360
	<u>287,083</u>	<u>15.7¢</u>	<u>\$1,505</u>	<u>287,083</u>	<u>15.7¢</u>	<u>\$1,505</u>
2014 Stafford TP	78,182	17.0¢	\$430	78,182	17.0¢	\$430
Pumping	191,230	16.5¢	\$1,050	191,230	16.5¢	\$1,050
Other*	48,230	22.2¢	\$357	48,230	22.2¢	\$357
	<u>317,642</u>	<u>17.5¢</u>	<u>\$1,852</u>	<u>317,642</u>	<u>17.5¢</u>	<u>\$1,852</u>
2013 Stafford TP	39,026	19.7¢	\$257	39,026	19.7¢	\$257
Pumping	207,591	11.4¢	\$714	207,591	11.4¢	\$714
Other*	48,927	20.6¢	\$325	48,927	20.6¢	\$325
	<u>295,544</u>	<u>14.0¢</u>	<u>\$1,333</u>	<u>295,544</u>	<u>14.0¢</u>	<u>\$1,333</u>

*Other includes West Marin Facilities

8. Water Conservation Update

	Month of July 2014	Program Total to Date
High Efficiency Toilet (HET) Rebate (\$100 each)	19	2,991
Retrofit Certificates Filed	33	5,095
Cash for Grass Rebates Paid Out	13	587
Washing Machine Rebates	15	6,474
Water Smart Home Survey	24	1,804

9. Utility Performance Metric

<u>SERVICE DISRUPTIONS</u>	July No. of Customers Impacted
PLANNED	
Duration Between 0.5 and 4 hours	16
Duration Between 4 and 12 hours	
Duration Greater than 12 hours	
UNPLANNED	
Duration Between 0.5 and 4 hours	11
Duration Between 4 and 12 hours	
Duration Greater than 12 hours	

<u>SERVICE LINES REPLACED</u>	July
Polybutylene	14
Copper (Replaced or Repaired)	2

NORTH MARIN WATER DISTRICT

Summary of Complaints & Service Orders July 2014

8/11/2014

Type	Jul-14	Jul-13	Action Taken July 2014
<u>Consumers' System Problems</u>			
Service Line Leaks	14	20	Notified Consumer
Meter Leak Consumer's Side	0	0	~
House Plumbing	0	0	~
Noisy Plumbing	0	1	~
Seepage or Other	0	0	~
House Valve / Meter Off	3	5	Turned Back On
Nothing Found	13	4	Notified Consumer
Low Pressure	0	0	~
High Pressure	1	0	PRV failing. Consumer notified.
Water Waster Complaints	0	0	~
Total	31	30	
<u>Service Repair Reports</u>			
Register Replacements	0	0	~
Meter Replacement	0	3	~
Meter Box Alignment	0	0	~
Meter Noise	0	0	~
Dual Service Noise	0	0	~
Box and Lids	0	2	~
Water Off/On Due To Repairs	8	6	Notified Consumer
Misc. Field Investigation	0	8	~
Total	8	19	
<u>Leak NMWD Facilities</u>			
Main-Leak	0	0	~
Mains-Nothing Found	0	0	~
Mains-Damage	0	0	~
Service- Leak	19	20	Repaired
Services-Nothing Found	8	12	Notified Consumer
Service-Damaged	0	0	~
Fire Hydrant-Leak	2	4	Repaired
Fire Hydrants-Nothing Found	0	0	~
Fire Hydrants-Damaged	0	1	~
Meter Replacement	5	0	Replaced
Meters-Leak	0	0	~
Meters-Nothing Found	0	0	~
Meters Damaged	0	0	~
Washer Leaks	12	12	Replaced
Total	46	49	
<u>High Bill Complaints</u>			
Consumer Leaks	2	10	Notified Consumer
Meter Testing	0	0	~
Meter Misread	10	1	Notified Consumer
Nothing Found	23	19	Notified Consumer
Projected Consumption	0	0	~
Excessive Irrigation	0	0	~
Total	35	30	

NORTH MARIN WATER DISTRICT

Summary of Complaints & Service Orders July 2014

8/11/2014

Type	Jul-14	Jul-13	Action Taken July 2014
<u>Low Bill Reports</u>			
Meter Misread	1	0	Notified Consumer
Stuck Meter	0	0	~
Nothing Found	0	0	~
Projected Consumption	0	0	~
Minimum Charge Only	0	0	~
Total	1	0	
<u>Water Quality Complaints</u>			
Taste and Odor	6	1	<p>Customer reported cloudy water. (Center Rd) Cloudiness due to air in supply. Bacteria sample clean. Customer was notified of results.</p> <p>Customer reported bad taste/odor in water. (Pinheiro Cir) Chlorine concentration on the high end for Novato, but well within acceptable range. All results normal. Customer was notified of results.</p> <p>Customer reported chlorine odor in water. (Jade Ct) Chlorine level was normal for STP supply. Customer was notified of results.</p> <p>Customer reported bad taste in water. (Armstrong Ave) Chlorine level normal. Customer was notified of results.</p> <p>Customer reported high chlorine taste in water. (Santa Maria Dr) Chlorine level was normal. Customer was notified of results.</p> <p>Customer reported strong chlorine in bath tub. (Armstrong Ave) Measured chlorine was low. Odor was coming in from the window.</p>
Color	0	0	~
Turbidity	0	0	~
Suspended Solids	0	1	~
Other	2	1	<p>Customer requested water to be tested. (Acapulco Ct) Lead was not detected. Customer was notified.</p> <p>Customer was concerned about the air in the water. (Capetown Ct) Currently the SCWA supply has a higher amount of dissolved air. Customer was notified.</p>
Total	8	3	
TOTAL FOR MONTH:	129	131	-2%

NORTH MARIN WATER DISTRICT

Summary of Complaints & Service Orders July 2014

8/11/2014

Type	Jul-14	Jul-13	Action Taken July 2014	
Fiscal YTD Summary			Change Primarily Due To	
Consumer's System Problems	31	30	3%	Increase In Nothing Found
Service Repair Report	8	19	-58%	Decrease In Misc Field Investigation
Leak Complaints	46	49	-6%	Decrease Services-Nothing Found
High Bill Complaints	35	30	17%	Increase In Meter Misread
Low Bills	1	0	0%	~
Water Quality Complaints	8	3	167%	Increase In Taste & Odor
Total	129	131	-2%	

"In House" Generated and Completed Work Orders

Check Meter: possible consumer/District leak, high bill, flooded, need read, etc.	203	226
Change Meter: leaks, hard to read	18	10
Possible Stuck Meter	0	0
Repair Meter: registers, shut offs	0	0
Replace Boxes/Lids	1	0
Hydrant Leaks	0	0
Trims	21	49
Dig Outs	42	45
Letters to Consumer: meter obstruction, trims, bees, gate access, etc.	0	0
Misc: locate meter, get meter number, cross connection follow ups, kill service, etc.	0	0
	285	330

Bill Adjustments Under Board Policy:

July 14 vs. July 13

Jul-14	18	\$5,404
Jul-13	31	\$7,457

Fiscal Year to Date vs. Prior FYTD

14/15 FYTD	18	\$5,404
13/14 FYTD	31	\$7,457

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MEMORANDUM

To: Board of Directors

August 15, 2014

From: David L. Bentley, Auditor-Controller

Subj: Auditor-Controller's Monthly Report of Investments for July 2014

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RECOMMENDED ACTION: Information

FINANCIAL IMPACT: None

At month end the District's Investment Portfolio had an amortized cost value (i.e., cash balance) of \$15,011,330 and a market value of \$15,017,767. During July the cash balance increased by \$224,639. The market value of securities held decreased by \$2,881 during the month. The ratio of total cash to budgeted annual operating expense, excluding the \$5,061,172 unexpended balance of the Bank of Marin loan, stood at 72%, down 4% from the prior month, due to the increase in the new fiscal year operating expense budget.

At July 31, 2014, 48% of the District's Portfolio was invested in California's Local Agency Investment Fund (LAIF), 23% in Time Certificate of Deposits, 13% in Corporate Medium Term Notes, and 7% in US Treasury Notes. The weighted average maturity of the portfolio was 198 days, compared to 202 days at the end of June. The LAIF interest rate for the month was 0.24%, compared to 0.23% the previous month. The weighted average Portfolio rate was 0.39%, compared to 0.38% the previous month. Including interest paid by Black Point Partners on the StoneTree Golf Club Recycled Water Facilities Loan, the District earned \$14,932 in interest revenue during July, with 65% earned by Novato Water, 30% earned by Recycled Water (by virtue of the Black Point Partners loan) and the balance distributed to the other improvement districts.

Given that 48% of the District's Investment Portfolio is invested in LAIF, it is important to monitor the financial health of the State Treasury. State Controller John Chiang's July report on California's financial position stated:

"Even though July is usually a weak revenue collection month, the new fiscal year is off to a strong start. While the State plans to borrow operating funds through revenue anticipation notes, the \$2.8 billion needed solely for smoothing out the timing of revenues is at the lowest level since the 2006-2007 fiscal year. If we can continue to reduce short- and long-term debts, we can continue to improve our fiscal condition."

**NORTH MARIN WATER DISTRICT
AUDITOR-CONTROLLER'S MONTHLY REPORT OF INVESTMENTS
July 31, 2014**

Type	Description	S&P Rating	Purchase Date	Maturity Date	Cost Basis ¹	7/31/2014 Market Value	Yield ²	% of Portfolio
LAIF	State of CA Treasury	A	Various	Open	\$7,172,283	\$7,174,426	0.24% ³	48%
Time Certificate of Deposit								
TCD	Ally Bank	n/a	9/28/12	10/1/14	\$248,000	\$248,000	0.85%	2%
TCD	Goldman Sachs	n/a	12/5/12	12/5/14	248,000	248,000	0.75%	2%
TCD	GE Capital Retail Bank	n/a	10/11/13	4/13/15	248,000	248,000	0.80%	2%
TCD	Discover Bank	n/a	5/1/13	5/1/15	248,000	248,000	0.50%	2%
TCD	GE Capital Bank	n/a	6/10/13	6/8/15	248,000	248,000	0.50%	2%
TCD	American Express	n/a	8/1/13	8/3/15	248,000	248,000	0.70%	2%
TCD	Compass Bank	n/a	9/4/13	9/4/15	248,000	248,000	0.65%	2%
TCD	Sallie Mae Bank	n/a	10/23/13	10/23/15	248,000	248,000	0.80%	2%
TCD	BMW Bank	n/a	12/11/13	12/11/15	248,000	248,000	0.70%	2%
TCD	Key Bank	n/a	3/19/14	3/21/16	248,000	248,000	0.45%	2%
TCD	Barclays Bank	n/a	4/15/14	4/15/16	248,000	248,000	0.55%	2%
TCD	Americanwest Bank	n/a	5/30/14	5/31/16	249,000	249,000	0.50%	2%
TCD	Enerbank	n/a	6/30/14	6/30/16	249,000	249,000	0.65%	2%
TCD	Investors Bank	n/a	7/21/14	7/21/16	249,000	249,000	0.70%	2%
					\$3,475,000	\$3,475,000	0.64%	23%
US Treasury Notes								
Treas	1,000 - 3.13%	n/a	3/26/14	6/15/16	\$999,047	\$999,805	0.55%	7%
Corporate Medium Term Notes								
MTN	General Electric	AA+	1/29/13	10/9/15	\$1,001,766	\$1,004,104	0.70%	7%
MTN	Toyota Motor Credit	AA-	5/14/13	7/17/15	1,003,581	1,004,592	0.51%	7%
					\$2,005,346	\$2,008,696	0.60%	13%
Other								
Agency	Marin Co Treasury	AA+	Various	Open	\$531,581	\$531,581	0.22%	4%
Bond	Olema G.O. Bond	A+	5/31/91	1/1/15	3,918	4,104	5.00%	0%
Other	Various	n/a	Various	Open	824,156	824,156	0.00%	5%
TOTAL IN PORTFOLIO					\$15,011,330	\$15,017,767	0.39%	100%

Weighted Average Maturity = 198 Days

LAIF: State of California Local Agency Investment Fund.

MTN: Medium Term Note - Maturity of 5 years or less.

TCD: Time Certificate of Deposit

Agency: West Marin General Obligation Bond Fund tax receipts & STP State Revolving Fund Loan Reserve.

Bond: Annual \$4,113 payment is paid by tax levy on Olema residents.

Other: Comprised of 4 accounts used for operating purposes. US Bank Operating Account, US Bank STP SRF Loan Account, Bank of Marin AEEP Checking Account & NMWD Petty Cash Fund.

1 Original cost less repayment of principal and amortization of premium or discount.

2 Yield defined to be annualized interest earnings to maturity as a percentage of invested funds.

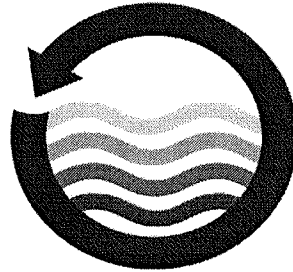
3 Earnings are calculated daily - this represents the average yield for the month ending July 31, 2014.

Interest Bearing Loans	Loan Date	Maturity Date	Original Loan Amount	Principal Outstanding	Interest Rate
Black Point Partners-BPGL	6/30/06	2/28/24	\$3,612,640	\$2,137,472	2.40%
Employee Housing Loans (7)	Various	Various	1,249,200	1,249,200	Contingent
Employee Computer Loans (2)	Various	Various	4,464	466	1.48% (avg)
TOTAL INTEREST BEARING LOANS			\$4,866,304	\$3,387,138	

The District has the ability to meet the next six months of cash flow requirements.

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NORTH MARIN WATER DISTRICT



FINANCIAL STATEMENT FISCAL YEAR 2013-14

Preliminary

June 2014

**NORTH MARIN WATER DISTRICT
FINANCIAL STATEMENTS
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MEMORANDUM

To: Board of Directors

August 15, 2014

From: David L. Bentley, Auditor-Controller

Subj: Information – FY13/14 June Preliminary Financial Statement

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FISCAL YEAR PERFORMANCE COMPARED TO THE ANNUAL BUDGET

CONSOLIDATED SUMMARY

Actual vs. Budget	<u>Jun-14</u>	<u>FY13/14 Actual</u>	<u>FY13/14 Budget</u>	<u>FYTD / Budget %</u>
Operating Revenue	\$2,287,420	\$20,377,620	\$18,585,000	110%
Operating Expense	\$1,771,655	\$17,284,950	\$16,046,000	108%
Non-Operating Revenue / (Expense)	(\$1,946,626)	(\$2,614,504)	(\$632,000)	414%
Net Income / (Loss)	(\$1,430,861)	\$478,167	\$1,907,000	25%
Other Sources / (Uses)*	(\$924,172)	\$4,280,031	\$545,000	785%
Cash Increase / (Decrease)	(\$2,355,033)	\$4,758,198	\$2,452,000	194%

* See Page 8.

For the fiscal year the District generated a net income of \$478,167 and saw a net cash increase of \$4,758,198. The cash increase is largely attributable to the receipt of \$4.7 million in Recycled Water grant and loan funds. Operating Revenue came in 109% of budget and Operating Expense came in at 108% of budget. Fifty-two percent of the Capital Improvement Projects Budget was expended this fiscal year. The District's cash balance decreased \$2,355,034 during the month, due primarily to the CalPERS Side Fund payoff (\$2,073,701), which payoff also reduced the fiscal year net income by the same amount.

SUMMARY INCOME STATEMENTS BY SERVICE AREA

PRESENTED IN ACCORDANCE WITH GENERALLY ACCEPTED ACCOUNTING PRINCIPALS

NOVATO WATER

Year over Year Comparison	<u>Jun-14</u>	<u>FY 13/14</u>	<u>FY 12/13</u>	<u>FY14 vs 13 Up/(Down)</u>
Operating Revenue	\$2,046,377	\$18,646,876	\$16,997,558	10%
Operating Expense	\$1,498,159	\$15,688,773	\$14,768,251	6%
Other Income / (Expense)	(\$1,914,815)	(\$2,383,733)	(\$38,547)	6084%
Net Income / (Loss)	(\$1,366,597)	\$574,369	\$2,190,759	(74%)
Active Accounts	20,505	20,505	20,492	0%
Consumption (MG)	325	2,948	3,018	(2%)
Average Commodity Rate / 1,000 gal (net)	\$4.97	\$4.66	\$4.32	8%
Income / (Loss) / Active Account	(\$66.65)	\$28.01	\$106.91	(74%)
Income / (Loss) / 1,000 Gal	(\$4.20)	\$0.19	\$0.73	(73%)
Connection Fee Revenue	\$99,600	\$99,600	\$871,450	(89%)
MMWD AEEP Capital Contribution	\$0	\$480,000	\$0	-
Developer 'In-Kind' Contributions	\$7,304	\$393,766	\$357,596	10%

Fiscal year consumption was 2% less than the prior year. Total operating revenue, which includes wheeling and other miscellaneous service charges, increased 10% (\$1,649,318) due to the 11% rate increase commencing June 1, 2013, plus \$432,294 in revenue from Marin Municipal Water as reimbursement for water backfed into Stafford Lake, then treated and delivered this Spring. Total operating expense was 6% (\$920,522) more than last year same period, due primarily to an increase in the volume of purchased water, including the 117 MG purchased and backfed into Stafford Lake for MMWD.

The Stafford Treatment Plant produced 479 MG this fiscal year-to-date at a cost of \$4,171/MG¹ versus \$2,201/MG³ from SCWA. The budget for Stafford was 750 MG at a cost of \$2,811/MG.

Salary and benefit cost charged to Novato operations was 2% more than the same period last year. Staff time (hours) charged to Novato operations was 4% less than last year same period. Salary and benefit cost was \$5,376,977, which was 95% of the \$5,648,000 budget for Novato operations.

The fiscal year net income (which includes non-operating items such as interest revenue and expense) of \$574,369 compares to a budgeted net income for the year of \$2,021,000 and to a net income of \$2,190,759 for the prior year same period. \$3,635,560 (47%) of the Novato Water Capital Improvement Project Budget was spent versus \$1,276,688 (41%) for the prior year same period. \$99,600 in connection fees were collected (\$860,000 was budgeted). The Novato cash balance decreased \$2,331,990 in June, and stood at \$12,537,872 at year end, compared to a budgeted projection of \$12,833,000.

<u>NOVATO RECYCLED</u>		FY	FY	FY14 vs 13
Year over Year Comparison	<u>Jun-14</u>	<u>13/14</u>	<u>12/13</u>	<u>Up/(Down)</u>
Operating Revenue	\$144,284	\$743,424	\$342,446	117%
Operating Expense	\$214,858	\$771,615	\$418,877	84%
Other Income / (Expense)	(\$30,382)	(\$253,316)	(\$316,701)	(20%)
Net Income / (Loss)	<u>(\$100,956)</u>	<u>(\$281,507)</u>	<u>(\$393,131)</u>	(28%)
Active Accounts	44	44	17	159%
Consumption (MG)	30.0	159.2	81.8	95%
Average Commodity Rate / 1,000 gal (net)	\$4.73	\$4.49	\$4.11	9%
Deer Island Production (MG)	0.0	5.8	33.7	(83%)
Novato Sanitary Production (MG)	16.3	94.0	36.7	156%
Las Gallinas Production (MG)	8.5	56.9	12.3	363%
Potable Water Input (MG)	0.3	10.9	3.8	188%

159.2 MG was delivered to RW customers this fiscal year. Operating revenue was up 117% due primarily to the 95% consumption increase coupled with the June 1, 2013 8% commodity rate increase. Total operating expense was \$352,739 (84%) more than last year, due primarily to the addition of purchased water cost from NSD and LGVSD. The recycled water was produced at a cost of \$3,181/MG² versus \$2,201/MG³ from SCWA. The budgeted production cost of recycled water was \$4,692/MG.

The fiscal year net loss of \$281,507 compares to a budgeted net loss for the year of \$339,000 and a net loss of \$393,131 for the prior year. \$481,850 (241%) of the Capital Improvement Project Budget was expended this fiscal year.

To date, \$15,763,985 has been expended on the North/South/Central Area Expansion Projects, and \$3,656,062 in Grant funds and \$9,722,222 in SRF Loan funds have been received. The final \$12,187 in grant funding is anticipated to be received in July. Grant and loan proceeds received in February enabled the Recycled Water System to fully repay the money borrowed from the Novato potable water system, and fund its reserves. Novato Recycled ended the year with a cash balance of \$1,052,488 compared to a budgeted projection of \$945,000.

¹ Stafford production cost = op expense (\$1,113,001) + SRF loan interest (\$326,027) + plant depreciation (\$558,748) / 479MG produced

² Recycled Water production cost = op expense before depreciation (\$313,266) + Deer Island RW Facility SRF loan interest (\$77,236) + Deer Island plant depreciation (\$115,919) / 159.2 MG produced

³ SCWA production cost per MG = O&M charge (\$1,808) + debt service charge (\$154) + Russian River conservation charge (\$194) + Russian River projects charge (\$45)

WEST MARIN WATER

Year over Year Comparison	Jun-14	FY 13/14	FY 12/13	FY14 vs 13 Up/(Down)
Operating Revenue	\$81,874	\$809,210	\$758,642	7%
Operating Expense	\$47,502	\$629,019	\$545,482	15%
Other Income / (Expense)	(\$3,725)	(\$23,245)	(\$1,905)	1120%
Net Income / (Loss)	<u>\$30,648</u>	<u>\$156,945</u>	<u>\$211,255</u>	(26%)
Active Accounts	776	776	776	0%
Consumption (MG)	7.9	78.1	80.8	(3%)
Average Commodity Rate / 1,000 gal (net)	\$8.45	\$8.12	\$7.61	7%
Income/ (Loss) / Active Account	\$39.49	\$202.25	\$272.24	(26%)
Income / (Loss) / 1,000 Gal	\$3.88	\$2.01	\$2.61	(23%)
Connection Fee Revenue	\$22,800	\$22,800	\$4,900	365%
Developer 'In-Kind' Contributions	\$0	\$5,239	(\$1,451)	-

Consumption for the period was 78.1 MG, 3% less than the previous year. Operating revenue of \$809,210 was \$50,568 (7%) more than last year due primarily to the 8% rate increase effective 7/1/13.

Operating expenditures were \$629,019, up 15% (\$83,538) from the previous year, in part due to testing of the Gallagher Well (\$14,207), valve and hydrant operation programs (which were not done last year) (\$20,889), cleaning of Gallagher Well casing (\$6,683), replacement of a chemical feed pump (\$4,888), replacement of a hydrant bury on Sir Francis Drake (\$5,328), and paving the Point Reyes Tank Road (\$2,700). The fiscal year net income of \$156,945 compares to a budgeted annual net income of \$212,000 and to a net income of \$211,255 for the prior year. \$277,193 (52%) of the Capital Improvement Project Budget was spent this fiscal year, and \$22,800 in connection fees were collected (\$46,000 was budgeted). The Solids Handling Facility project (\$189,727 expended to-date) has been put on hold pending a coastal development permit from Marin County. West Marin Water ended the year with a cash balance of \$913,236, compared to a budgeted projection of \$555,000.

OCEANA MARIN SEWER

Year over Year Comparison	Jun-14	FY 13/14	FY 12/13	FY14 vs 13 Up/(Down)
Operating Revenue	\$14,885	\$178,110	\$157,992	13%
Operating Expense	\$11,137	\$195,542	\$192,884	1%
Other Income / (Expense)	\$2,296	\$45,791	\$62,952	(27%)
Net Income / (Loss)	<u>\$6,044</u>	<u>\$28,359</u>	<u>\$28,060</u>	1%
Active Accounts	229	229	227	1%
Monthly Sewer Service Charge	\$65	\$65	\$58	12%
Income / (Loss) / Active Account	\$26.39	\$123.84	\$123.61	-
Connection Fee Revenue	\$0	\$30,400	\$0	-

Operating revenue of \$178,110 was 13% higher than the previous year due to a 12% rate increase effective July 1, 2013, plus two new dwelling units connecting to the system on December 1. Operating expenditures were 1% (\$2,658) higher than last year due in part to the \$2,247 for piping & materials to install a new 500 gallon chlorine tank. The fiscal year net income of \$28,359 compares to a budgeted annual income of \$27,000 and to a net income of \$28,060 for the prior year. \$19,655 (39%) of the Capital Improvement Project Budget was expended.

\$30,400 in connection fees were collected (\$30,000 was budgeted). Oceana Marin ended the year with a cash balance of \$283,096, compared to a budgeted projection of \$238,000.

**NORTH MARIN WATER DISTRICT
STATEMENT OF NET POSITION
FOR THE PERIOD ENDING JUNE 30, 2014**

ASSETS	TOTAL	NOVATO WATER	NOVATO RECYCLED	WEST MARIN WATER	OCEANA MARIN SEWER
Cash & Investments					
Unrestricted/Undesignated Cash	\$218,148	\$0	\$0	\$0	\$218,148
Restricted Cash (Note 1)					
Connection Fee Fund	\$170,481	\$0	\$0	\$170,481	\$0
Wohler Pipeline Financing Fund	395,761	395,761	0	0	0
Collector #6 Financing Fund	1,556,027	1,556,027	0	0	0
MMWD Aqueduct Replacement Fund	14,989	14,989	0	0	0
Revenue Bond Redemption Fund	30,000	0	0	30,000	0
Bank of Marin Project Fund	5,075,028	4,435,999	0	639,029	0
Deer Island RWF Replacement Fund	371,667	0	371,667	0	0
Tax Receipts Held in Marin Co Treasury	3,486	0	0	3,485	1
STP SRF Loan Fund-Marine Co Treasury	524,535	524,535	0	0	0
RWS North/South SRF Payment Fund	614,299	0	614,299	0	0
Designated Cash (Note 2)					
Liability Contingency Fund	508,400	508,400	0	0	0
Self-Insured Workers' Compensation Fund	450,570	424,302	6,523	14,799	4,946
Retiree Medical Benefits Fund	3,314,327	3,314,327	0	0	0
Drought Contingency Fund	0	0	0	0	0
Maintenance Accrual Fund	1,363,532	1,363,532	0	0	0
Conservation Incentive Rate Fund	55,442	0	0	55,442	0
Operating Reserve Fund	120,000	0	60,000	0	60,000
Total Cash	\$14,786,691	\$12,537,872	\$1,052,488	\$913,236	\$283,095
Gain/(Loss) on MV of Investments	9,302	9,302	0	0	0
Market Value of Cash & Investments	\$14,795,993	\$12,547,174	\$1,052,488	\$913,236	\$283,095
Current Assets					
Net Receivables - Consumers	\$3,217,393	\$2,800,230	\$260,116	\$154,721	\$2,326
Accounts Receivable - Other	1,140,623	865,923	209,541	65,159	0
Prepaid Expense	9,242	8,000	0	0	1,242
Reimbursable Small Jobs	3,363	3,363	0	0	0
Interest Receivable	26,036	26,036	0	0	0
Inventories	582,837	582,837	0	0	0
Deposits Receivable	30,683	30,683	0	0	0
Total Current Assets	\$5,010,178	\$4,317,073	\$469,657	\$219,880	\$3,569

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**NORTH MARIN WATER DISTRICT
STATEMENT OF NET POSITION
FOR THE PERIOD ENDING JUNE 30, 2014**

	<u>TOTAL</u>	<u>NOVATO WATER</u>	<u>NOVATO RECYCLED</u>	<u>WEST MARIN WATER</u>	<u>OCEANA MARIN SEWER</u>
Loans Receivable					
Employee Loans (Note 3)	\$1,249,790	\$1,249,790	\$0	\$0	\$0
Other Long Term Receivables	1,936,194	0	1,936,194	0	0
Loans Receivable	\$3,191,667	\$1,249,790	\$1,936,194	\$0	\$0
Property and Plant					
Land & Land Rights	\$1,228,091	\$1,123,872	\$0	\$103,411	\$808
Dam, Lake, & Source Facilities	5,632,131	5,139,718	0	492,412	0
Treatment Facilities	21,060,233	17,561,535	2,666,198	319,913	512,587
Storage Facilities	18,872,517	16,466,506	519,014	1,886,996	0
Transmission Facilities	5,489,830	5,367,506	0	122,324	0
Distribution Facilities	77,977,524	57,145,048	16,621,410	4,211,065	0
Sewer Mains, Pumps, & Laterals	1,154,525	0	0	0	1,154,525
Sub-Total	\$131,414,850	\$102,804,186	\$19,806,622	\$7,136,122	\$1,667,921
Less Accumulated Depreciation (Note 5)	(41,159,975)	(35,937,876)	(1,380,134)	(3,011,594)	(830,371)
Net Property and Plant	\$90,254,875	\$66,866,309	\$18,426,488	\$4,124,528	\$837,550
Buildings and Equipment					
Buildings	\$2,485,107	\$2,485,107	\$0	\$0	\$0
Office Equipment	687,360	687,360	0	0	0
Laboratory Equipment	299,383	299,383	0	0	0
Trucks & Automobiles	1,161,664	1,161,664	0	0	0
Construction Equipment	724,356	724,356	0	0	0
Tools, Shop Equipment	191,917	191,917	0	0	0
Sub-Total	\$5,549,786	\$5,549,786	\$0	\$0	\$0
Less Accumulated Depreciation	(3,422,915)	(3,422,915)	0	0	0
Net Buildings and Equipment	\$2,126,872	\$2,126,872	\$0	\$0	\$0
Construction In Progress					
Developer	\$647,097	\$641,858	\$0	\$5,239	\$0
District	5,387,929	4,239,294	631,284	497,696	19,655
Total Construction in Progress	\$6,035,026	\$4,881,153	\$631,284	\$502,934	\$19,655
Net Utility Plant	\$98,416,773	\$73,874,333	\$19,057,772	\$4,627,462	\$857,205
TOTAL ASSETS	\$121,408,928	\$91,988,370	\$22,516,112	\$5,760,578	\$1,143,869

**NORTH MARIN WATER DISTRICT
STATEMENT OF NET POSITION
FOR THE PERIOD ENDING JUNE 30, 2014**

	<u>TOTAL</u>	<u>NOVATO WATER</u>	<u>NOVATO RECYCLED</u>	<u>WEST MARIN WATER</u>	<u>OCEANA MARIN SEWER</u>
LIABILITIES AND NET ASSETS					
Current Liabilities					
Trade Accounts Payable	\$2,325,903	\$2,267,636	\$57,520	\$0	\$747
Reimbursement Prog. Unclaimed Funds	5,265	3,315	0	1,950	0
Bond Debt Principal Payable-Current	23,916	0	0	23,916	0
Loan Debt Principal Payable-Current	981,683	380,828	598,605	2,250	0
Bank of Marin Principal Payable-Current	310,879	271,020	0	39,859	0
Bond/Loan Debt Interest Payable-Current	4,725	3,272	0	1,453	0
Accrued Interest Payable-SRF Loan	113,400	0	113,400	0	0
Deposits/Performance Bonds	128,740	108,740	0	18,500	1,500
Unemployment Insurance Reserve (Note 8)	23,400	23,400	0	0	0
Deferred Compensation	0	0	0	0	0
Workers' Comp Future Claims Payable	24,956	23,492	411	795	258
Payroll Benefits (Note 9)	795,193	747,237	12,895	26,474	8,587
Deferred Revenue	50,589	49,792	0	798	0
Total Current Liabilities	\$4,788,649	\$3,878,731	\$782,832	\$115,994	\$11,091
Restricted Liabilities					
Construction Advances	\$1,308,649	\$1,308,649	\$0	\$0	\$0
Total Restricted Liabilities	\$1,308,649	\$1,308,649	\$0	\$0	\$0
Long Term Liabilities (Note 7)					
Bonds Outstanding - PR6 (FmHA)	\$75,000	\$0	\$0	\$75,000	\$0
Bonds Outstanding - PRE1 (FmHA)	61,000	0	0	61,000	0
Drought Loan (EDA)	57,100	50,293	0	6,807	0
STP Rehab SRF Loan	12,735,701	12,735,701	0	0	0
RWF SRF Loan	2,821,188	0	2,821,188	0	0
RWS North/South Expansion SRF Loan	8,870,210	0	8,870,210	0	0
Bank of Marin Loan	6,910,631	6,026,069	0	884,561	0
Retiree Health Benefits Payable	693,647	693,647	0	0	0
Total Long Term Liabilities	\$32,224,477	\$19,505,710	\$11,691,398	\$1,027,369	\$0
TOTAL LIABILITIES	\$38,321,775	\$24,693,091	\$12,474,230	\$1,143,363	\$11,091

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**NORTH MARIN WATER DISTRICT
STATEMENT OF NET POSITION
FOR THE PERIOD ENDING JUNE 30, 2014**

	<u>TOTAL</u>	<u>NOVATO WATER</u>	<u>NOVATO RECYCLED</u>	<u>WEST MARIN WATER</u>	<u>OCEANA MARIN SEWER</u>
Net Assets					
Invested in Capital Assets					
Contributions in Aid of Construction	\$63,204,246	\$56,322,995	\$4,104,370	\$2,102,206	\$674,676
Grants in Aid of Construction	5,749,464	173,219	3,926,970	1,649,275	0
Connection Fees (Note 15)	31,365,889	26,086,086	3,654,260	1,159,616	465,928
Total Investment	\$100,319,599	\$82,582,299	\$11,685,600	\$4,911,096	\$1,140,604
Restricted Reserves					
Connection Fee Fund	(\$2,406,354)	(\$2,554,487)	\$0	\$170,481	(\$22,348)
Wohler Pipeline Financing Fund	395,774	395,774	0	0	0
Collector #6 Financing Fund	1,556,077	1,556,077	0	0	0
MMWD Aqueduct Replacement Fund	14,989	14,989	0	0	0
Revenue Bond Redemption Fund	30,000	0	0	30,000	0
Bank of Marin Project Fund	5,081,086	4,435,999	0	645,087	0
Deer Island RWF Replacement Fund	585,031	0	585,031	0	0
RWS North/South SRF Payment Fund	614,299	0	614,299	0	0
Designated Reserves					
Liability Contingency Fund	607,285	508,400	0	98,885	0
Maintenance Accrual Fund	4,015,681	4,015,681	0	0	0
Self-Insured Workers' Compensation Fund	425,614	400,810	6,112	14,004	4,688
Retiree Medical Benefits Fund	2,620,680	2,620,680	0	0	0
Conservation Incentive Rate Fund	55,442	0	0	55,442	0
Operating Reserve Fund	120,000	0	60,000	0	60,000
Earned Surplus - Prior Yrs	(32,673,507)	(28,989,679)	(2,148,895)	(1,458,806)	(76,126)
Net Income/(Loss)	478,167	574,369	(281,507)	156,945	28,359
Transfer (To)/From Reserves (see below)	1,247,291	1,734,367	(478,758)	(5,920)	(2,399)
Total Restricted & Designated	(\$17,232,445)	(\$15,287,020)	(\$1,643,718)	(\$293,881)	(\$7,826)
TOTAL NET POSITION	\$83,087,154	\$67,295,279	\$10,041,882	\$4,617,215	\$1,132,778
Transfer (To)/From Reserves					
Wohler Pipeline Financing	\$10,216	\$10,216	\$0	\$0	\$0
Collector #6 Financing	26,863	26,863	0	0	0
Connection Fee	790,416	791,259	0	(843)	0
MMWD Wheeling Charge Capital Contribution	(14,989)	(14,989)	0	0	0
Liability Reserve	(192,585)	(192,585)	0	0	0
Maintenance Reserve	(100,000)	(100,000)	0	0	0
Retiree Medical Insurance Fund	(17,855)	(17,855)	0	0	0
(Gain)/Loss Self-Insured WC Fund	(232,028)	(218,415)	(3,824)	(7,390)	(2,399)
Bank of Marin Project Fund	1,451,718	1,449,874	0	1,844	0
RWS North/South SRF Payment Fund	8,436	0	8,436	0	0
Conservation Incentive Rate Fund	470	0	0	470	0
Total Transfer	\$1,247,291	\$1,734,367	(\$478,758)	(\$5,920)	(\$2,399)

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**NORTH MARIN WATER DISTRICT
SOURCES AND USES OF FUNDS STATEMENT - ALL SERVICE AREAS COMBINED
FOR PERIOD ENDING JUNE 30, 2014**

	YTD Actual	Annual Budget	YTD/ Budget %	Prior YTD Actual
OPERATING REVENUE				
Water Sales	\$15,085,630	\$13,539,000	111%	\$13,987,034
Bimonthly Service Charge	4,308,584	4,298,000	100%	3,630,425
Sewer Service Charge	177,970	178,000	100%	157,992
Wheeling & Misc Service Charges	805,437	570,000	141%	481,187
TOTAL OPERATING REVENUE	\$20,377,620	\$18,585,000	110%	\$18,256,638
OPERATING EXPENDITURES				
Source of Supply	\$6,226,250	\$4,696,000	133%	\$5,342,988
Pumping	362,997	375,000	97%	351,816
Operations	785,143	669,000	117%	716,780
Water Treatment	1,930,495	1,994,000	97%	1,986,926
Sewer Service	120,548	129,000	93%	127,903
Transmission & Distribution	2,416,368	2,751,000	88%	2,340,330
Consumer Accounting	587,067	566,000	104%	552,202
Water Conservation	439,235	404,000	109%	272,107
General & Administrative	1,301,091	1,583,000	82%	1,449,793
Depreciation Expense	3,115,756	2,879,000	108%	2,784,648
TOTAL OPERATING EXPENDITURES	\$17,284,950	\$16,046,000	108%	\$15,925,493
NET OPERATING INCOME (LOSS)	\$3,092,671	\$2,539,000	122%	\$2,331,145
NON-OPERATING REVENUE/(EXPENSE)				
Tax Proceeds	\$90,070	\$93,000	97%	\$88,088
Interest Revenue	121,389	\$96,000	126%	95,111
Miscellaneous Revenue	357,336	135,000	265%	445,244
Bond & Loan Interest Expense	(872,218)	(912,000)	96%	(778,762)
CalPERS Side Fund Payoff	(2,073,701)	0	-	0
Miscellaneous Expense	(237,380)	(30,000)	791%	(143,882)
TOTAL NON-OP REVENUE/(EXPENSE)	(\$2,614,504)	(\$618,000)	423%	(\$294,202)
NET INCOME/(LOSS)	\$478,167	\$1,921,000	25%	\$2,036,943
OTHER SOURCES/(USES) OF FUNDS				
Connection Fees	\$152,800	\$936,000	16%	\$876,350
Loan Proceeds	3,351,997	3,472,000	97%	4,265,184
Grant Proceeds	479,903	138,000	348%	1,761,450
Grants Proceeds Receivable	948,704	961,000	99%	377,574
Caltrans Reimbursement	519,709	2,200,000	24%	2,005,890
Stone Tree RWF Loan Principal	196,513	197,000	100%	191,861
MMWD AEEP Capital Contribution	725,000	0	-	0
Add Depreciation Expense	3,115,756	2,879,000	108%	2,784,648
Capital Acquisition (15 Gustafson)	(579,767)	0	-	0
Capital Equipment Expenditures	(202,768)	(231,000)	88%	(190,069)
Capital Improvement Projects	(4,414,257)	(8,478,000)	52%	(8,736,664)
Bond & Loan Principal Payments	(1,594,755)	(1,529,000)	104%	(1,337,041)
Change in Working Capital	1,581,196	0	-	(4,519,463)
TOTAL OTHER SOURCES/(USES)	\$4,280,031	\$545,000	785%	(\$2,520,281)
CASH INCREASE/(DECREASE)	\$4,758,198	\$2,466,000	193%	(\$483,337)

**NORTH MARIN WATER DISTRICT
INCOME STATEMENT AND CASH FLOW BY SERVICE AREA
FOR PERIOD ENDING JUNE 30, 2014**

<u>SUMMARY INCOME STATEMENT</u>	TOTAL	NOVATO WATER	NOVATO RECYCLED	WEST MARIN WATER	OCEANA MARIN SEWER
Operating Revenue	\$20,377,620	\$18,646,876	\$743,424	\$809,210	\$178,110
Operating Expense	17,284,950	15,688,773	771,615	629,019	195,542
OPERATING INCOME/(LOSS)	\$3,092,671	\$2,958,103	(\$28,191)	\$180,191	(\$17,432)
Non-Operating Revenue/(Expense)	(\$2,614,504)	(\$2,383,733)	(\$253,316)	(\$23,245)	\$45,791
NET INCOME/(LOSS)	\$478,167	\$574,369	(\$281,507)	\$156,945	\$28,359
 CAPITAL CONTRIBUTIONS					
Developer In-Kind Contributions	\$399,005	\$393,766	\$0	\$5,239	\$0
MMWD Capital Contribution	480,000	480,000	0	0	0
Connection Fees	152,800	99,600	0	22,800	30,400
FRC Transfer	0	(1,550,201)	1,550,201	0	0
Capital Grants	479,903	58,799	155,044	266,060	0
CAPITAL CONTRIBUTIONS	\$1,511,708	(\$518,035)	\$1,705,245	\$294,099	\$30,400
CHANGE IN NET ASSETS	\$1,989,875	\$56,334	\$1,423,738	\$451,044	\$58,759
Net Assets July 1, 2013	81,097,278	67,238,945	8,618,144	4,166,171	1,074,018
Net Assets June 30, 2014	\$83,087,153	\$67,295,279	\$10,041,882	\$4,617,215	\$1,132,777
 CASH FLOW STATEMENT					
Net Income/(Loss)	\$478,167	\$574,369	(\$281,507)	\$156,945	\$28,359
Add Depreciation	3,115,756	2,445,634	458,349	154,749	57,024
Cash Generated From Operations	\$3,593,924	\$3,020,004	\$176,842	\$311,695	\$85,384
 Other Sources (Uses) of Funds					
Connection Fee Revenue	\$152,800	99,600	0	22,800	30,400
Loan Proceeds	3,351,997	0	3,351,997	0	0
Grant Proceeds	479,903	58,799	155,044	266,060	0
Capital Assets Acquisition	(4,471,792)	(3,693,095)	(481,850)	(277,193)	(19,655)
Stone Tree RWF Loan Principal Pmts	196,513	0	196,513	0	0
Principal Paid on Debt	(1,594,755)	(994,871)	(537,548)	(62,337)	0
Consumer Receivables Decr (Incr)	215,983	291,069	(70,554)	(3,944)	(589)
Construction Advances (Decr) Incr	1,005,209	1,005,209	0	0	0
Other Assets/Liabilities Decr (Incr)	1,003,558	32,755	1,013,080	(42,555)	278
Trade Accounts Payable (Decr) Incr	824,859	998,174	(168,551)	0	(4,765)
Connection Fee Transfer	0	(1,550,201)	1,550,201	0	0
Interdistrict Loan Due To (From)	0	4,755,421	(4,755,421)	0	0
Total Other Sources (Uses)	\$1,164,274	\$1,002,862	\$252,912	(\$97,169)	\$5,670
Net Cash Provided (Used)	\$4,758,198	\$4,022,865	\$429,753	\$214,526	\$91,054
Cash Balance July 1, 2013	10,028,493	8,515,006	622,735	698,710	192,042
Cash Balance June 30, 2014	\$14,786,691	\$12,537,872	\$1,052,488	\$913,236	\$283,096

**NOVATO WATER
DETAIL INCOME STATEMENT
FOR PERIOD ENDING JUNE 30, 2014**

	JUNE 2014	YEAR TO DATE ACTUAL	YTD/ BUDGET%	PRIOR YTD ACTUAL
OPERATING REVENUE				
Water Sales	\$1,620,943	\$13,831,485	110%	\$13,142,285
Bill Adjustments	(4,416)	(95,470)	63%	(104,567)
Bimonthly Service Charges	342,712	4,112,544	100%	3,484,241
Account Turn-on Charges	3,999	75,744	102%	73,579
New Account Charges	580	8,745	87%	8,855
Returned Check Charges	238	1,441	144%	1,323
Hydrant Meter Up/Down Charges	60	3,780	95%	4,260
Backflow Service Charges	9,237	121,044	97%	103,839
Lab Service-Outside Clients	3,974	50,333	201%	30,503
Wheeling Charges - MMWD	5,414	100,527	31%	251,980
Water Sales - MMWD	59,225	432,294	0%	0
Regulation 15 Forfeiture	4,410	4,410	147%	1,260
TOTAL OPERATING REVENUE	\$2,046,377	\$18,646,876	109%	\$16,997,558
OPERATING EXPENSE				
SOURCE OF SUPPLY				
Supervision & Engineering	\$810	\$9,697	65%	\$9,103
Operating Expense - Source	1,306	10,497	150%	6,821
Maint/Monitoring of Dam	8,746	19,438	57%	38,295
Maint of Lake & Intakes	0	11,371	95%	13,804
Maint of Structures	0	15	0%	0
Maint of Watershed	581	3,061	12%	5,880
Water Quality Surveillance	185	13,713	105%	12,776
Fishery Maint	0	330	8%	677
Erosion Control	0	13,939	232%	17,525
Purchased Water (Note 4)	649,330	5,698,211	130%	5,135,330
Purchased Water-Resale MMWD	0	253,539	-	0
SOURCE OF SUPPLY	\$660,957	\$6,033,812	134%	\$5,240,210
PUMPING				
Operating Expense - Pumping	\$0	\$0	0%	\$0
Maint of Structures & Grounds	\$2,807	\$46,502	129%	\$24,115
Maint of Pumping Equipment	1,432	27,696	40%	35,637
Electric Power	26,044	255,711	114%	263,471
PUMPING	\$30,284	\$329,909	99%	\$323,223
OPERATIONS				
Supervision & Engineering	\$15,670	\$219,520	93%	\$187,986
Operating Expense - Operations	30,764	274,893	144%	264,400
Maintenance Expense	1,462	79,906	99%	101,036
Telemetry Equipment/Controls Maint	9,109	62,223	89%	44,349
Leased Lines	1,478	17,674	84%	17,921
OPERATIONS	\$58,483	\$654,217	109%	\$615,691

**NOVATO WATER
DETAIL INCOME STATEMENT
FOR PERIOD ENDING JUNE 30, 2014**

	JUNE 2014	YEAR TO DATE ACTUAL	YTD/ BUDGET%	PRIOR YTD ACTUAL
WATER TREATMENT				
Supervision & Engineering	\$8,626	\$111,096	81%	\$112,612
Operating Expense - Water Treatment	28,845	285,050	113%	308,301
Purification Chemicals	26,337	316,762	75%	400,627
Sludge Disposal	8,354	66,085	73%	103,196
Maint of Structures & Grounds	1,264	60,148	77%	52,242
Maint of Purification Equipment	3,945	138,223	113%	137,793
Electric Power	14,228	135,637	124%	112,767
Water Quality Programs	8,199	107,113	115%	95,516
Laboratory Direct Labor	27,982	338,933	106%	322,850
Lab Service-Outside Clients	3,760	50,512	153%	36,224
Water Quality Supervision	7,596	79,036	130%	62,417
Laboratory Supplies & Expense	5,259	57,107	89%	61,269
Customer Water Quality	4,505	45,382	73%	48,713
Lab Cost Distributed	(2,603)	(22,768)	88%	(24,088)
WATER TREATMENT	\$146,299	\$1,768,316	97%	\$1,830,439
TRANSMISSION & DISTRIBUTION				
Supervision & Engineering	\$40,988	\$486,544	83%	\$427,430
Maps & Records	15,504	77,995	62%	106,669
Operation of T&D System	7,534	137,511	82%	139,849
Facilities Location	7,553	108,530	184%	81,798
Safety: Construction & Engineering	10,586	54,481	96%	40,322
Customer Service Expense	11,389	158,088	95%	167,565
Flushing	0	53,098	279%	30,955
Storage Facilities Expense	8,323	118,486	107%	74,465
Cathodic Protection	0	15,866	69%	13,378
Maint of Valves/Regulators	700	91,709	57%	117,299
Maint of Mains	4,110	72,176	62%	86,906
Backflow Prevention Program	13,184	147,878	122%	102,338
Maint of Copper Services	21,611	168,002	84%	173,413
Maint of PB Service Lines	38,818	411,357	92%	483,006
Single Service Installations	(9,094)	(26,015)	-	2,467
Maint of Meters	6,382	94,418	66%	93,360
Detector Check Assembly Maint	4,279	52,369	99%	7,581
Maint of Hydrants	0	22,155	40%	28,531
TRANSMISSION & DISTRIBUTION	\$181,866	\$2,244,647	86%	\$2,177,332
CONSUMER ACCOUNTING				
Meter Reading	\$12,729	\$152,602	104%	\$149,455
Collection Expense - Labor	761	27,216	85%	28,346
Collection Expense - Agency	172	2,398	120%	2,229
Billing & Consumer Accounting	21,738	256,653	103%	247,897
Contract Billing	1,408	17,561	92%	18,110
Stationery, Supplies & Postage	4,540	61,791	105%	55,464
Credit Card Fees	1,174	14,149	177%	9,033
Uncollectable Accounts	2,244	19,500	85%	23,230
Office Equipment Expense	1,533	23,904	159%	8,290
Distributed to West Marin (4.1%)	(1,334)	(15,276)	102%	(13,961)
CONSUMER ACCOUNTING	\$44,965	\$560,499	104%	\$528,094

**NOVATO WATER
DETAIL INCOME STATEMENT
FOR PERIOD ENDING JUNE 30, 2014**

	<u>JUNE 2014</u>	<u>YEAR TO DATE ACTUAL</u>	<u>YTD/ BUDGET%</u>	<u>PRIOR YTD ACTUAL</u>
WATER CONSERVATION				
Residential	\$25,176	\$362,499	122%	\$222,637
Commercial	679	2,605	10%	1,169
Public Outreach/Information	2,542	51,638	103%	28,477
Large Landscape	461	12,702	47%	13,966
TOTAL WATER CONSERVATION	\$28,858	\$429,444	107%	\$266,250
GENERAL AND ADMINISTRATIVE				
Directors Fees	\$3,400	\$25,300	169%	\$14,400
Legal Fees	844	20,906	190%	10,112
Human Resources	1,651	27,993	93%	35,001
Auditing Fees	0	21,050	100%	20,600
Consultants	0	0	0%	53,327
General Office Salaries	99,890	1,169,585	97%	1,198,186
Safety: General District Wide	(445)	14,579	112%	16,024
Office Supplies	8,816	46,174	81%	37,232
Employee Events	0	7,227	72%	6,204
Other Administrative Expense	1,194	13,240	74%	18,150
Election Cost	0	250	0%	0
Dues & Subscriptions	(175)	47,842	92%	45,607
Vehicle Expense	676	8,112	101%	8,112
Meetings, Conferences & Training	5,248	117,425	69%	112,402
Recruitment Expense	75	393	20%	916
Gas & Electricity	(1,851)	27,572	131%	28,116
Telephone	701	4,042	135%	3,276
Water	235	1,714	86%	1,603
Buildings & Grounds Maint	4,693	35,642	81%	41,194
Office Equipment Expense	6,117	90,231	91%	82,349
Insurance Premiums & Claims	5,990	72,192	74%	76,473
Retiree Medical Benefits	9,979	159,691	102%	166,699
(Gain)/Loss on Overhead Charges	41,716	(222,372)	84%	(136,354)
G&A Applied to Other Operations (5.9%)	(6,809)	(76,538)	83%	(77,443)
G&A Applied to Construction	(40,605)	(389,954)	108%	(392,205)
GENERAL & ADMINISTRATIVE	\$141,341	\$1,222,295	82%	\$1,369,981
Depreciation (Note 5)	205,106	2,445,634	102%	2,417,032
TOTAL OPERATING EXPENSE	\$1,498,159	\$15,688,773	107%	\$14,768,251
OPERATING INCOME/(LOSS)	\$548,218	\$2,958,103	125%	\$2,229,307

**NOVATO WATER
DETAIL INCOME STATEMENT
FOR PERIOD ENDING JUNE 30, 2014**

	<u>JUNE 2014</u>	<u>YEAR TO DATE ACTUAL</u>	<u>YTD/ BUDGET%</u>	<u>PRIOR YTD ACTUAL</u>
NON-OPERATING REVENUE				
Interest:				
General Funds	\$0	\$0	0%	\$0
Facility Reserve Charge Fund	0	0	-	1,733
Wohler Pipeline Financing Fund	154	2,246	225%	1,498
Collector #6 Financing Fund	607	8,822	147%	6,776
MMWD Aqueduct Replacement Fund	0	11	-	0
Retiree Medical Insurance Fund	1,278	18,341	141%	12,917
Self-Insured Workers' Comp Fund	95	1,558	-	0
Aqueduct Energy Efficiency Proj Fund	1,944	29,588	185%	9,501
Recycled Water Advance (Note 10)	0	24,963	51%	176,340
Total Interest Revenue	\$4,079	\$85,530	98%	\$208,765
Rents & Leases	6,089	85,058	123%	67,433
Other Non-Operating Revenue	192,130	255,852	426%	366,438
Gain/(Loss) on MV of Investments	(4,120)	11,741	-	(14,399)
NON-OPERATING REVENUE	\$198,179	\$438,181	203%	\$628,236
NON-OPERATING EXPENSE				
Bank of Marin AEEP Loan Interest Exp	\$17,848	\$220,049	100%	\$226,660
STP SRF Loan Interest Expense	26,411	326,027	100%	342,895
Drought Loan Interest Expense	292	3,282	82%	3,984
CalPERS Side Fund Payoff	2,073,701	2,073,701	-	0
Other Non-Operating Expense*	(5,257)	198,856	994%	93,245
NON-OPERATING EXPENSE	\$2,112,994	\$2,821,915	495%	\$666,784
NET INCOME/(LOSS)	(\$1,366,597)	\$574,369	28%	\$2,190,759
BEGINNING FUND EQUITY		\$67,238,946		\$65,789,541
NET INCOME/(LOSS)	(1,366,597)	574,369		2,190,759
CONTRIBUTED CAPITAL				
SCWA Water Conservation Grant	9,437	58,799	-	0
Developer 'In-Kind' Contributions	7,304	393,766	-	357,596
MMWD Capital Contribution	0	480,000	-	0
Connection Fees	99,600	99,600	12%	871,450
FRC Transfer to Recycled Water	(146,137)	(1,550,201)	289%	(802,390)
FRC Transfer to Recycled Water Prior Yr	0	0	0%	(1,168,010)
ENDING FUND EQUITY		\$67,295,280		\$67,238,946

*FY14 includes \$193,086 in FY13 Wheeling Charge Revenue from MMWD which was reclassified as a capital contribution under the terms of the Interconnection Agreement executed in February 2014.

**NOVATO RECYCLED WATER
DETAIL INCOME STATEMENT
FOR PERIOD ENDING JUNE 30, 2014**

	JUNE 2013	YEAR TO DATE ACTUAL	YTD/ BUDGET%	PRIOR YTD ACTUAL
OPERATING REVENUE				
Recycled Water Sales	\$141,955	\$715,711	124%	\$336,187
Bill Adjustments	0	0	-	(1,752)
Bimonthly Service Charges	2,154	27,001	270%	7,501
Account Turn-on Charges	0	12	-	6
Water Load Permits	175	280	-	0
Backflow Service Charges	0	420	-	504
TOTAL OPERATING REVENUE	\$144,284	\$743,424	127%	\$342,446
OPERATING EXPENSE				
SOURCE OF SUPPLY				
Purchased Water - NSD	(\$5,955)	\$90,062	79%	\$43,942
Purchased Water - LGVSD	12,000	81,203	119%	36,676
SOURCE OF SUPPLY	\$6,045	\$171,265	94%	\$80,618
PUMPING				
Maint of Pumping Equipment	\$0	\$747	37%	\$238
Electric Power	255	1,827	-	160
PUMPING	\$255	\$2,574	129%	\$398
OPERATIONS				
Supervision & Engineering	\$1,476	\$10,882	99%	\$18,028
Operating Expense - Operations	349	10,381	260%	8,026
Potable Water Consumed	1,889	48,916	489%	37,952
Maintenance Expense	0	227	6%	0
Telemetry Equipment/Controls Maint	0	6,604	73%	2,617
OPERATIONS	\$3,714	\$77,010	203%	\$66,623
WATER TREATMENT				
Purification Chemicals	\$0	\$4,038	27%	\$11,998
Maint of Purification Equipment	26	6,903	173%	2,597
Electric Power	0	2,000	100%	8,000
Laboratory Direct Labor	122	1,725	9%	13,011
Laboratory Supplies & Expense	35	35	-	0
Lab Expense Distributed from Novato	83	1,063	11%	7,262
WATER TREATMENT	\$265	\$15,764	32%	\$42,868
TRANSMISSION & DISTRIBUTION				
Supervision & Engineering	\$806	\$6,951	43%	\$5,578
Maps & Records	563	563	-	9
Operation of T&D System	0	365	37%	6,304
Storage Facilities Expense	435	6,635	221%	17,327
Maint of Valves/Regulators	0	2,640	264%	468
Backflow Prevention Program	0	0	0%	0
Maint of Meters	0	1,162	116%	0
Maint of Mains	150	6,838	-	8,589
TRANSMISSION & DISTRIBUTION	\$1,954	\$25,154	79%	\$38,276
GENERAL AND ADMINISTRATIVE				
Distributed from Novato (1.6%)	\$1,913	\$21,501	83%	\$15,852
GENERAL & ADMINISTRATIVE	\$1,913	\$21,501	83%	\$15,852
Depreciation (Note 5)	200,712	458,349	164%	174,242
TOTAL OPERATING EXPENSE	\$214,858	\$771,615	126%	\$418,877
OPERATING INCOME/(LOSS)	(\$70,574)	(\$28,191)	123%	(\$76,431)

**NOVATO RECYCLED WATER
DETAIL INCOME STATEMENT
FOR PERIOD ENDING JUNE 30, 2014**

	JUNE 2013	YEAR TO DATE ACTUAL	YTD/ BUDGET%	PRIOR YTD ACTUAL
NON-OPERATING REVENUE				
Interest:				
General Funds	\$22	\$780	-	\$0
RWF Replacement Fund	230	537	-	0
Self-Insured Workers' Comp Fund	17	27	-	0
Stone Tree RWF Loan	4,341	54,059	100%	58,711
Total Interest Revenue	\$4,609	\$55,403	103%	\$58,711
Other Non-Operating Revenue	0	0	-	115
NON-OPERATING REVENUE	\$4,609	\$55,403	103%	\$58,826
NON-OPERATING EXPENSE				
RWF SRF Loan Interest Expense	\$6,354	\$77,236	106%	\$81,833
Expansion SRF Loan Interest Expense	26,526	204,410	82%	79,307
Other Non-Operating Expense	2,111	2,111	-	38,047
Interest-Advance from Novato (Note 10)	0	24,963	51%	176,340
NON-OPERATING EXPENSE	\$34,991	\$308,719	83%	\$375,527
NET INCOME/(LOSS)	(\$100,956)	(\$281,507)	83%	(\$393,131)
BEGINNING FUND EQUITY				
		\$8,618,144		\$5,279,424
NET INCOME/(LOSS)	(100,956)	(281,507)		(393,131)
State Prop 50 Grant	0	1,971	-	0
IRWMP Prop 84 Grant	0	15,000	6%	528,750
Water Smart Grant	0	138,073	16%	1,206,682
Federal ARRA Grant	0	0	0%	26,018
FRC Transfer from Novato	146,137	1,550,201	289%	802,390
FRC Transfer from Novato Prior Yr	0	0		1,168,010
ENDING FUND EQUITY		\$10,041,882		\$8,618,143

**WEST MARIN WATER
DETAIL INCOME STATEMENT
FOR PERIOD ENDING JUNE 30, 2014**

	JUNE 2013	YEAR TO DATE ACTUAL	YTD/ BUDGET%	PRIOR YTD ACTUAL
OPERATING REVENUE				
Water Sales	\$67,392	\$650,646	111%	\$628,122
Bill Adjustments	(660)	(16,742)	-	(13,242)
Bimonthly Service Charges	14,087	169,038	101%	138,684
Account Turn-on Charges	158	1,098	110%	958
New Account Charges	40	185	93%	225
Returned Check Charges	9	54	-	63
Backflow Service Charges	849	4,931	103%	3,832
TOTAL OPERATING REVENUE	\$81,874	\$809,210	107%	\$758,642
OPERATING EXPENSE				
SOURCE OF SUPPLY				
Operating Expense	\$66	\$6,966	58%	\$14,618
Maint of Structures	0	14,208	178%	7,543
Water Quality Surveillance	0	0	0%	0
SOURCE OF SUPPLY	\$66	\$21,173	101%	\$22,161
PUMPING				
Operating Labor	\$0	\$0	0%	\$0
Maint of Structures and Grounds	550	3,785	34%	7,792
Maint of Pumping Equip	3,488	10,679	89%	4,401
Electric Power	1,463	16,050	107%	16,002
PUMPING	\$5,502	\$30,514	78%	\$28,195
OPERATIONS				
Supervision & Engineering	\$1,380	\$6,088	203%	\$4,816
Operating Expense	2,496	29,784	331%	13,304
Maint of Telemetry Equipment	713	12,327	82%	11,267
Leased Lines	497	5,717	114%	5,079
OPERATIONS	\$5,086	\$53,916	168%	\$34,466
WATER TREATMENT				
Supervision & Engineering	\$0	\$5,981	85%	\$5,371
Operating Expense	3,219	24,529	175%	6,576
Purification Chemicals	0	1,392	28%	9,245
Maint of Structures & Grounds	0	2,234	223%	139
Maint of Purification Equipment	0	22,181	158%	7,617
Electric Power	2,759	25,606	98%	25,394
Laboratory Direct Labor	3,712	34,107	118%	30,061
Laboratory Services	0	2,279	57%	2,750
Water Quality Supervision	204	3,099	77%	5,313
Customer Water Quality	412	4,224	84%	4,491
Lab Expense Distributed from Novato	2,184	20,784	130%	16,664
WATER TREATMENT	\$12,491	\$146,415	117%	\$113,619

**WEST MARIN WATER
DETAIL INCOME STATEMENT
FOR PERIOD ENDING JUNE 30, 2014**

	JUNE 2013	YEAR TO DATE ACTUAL	YTD/ BUDGET%	PRIOR YTD ACTUAL
TRANSMISSION & DISTRIBUTION				
Supervision & Engineering	\$1,464	\$13,337	148%	\$18,430
Maps & Records	1,206	5,754	192%	6,114
Operating Expense	0	21	-	473
Facilities Location - USA	163	2,019	50%	2,446
Customer Service Expense	1,170	15,459	86%	13,207
Flushing	0	8,274	276%	5,639
Storage Facilities Expense	2,636	26,511	121%	20,310
Cathodic Protection	0	2,006	-	1,344
Maint of Valves	0	10,687	178%	6,527
Valve Operation Program	0	3,083	103%	115
Maint of Mains	0	6,460	129%	434
Water Quality Maintenance	0	239	-	725
Maint of Backflow Devices	(258)	273	27%	0
Backflow Dev Inspection/Survey	0	2,021	34%	1,698
Maint of Copper Services	0	9,236	185%	7,205
Maint of PB Service Lines	0	33,350	303%	34,996
Maint of Meters	45	3,525	176%	3,398
Detector Check Assembly Maint	851	1,110	56%	0
Maint of Hydrants	0	4,503	225%	0
Hydrant Operation	0	2,616	262%	0
Single Service Installation	(3,916)	(3,916)	-	1,660
TRANSMISSION & DISTRIBUTION	\$3,359	\$146,566	142%	\$124,721
CONSUMER ACCOUNTING				
Meter Reading	\$1,968	\$9,254	84%	\$7,987
Collection Expense - Labor	100	1,337	67%	1,089
Uncollectable Accounts	0	247	-	618
Distributed from Novato (3.6%)	1,178	13,495	104%	12,253
CONSUMER ACCOUNTING	\$3,245	\$24,334	94%	\$21,947
WATER CONSERVATION				
Water Conservation Program	\$1,042	\$9,791	245%	\$5,857
TOTAL WATER CONSERVATION	\$1,042	\$9,791	245%	\$5,857
GENERAL AND ADMINISTRATIVE				
Distributed from Novato (3.2%)	\$3,697	\$41,561	83%	\$45,861
GENERAL & ADMINISTRATIVE	\$3,697	\$41,561	83%	\$45,861
Depreciation (Note 5)	13,014	154,749	103%	148,654
TOTAL OPERATING EXPENSE	\$47,502	\$629,019	114%	\$545,482
OPERATING INCOME/(LOSS)	\$34,373	\$180,191	87%	\$213,161

**WEST MARIN WATER
DETAIL INCOME STATEMENT
FOR PERIOD ENDING JUNE 30, 2014**

	JUNE 2013	YEAR TO DATE ACTUAL	YTD/ BUDGET%	PRIOR YTD ACTUAL
NON-OPERATING REVENUE				
Interest - General Funds	\$37	\$224	-	\$28
Interest - FRC	51	843	28%	410
Interest - Bank of Marin Project Fund	185	3,006	-	2,813
Interest - Self-Insured Workers' Comp	53	53	-	0
Rents & Leases	0	4,035	101%	3,917
Tax Proceeds - OL-2 G.O. Bond	138	3,064	77%	4,205
Tax Proceeds - PR-2 Tax Allocation	2,124	42,119	98%	40,443
Conservation Incentive Rate Fund	0	0	-	1
Other Non-Operating Revenue	148	150	15%	2,325
NON-OPERATING REVENUE	\$2,736	\$53,495	97%	\$54,143
NON-OPERATING EXPENSE				
Bank of Marin Loan Interest Expense	\$2,620	\$32,301	101%	\$33,637
PR-3 G.O. Bond Interest Expense	0	0	-	339
OL-2 G.O. Bond Interest Expense	16	286	95%	475
PRE-1 Revenue Bond Interest Exp	300	3,975	99%	4,475
PR-6 Revenue Bond Interest Exp	350	4,200	100%	4,600
Drought Loan Interest Expense	41	454	91%	559
Master Plan Update	3,063	20,206	202%	0
Other Non-Operating Expense *	72	15,319	-	11,964
NON-OPERATING EXPENSE	\$6,461	\$76,740	150%	\$56,048
NET INCOME/(LOSS)	\$30,648	\$156,945	74%	\$211,255
BEGINNING FUND EQUITY				
NET INCOME/(LOSS)	30,648	156,945		211,255
CONTRIBUTED CAPITAL				
Gallagher Well Pipeline Grant	50,536	266,060	-	0
Developer 'In-Kind' Contributions	0	5,239		(1,451)
Connection Fees	22,800	22,800	50%	4,900
ENDING FUND EQUITY		\$4,617,214		\$4,166,170

* FY14 amount includes \$13,046 in work done in prior years on Rehabilitation of Point Reyes Well #3, which project was abandoned in FY14.

**OCEANA MARIN SEWER
DETAIL INCOME STATEMENT
FOR PERIOD ENDING JUNE 30, 2014**

	JUNE 2013	YEAR TO DATE ACTUAL	YTD/ BUDGET%	PRIOR YTD ACTUAL
OPERATING REVENUE				
Sewer Service Charges	\$14,885	\$177,970	100%	\$157,992
Inspection Fees	0	140	-	0
TOTAL OPERATING REVENUE	\$14,885	\$178,110	100%	\$157,992
OPERATING EXPENSE				
SEWAGE COLLECTION				
Supervision & Engineering	\$620	\$11,066	158%	\$10,084
Inspection	0	988	-	72
Maps & Records	0	77	-	0
Operating Expense	1,539	5,933	297%	1,694
Facilities Location	0	1,262	126%	1,300
Maint of Lift Stations	0	5,760	64%	4,889
Maint of Sewer Mains	0	0	-	2,798
Electric Power	778	8,502	85%	8,868
SEWAGE COLLECTION	\$2,936	\$33,587	116%	\$29,706
SEWAGE TREATMENT				
Operating Expense	\$110	\$18,165	121%	\$13,882
Treatment Supplies & Expense	35	35	-	0
Maint of Structures	0	9	0%	277
Maint of Equipment	0	2,162	216%	6,409
Laboratory Direct Labor	539	1,493	-	290
Lab Expense Distributed from Novato	337	920	-	162
Electric Power	677	9,116	152%	8,001
SEWAGE TREATMENT	\$1,698	\$31,901	123%	\$29,021
SEWAGE DISPOSAL				
Operating Expense	\$185	\$5,722	-	\$495
Maint of Pump Stations	0	1,535	51%	5,435
Maint of Storage Ponds	0	0	0%	966
SEWAGE DISPOSAL	\$185	\$7,257	104%	\$6,895
CONTRACT OPERATIONS				
Contract Operations	\$0	\$47,803	72%	\$62,281
Equipment Replacements/Upgrades	0	0	0%	0
CONTRACT OPERATIONS	\$0	\$47,803	71%	\$62,281
CONSUMER ACCOUNTING				
Collection Expense - County of Marin	\$0	\$454	-	\$454
Distributed from Novato (0.5%)	156	1,781	89%	1,708
CONSUMER ACCOUNTING	\$156	\$2,235	112%	\$2,162
GENERAL AND ADMINISTRATIVE				
Distributed from Novato (1.0%)	\$1,199	\$13,476	84%	\$15,731
Liability Insurance	207	2,259	75%	2,368
GENERAL AND ADMINISTRATIVE	\$1,406	\$15,735	83%	\$18,099
Depreciation (Note 5)	4,755	57,024	116%	44,720
TOTAL OPERATING EXPENSE	\$11,137	\$195,542	98%	\$192,884
OPERATING INCOME/(LOSS)	\$3,748	(\$17,432)	83%	(\$34,892)

**OCEANA MARIN SEWER
DETAIL INCOME STATEMENT
FOR PERIOD ENDING JUNE 30, 2014**

	<u>JUNE 2013</u>	<u>YEAR TO DATE ACTUAL</u>	<u>YTD/ BUDGET%</u>	<u>PRIOR YTD ACTUAL</u>
<u>NON-OPERATING REVENUE</u>				
Rents & Leases	\$0	\$500	50%	\$500
Interest - Connection Fee Reserve	0	0	-	71
Interest - General Funds	110	1,275	128%	644
Interest - Self Insured WC Fund	(2)	17	-	9
Tax Proceeds - OM-1/OM-3 Tax Alloc	2,264	44,887	98%	43,101
Annexation Fees	0	0	-	19,249
Other Non-Operating Revenue	0	0	-	4
NON-OPERATING REVENUE	\$2,372	\$46,679	97%	\$63,578
<u>NON-OPERATING EXPENSE</u>				
Other Non-Operating Expense	\$76	\$888	-	\$626
NON-OPERATING EXPENSE	\$76	\$888	-	\$626
NET INCOME/(LOSS)	\$6,044	\$28,359	105%	\$28,060
BEGINNING FUND EQUITY		\$1,074,018		\$1,040,958
NET INCOME/(LOSS)	6,044	28,359		28,060
CONTRIBUTED CAPITAL				
Contribution in Aid of Construction	0	0	-	5,000
Connection Fees	0	30,400	101%	0
ENDING FUND EQUITY		\$1,132,777		\$1,074,018

**NORTH MARIN WATER DISTRICT
ANALYSIS OF WORKER'S COMP, CONNECTION FEE AND CIR FUNDS
FOR PERIOD ENDING JUNE 30, 2014**

	TOTAL	NOVATO WATER	WEST MARIN WATER	OCEANA MARIN SEWER	RECYCLED WATER
<u>WORKERS' COMPENSATION FUND</u>					
WC Cash Balance 7/1/13	\$2,537	\$0	\$0	\$2,537	\$0
Less: Projected Prior FY Claims Liability	22,476	21,285	697	247	247
Add: Funds borrowed to subsidize operations	213,524	203,678	7,311	0	2,535
WC Reserve Balance 7/1/13	\$193,585	\$182,393	\$6,614	\$2,290	\$2,288
Add: WC Expense Charged to Operations FYTD	311,764	293,476	9,930	3,221	5,138
Interest Earned	1,656	1,558	53	17	27
Subtotal	\$507,005	\$477,427	\$16,596	\$5,528	\$7,453
Less: Claims Expense Paid	20,116	18,936	641	208	332
Excess Insurance Premium	49,276	46,385	1,569	509	812
Administration Fees	12,000	11,296	382	124	198
WC Reserve Balance 6/30/14	\$425,614	\$400,810	\$14,004	\$4,688	\$6,112
Add: Projected Claims Liability	\$24,956	23,492	795	258	411
Funds borrowed to subsidize operations	0	0	0	0	0
WC CASH BALANCE 6/30/14	<u>\$450,570</u>	<u>\$424,302</u>	<u>\$14,799</u>	<u>\$4,946</u>	<u>\$6,523</u>
<u>CONNECTION FEE FUND</u>					
Connection Fee Cash Balance 7/1/13	\$166,157	\$13	\$166,144	\$0	
Add: funds borrowed to subsidize operations	(52,748)	0	0	(52,748)	
Connection Fee Reserve Balance 7/1/13	\$113,409	\$13	\$166,144	(\$52,748)	
Add: Connection Fees Collected FYTD	152,800	99,600	22,800	30,400	
Interest Earned	843	0	843	0	
Subtotal	\$267,052	\$99,613	\$189,787	(\$22,348)	
Less: Fees Expended FYTD	1,118,977	1,099,671	19,306	0	
Fees transferred to RWS FYTD (Note 15)	1,550,201	1,550,201	0	0	
Connection Fee Reserve Balance 6/30/14	(\$2,402,127)	(\$2,550,260)	\$170,481	(\$22,348)	
Less: Funds borrowed to subsidize operations	(2,572,608)	(2,550,260)	0	(22,348)	
CONNECTION FEE CASH BALANCE 6/30/14	<u>\$170,482</u>	<u>\$0</u>	<u>\$170,481</u>	<u>\$0</u>	
<u>CONSERVATION INCENTIVE RATE FUND</u>					
CIR Cash Balance 7/1/13	\$0	\$0	\$0		
Add funds borrowed to subsidize operations	55,912	0	55,912		
CIR Reserve Balance 7/1/13	\$55,912	\$0	\$55,912		
Add: CIR Charges Billed FYTD	12,428	12,428	0		
Regulation 15 Forfeitures	4,410	4,410	0		
Interest Earned	0	0	0		
Subtotal	\$72,750	\$16,838	\$55,912		
Less: CIR Funds Expended FYTD ¹	65,632	55,841	9,791		
Bill Adjustments	956	956	0		
CIR Reserve Balance 6/30/14	\$6,163	(\$39,958)	\$46,121		
Less funds borrowed to subsidize operations	(39,958)	(39,958)	0		
CIR CASH BALANCE 6/30/14	<u>\$46,121</u>	<u>\$0</u>	<u>\$46,121</u>		

¹ On September 1, 2009 the Board authorized water conservation expenditures to be charged against the Conservation Incentive Rate Fund

**NORTH MARIN WATER DISTRICT
EQUIPMENT EXPENDITURES
PERIOD ENDING JUNE 30, 2014**

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	JUNE 2014	FYTD TOTAL	FY 13/14 BUDGET	(OVER) UNDER	Notes
1 INFORMATION SYSTEMS					
Administration					
a. Server Software Upgrade		\$8,050	\$9,000	\$950	c,1
	\$0	\$8,050	\$9,000	\$950	
2 ADMINISTRATION					
a. Phone System		\$22,878	\$35,000	\$12,122	c,1
	\$0	\$22,878	\$35,000	\$12,122	
3 ENGINEERING					
a. Multi-Function Wide-Carriage Copier (Used)		\$10,006	\$12,000	\$1,994	c,1
	\$0	\$10,006	\$12,000	\$1,994	
4 VEHICLE & ROLLING EQUIPMENT EXPENDITURES					
a. 1/2-ton 2WD Pickup	\$19,467	\$19,467	\$30,000	\$10,533	c,1,2
b. 3/4-ton 4WD Pickup	28,105	28,105	30,000	1,895	c,1,2
c. Propane Powered 5,000 lb Capacity Forklift		0	35,000	35,000	c,1,2
d. Hybrid 2WD Pickup		0	40,000	40,000	c,1
e. Hybrid 2WD Pickup		0	40,000	40,000	c,1
f. 8x12 Flatbed for '99 F350		6,768	0	(6,768)	c
g. Dump Truck	107,494	107,494	0	(107,494)	
	\$155,066	\$161,834	\$175,000	\$13,166	
TOTAL EQUIPMENT EXPENDITURES	\$155,066	\$202,768	\$231,000	\$28,232	

Notes:

- (c) Capitalized
(1) Replacement item.
(2) The Board of Directors approved purchase of an International Dump Truck (\$107,328), in lieu of the purchase of two budgeted hybrid pickups (\$80K) and a propane powered forklift (\$35K) at it's 2/4/14 meeting.

**NORTH MARIN WATER DISTRICT
OVERHEAD ACCOUNT ANALYSIS
FOR PERIOD ENDING JUNE 30, 2014**

	YEAR TO DATE ACTUAL	ANNUAL BUDGET	YTD/ BUDGET%	PRIOR YTD ACTUAL
<u>Material Handling</u>				
Material Overhead Recovered (15%)	\$53,272	\$112,000	48%	\$79,654
Labor	\$66,075	\$101,000	65%	\$83,374
Materials, Supplies & Expense	6,875	6,000	115%	6,209
Correction to Inventory Counts	5,168	0	-	10,680
Depreciation	4,168	5,000	83%	4,791
	<u>\$82,285</u>	<u>\$112,000</u>	73%	<u>\$105,054</u>
Net Material Handling Gain / (Loss)	<u>(\$29,013)</u>	<u>\$0</u>	-	<u>(\$25,400)</u>
<u>Construction Supplies</u>				
Const Supplies Overhead Recovered (10%)	\$231,350	\$238,000	97%	\$215,247
Labor	\$85,158	\$74,000	115%	\$88,146
Materials, Supplies & Expense	106,566	78,000	137%	83,456
Small Tools	16,188	19,000	85%	21,956
Depreciation	4,071	5,000	81%	4,476
	<u>\$211,983</u>	<u>\$176,000</u>	120%	<u>\$198,034</u>
Net Constr Supplies Gain / (Loss)	<u>\$19,367</u>	<u>\$62,000</u>	31%	<u>\$17,213</u>
<u>Vehicle & Equipment</u>				
Vehicle & Equipment Recovered ¹	\$345,343	\$415,000	83%	\$367,612
Labor	\$76,160	\$102,000	75%	\$72,808
Materials, Supplies & Expense	67,132	57,000	118%	73,171
Fuel	113,037	110,000	103%	109,415
Depreciation	98,245	108,000	91%	108,239
	<u>\$354,574</u>	<u>\$377,000</u>	94%	<u>\$363,633</u>
Net Vehicle & Equip Gain / (Loss)	<u>(\$9,231)</u>	<u>\$38,000</u>	-24%	<u>\$3,979</u>
<u>Payroll</u>				
Overheaded Payroll Recovered	\$6,942,227	\$7,203,000	96%	\$6,706,417
Salary Including Leave Time	\$4,348,758	\$4,555,000	95%	\$4,259,449
Employer FICA & Medicare Tax	329,314	342,000	96%	327,416
Insurance ²	990,689	985,000	101%	869,431
Retiree Medical	75,375	77,000	98%	77,875
CalPERS Retirement	1,045,209	1,063,000	98%	1,068,211
Unreconciled Difference	(88,367)			(36,546)
	<u>\$6,700,978</u>	<u>\$7,022,000</u>	95%	<u>\$6,565,836</u>
Net Payroll Gain / (Loss)	<u>\$241,249</u>	<u>\$181,000</u>	³	<u>\$140,581</u>
Total Overhead Gain / (Loss)	<u>\$222,372</u>	<u>\$281,000</u>	79%	<u>\$136,373</u>

¹ Vehicle & Equipment Recovered is the amount charged to projects and operations to recover the expense of owning and operating the asset. The recovery rate is \$6/hr for vehicles 3/4-ton and under \$11/hr for larger vehicles. An additional 50% is charged to developer projects to reflect the fair market value of the asset used.

² Insurance Includes Medical, Dental, Vision, Cafeteria, Life, & Workers' Compensation

³ Projected gain on self-insured worker's compensation gives rise to the budgeted payroll gain.

**NORTH MARIN WATER DISTRICT
EXPENDITURES BY CATEGORY
FOR PERIOD ENDING JUNE 30, 2014**

OPERATING EXPENSE	Novato	Recycled	West Marin	Oceana Marin	YTD Total	Annual Budget	YTD Budget %	Prior YTD Actual	% Change
1 Salaries & Benefits	\$5,376,977	\$45,581	\$236,632	\$30,128	\$5,689,319	\$5,906,000	96%	\$5,513,104	3%
2 Water Purchases	5,951,750	171,265	0	0	6,123,015	4,552,000	135%	5,215,948	17%
3 Depreciation	2,445,634	458,349	154,749	57,024	3,115,756	2,879,000	108%	2,784,648	12%
4 Materials, Services & Supplies	1,204,015	61,026	86,136	71,263	1,422,441	1,628,000	87%	1,313,670	8%
5 Chemicals	316,762	4,038	1,392	0	322,192	445,000	72%	421,870	-24%
6 Electric Power	391,348	3,827	41,656	17,619	454,450	391,000	116%	442,662	3%
7 Tools & Supplies (Distrib)	179,262	2,599	12,954	1,226	196,042	173,000	122%	165,000	19%
8 Vehicles and Equipment (Distrib)	210,275	2,366	19,659	766	233,065	236,000	99%	236,062	-1%
9 Retiree Medical Expenses	159,691	0	0	0	159,691	157,000	102%	166,699	-4%
10 Office Supplies & Postage	107,965	0	0	0	107,965	116,000	93%	101,729	6%
11 Insurance & Claims	72,192	0	0	2,259	74,451	101,000	74%	78,842	-6%
12 Water Conservation Rebates	72,762	0	0	0	72,762	90,000	81%	55,375	31%
13 Overhead Charges (Gain)/Loss	(222,372)	0	0	0	(222,372)	(265,000)	84%	(136,354)	-
14 Distributed Costs (Lab,G&A,ConsAcctg)	(504,535)	22,564	75,840	15,257	(390,874)	(363,000)	108%	(392,367)	0%
15 Total Operating Expense	\$15,688,964	\$771,615	\$629,019	\$195,542	\$17,285,140	\$16,046,000	108%	\$15,925,493	9%
16 Interest Expense & Other*	748,214	308,719	56,535	888	1,114,356	991,000	112%	1,097,771	2%
17 Total Expense	\$16,437,178	\$1,080,334	\$685,554	\$196,430	\$18,399,496	\$17,037,000	108%	\$17,023,264	8%
Warehouse, Shop & Yard									
18 Salaries & Benefits	\$224,464	\$0	\$0	\$0	\$224,464	\$314,000	71%	\$232,943	-4%
19 Materials, Services & Supplies	419,374	0	0	0	419,374	284,000	148%	429,859	-2%
20 Distributed Costs	(643,837)	0	0	0	(643,837)	(598,000)	108%	(662,801)	-3%
21 Total W/H, Shop & Yard	\$0	\$0	\$0	\$0	\$0	\$0	0%	\$0	0%
District Capital Outlay									
22 Salaries & Benefits	\$736,055	\$82,200	\$93,599	\$1,718	\$913,572	\$767,000	119%	\$895,434	2%
23 Equipment	202,465	0	0	0	202,465	231,000	88%	311,705	-35%
24 Debt Principal Payments	994,871	360,091	62,337	0	1,417,299	1,529,000	93%	665,535	113%
25 Materials, Services & Supplies	2,900,652	399,650	168,179	17,937	3,486,417	7,611,000	46%	7,929,064	-56%
26 Total District Capital Outlay	\$4,834,043	\$841,941	\$324,115	\$19,655	\$6,019,753	\$10,138,000	59%	\$9,801,739	-39%
Developer Funded Projects									
27 Salaries & Benefits	\$129,687	\$0	\$3,811	\$0	\$133,498	\$212,000	63%	\$158,162	-16%
28 Materials, Services & Supplies	153,410	0	(6,404)	0	147,006	276,000	53%	188,543	-22%
29 Total Developer Projects	\$283,097	\$0	\$(2,593)	\$0	\$280,504	\$488,000	57%	\$346,705	-19%
30 Total	\$21,554,318	\$1,922,275	\$1,007,075	\$216,085	\$24,699,753	\$27,663,000	89%	\$27,171,708	-9%

*Includes Interfund Interest

**NORTH MARIN WATER DISTRICT
VEHICLE FLEET ANALYSIS
FOR PERIOD ENDING JUNE 30, 2014**

Year	Description	Veh#	Assigned	Fiscal Year to Date			Vehicle Cost per Mile					
				Mileage	Expense ¹	Recovery ²	Gain/(Loss)	Mileage	Life to Date	FYTD	FY13	FY12
1	1999 Dodge Ram 1500	32	Engineering	4,414	\$2,903	\$1,521	(\$1,382)	74,902	\$0.45	\$0.66	\$0.54	\$0.54
2	2000 Dodge Dakota	40	Pool	7,316	\$4,602	\$6,269	\$1,666	112,283	\$0.48	\$0.63	\$0.41	\$0.98
3	2001 Dodge Ram 1500	41	LeBrun	6,865	\$5,207	\$2,635	(\$2,572)	121,680	\$0.54	\$0.76	\$0.49	\$0.55
4	2002 Chev K1500 4x4	47	Engineering	2,931	\$2,089	\$1,625	(\$465)	107,252	\$0.35	\$0.71	\$0.54	\$0.56
5	2003 Dodge Dakota 4x4	49	Stompe	6,063	\$3,650	\$2,738	(\$912)	82,329	\$0.42	\$0.60	\$3.08	\$0.74
6	2003 Chev C1500	51	Pool	12,003	\$6,152	\$10,000	\$3,848	113,106	\$0.38	\$0.51	\$0.69	\$0.56
7	2004 Chev C1500	53	Kurfirst	4,779	\$7,241	\$9,662	\$2,421	106,449	\$0.45	\$1.52	\$0.69	\$0.69
8	2004 Chev C1500 Xtra Cab	54	Mello	6,796	\$4,219	\$2,487	(\$1,732)	81,638	\$0.40	\$0.62	\$0.42	\$0.80
9	2005 Honda Civic Hybrid	56	Lab	7,662	\$3,187	\$3,627	\$440	67,116	\$0.23	\$0.42	\$0.16	\$0.30
10	2005 Honda Civic Hybrid	57	Engineering	8,199	\$1,345	\$2,994	\$1,650	46,754	\$0.20	\$0.16	\$0.13	\$0.36
11	2005 Ford Ranger	58	Roberto	11,040	\$7,117	\$9,708	\$2,591	103,324	\$0.46	\$0.64	\$0.37	\$0.64
12	2005 Ford Ranger	59	Venegas	12,273	\$4,222	\$8,090	\$3,868	99,183	\$0.44	\$0.34	\$0.76	\$0.49
13	2006 Chev Colorado	501	Arendell	13,687	\$5,612	\$12,027	\$6,415	114,784	\$0.37	\$0.41	\$0.40	\$0.39
14	2007 Chev K2500 4x4	502	Conda, Joe	8,640	\$4,495	\$16,757	\$12,262	68,662	\$0.53	\$0.52	\$0.51	\$0.85
15	2007 Chev Colorado	504	Bynum	3,807	\$2,723	\$4,345	\$1,622	32,225	\$0.44	\$0.72	\$0.35	\$0.39
16	2008 Ford F250 4x4	505	Cilia	9,313	\$8,477	\$16,919	\$8,442	70,164	\$0.72	\$0.91	\$0.82	\$0.69
17	2008 Ford F250 4x4	506	STP	7,126	\$3,702	\$6,655	\$2,953	41,576	\$0.81	\$0.52	\$0.85	\$0.90
18	2008 Chev Colorado 4x4	509	Lemos	12,981	\$5,320	\$6,403	\$1,083	73,485	\$0.34	\$0.41	\$0.31	\$0.30
19	2009 Toyota Prius Hybrid	510	Clark	12,525	\$1,929	\$5,353	\$3,424	79,679	\$0.17	\$0.15	\$0.21	\$0.18
20	2010 Ford F150 4x4	511	STP	7,783	\$5,261	\$6,248	\$987	42,742	\$0.47	\$0.68	\$0.37	\$0.40
21	2010 Ford F150	512	Ortiz	12,901	\$7,666	\$6,568	(\$1,099)	62,785	\$0.48	\$0.59	\$0.41	\$0.58
22	2010 Ford F150	513	On-Call	9,831	\$6,027	\$7,802	\$1,775	33,145	\$0.51	\$0.61	\$0.45	\$0.46
23	2012 Ford F250	515	Reed	10,388	\$6,804	\$21,381	\$14,577	14,959	\$0.68	\$0.65	\$0.75	-
24	2012 Ford F250	516	Castellucci	8,882	\$5,717	\$14,674	\$8,957	14,063	\$0.67	\$0.64	\$0.71	-
25	2014 Ford F150	517	Grisso	274	\$72	\$286	\$214	274	\$0.26	\$0.26	-	-
26	2015 Ford F250 4x4	518	Kehoe	540	\$490	\$161	(\$330)	540	\$0.91	\$0.91	-	-
Total 3/4 Ton & Under				209,019	116,229	186,932	70,703	1,765,099	\$0.44	\$0.56	\$0.51	\$0.55
1	1999 Ford F350 W/Svc Body	19	Pool	1,176	\$3,490	\$1,888	(\$1,602)	129,049	\$0.75	\$2.97	\$1.40	\$1.40
2	2002 Int'l 5 Yd Dump	44	Pool	9,168	\$20,266	\$18,644	(\$1,623)	84,191	\$1.61	\$2.21	\$2.02	\$2.02
3	1999 Ford F550 3-Yd Dump ³	52	Crew	2,786	\$3,747	\$7,147	\$3,401	77,558	\$0.94	\$1.34	\$5.46	\$5.46
4	2006 Int'l 4300 Crew	503	Briet	3,282	\$7,212	\$16,555	\$9,343	26,659	\$2.60	\$2.20	\$1.82	\$1.82
5	2008 Ford F350 4x4	507	Latanzsyn	12,580	\$9,165	\$16,281	\$7,117	73,596	\$0.84	\$0.73	\$1.15	\$1.15
6	2009 Peterbilt 335 Crew	508	Kane	2,804	\$6,176	\$19,624	\$13,448	19,538	\$2.01	\$2.20	\$2.81	\$2.81
7	2012 Int'l 5 Yd Dump	514	Rupp	5,897	\$8,542	\$15,914	\$7,371	13,762	\$1.69	\$1.45	\$2.50	\$2.50
8	2015 Int'l 5 Yd Dump	519	Sjoblom	1,129	\$719	\$462	(\$257)	1,129	\$0.64	\$0.64	-	-
Total 1 Ton & Over				38,822	59,317	96,515	37,198	425,482	\$1.18	\$1.53	\$1.84	\$1.84

¹ Expense amount shown excludes depreciation (approximately \$60,000 for FY14).

² Recovery is the amount charged to projects and operations to recover the expense of owning and operating the vehicle. Commencing 7/1/07 the recovery rate for vehicles 3/4-ton and under is \$6/hr and the recovery rate for vehicles 1-ton and over is \$11/hr. An additional 50% is charged to developer projects to reflect the fair market value of the vehicle being used.

³ Purchased used in 2004 with 33,500 miles. Mileage shown is total incurred since District purchase.

**NORTH MARIN WATER DISTRICT
WATER CONSERVATION PROGRAM DETAIL
FOR PERIOD ENDING JUNE 30, 2014**

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Description		COST THRU JUNE 2013	JUNE 2014	FYTD TOTAL	FY 13/14 BUDGET	(OVER) UNDER	TOTAL COST
NOVATO							
a. Residential							
1-7700-01	1 Cash for Grass	\$227,131	\$5,338	\$28,109	\$24,000	(\$4,109)	\$255,240
1-7700-02	2 Landscape Efficiency Rebates	28,396	232	760	7,500	6,740	29,156
1-7700-03	3 Fixtures Purchases	32,581	0	5,323	5,000	(323)	37,903
1-7700-06	4 Washing Machine Rebates	306,143	1,145	19,681	20,000	319	325,825
1-7700-07	5 Demonstration Garden Improvements	54,377	0	0	500	500	54,377
1-7700-11	6 Toilet Rebate SF	864,964	2,703	36,787	34,000	(2,787)	901,752
1-7700-12	7 Toilet Rebate MF	18,081	0	92	4,000	3,908	18,173
1-7700-13	8 Residential Audits	214,879	382	41,188	50,000	8,812	256,067
1-7700-15	9 High Efficiency Toilet Distribution ²	134,591	4,255	87,322	0	(87,322)	221,913
1-7700-16	10 Water Waste Ordinance Monitoring	29,922	2,446	5,124	10,000	4,876	35,046
1-7700-17	11 Swimming Pool Cover Rebate	226	0	0	0	0	226
1-7700-19	12 ET Controller Rebate	21,375	0	3,776	8,000	4,224	25,151
1-7700-08	13 Administration	932,763	8,359	128,573	125,000	(3,573)	1,061,336
1-7700-20	14 New Development Wtr Cons Program	39,228	618	8,832	8,000	(832)	48,060
1-7700-21	15 Demand Offset Rebate Program	1,195	0	617	2,000	1,384	1,811
1-7700-23	16 Grant Administration	637	0	655	0	(655)	1,292
	17 Admin Exp Distrib to WM Water (3.6%)	(3,997)	(301)	(4,639)	0	4,639	(8,637)
b. Commercial							
1-7701-02	1 Toilet Rebate Program	64,927	0	100	10,000	9,900	65,027
1-7701-03	2 Commercial Audits	6,256	679	2,505	15,000	12,495	8,761
c. Public Outreach/Information							
1-8672-16	1 Fall Newsletter	38,084	0	1,023	8,000	6,977	39,107
1-8672-17	2 Spring Newsletter	50,469	0	13,223	12,000	(1,223)	63,692
1-8672-18	3 Summer Newsletter	5,139	564	7,395	4,000	(3,395)	12,533
1-7700-04	4 Public Outreach / H ₂ O Fair	84,932	1,384	16,013	10,000	(6,013)	100,945
1-7700-05	5 Marketing	116,667	594	12,296	16,000	3,704	128,963
1-7700-22	6 Public Outreach/Leadership Novato	9,409	0	1,689	0	(1,689)	11,098
d. Large Landscape							
1-8653-02	1 Large Landscape Audits	73,127	355	5,774	10,000	4,226	78,901
1-7702-01	2 Large Landscape Budgets	25,617	106	3,824	3,000	(824)	29,441
1-7702-02	3 Large Landscape Irrig Efficiency Rebates	11,376	0	2,084	5,000	2,916	13,460
1-8653-01	4 CIMIS Station Maintenance	18,653	0	0	2,000	2,000	18,653
1-7702-03	6 Administration-Large Landscape	22,607	0	1,019	7,000	5,981	23,626
TOTAL NOVATO WATER CONSERVATION		\$3,429,755	\$28,858	\$429,143	\$400,000	(\$29,143)	\$3,858,898
WEST MARIN WATER							
2-5166-00	a. Water Conservation Program	\$39,250	\$741	\$5,151	\$2,000	(\$3,151)	\$44,401
	b. Administrative Exp distributed from Novato (3.6%)	3,997	301	4,639	2,000	(2,639)	8,636
		\$43,247	\$1,042	\$9,791	\$4,000	(\$5,791)	\$53,038
TOTAL WATER CONSERVATION EXPENDITURES¹		\$3,473,002	\$29,900	\$438,934	\$404,000	(\$34,934)	\$3,911,936

¹FY14 total excludes \$267,000 (\$33.53/AF) paid to SCWA for water conservation services provided to NMWD.

² \$47,221 received from SCWA to offset High Efficiency Toilet Giveaway Cost.

**NORTH MARIN WATER DISTRICT
CAPITAL IMPROVEMENT PROJECTS
PERIOD ENDING JUNE 30, 2014**

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Description		COST THRU JUNE 2013	JUNE 2014	FYTD TOTAL	FY 13/14 BUDGET	(OVER)/UNDER BUDGET	TOTAL COST
1 PIPELINE REPLACEMENTS/ADDITIONS							
a. Main/Pipeline Replacements							
1-7067-20	1 So Novato Blvd-Rowland to Sunset (12"CI @ 1,500')	\$0	\$4,128	\$25,136	\$100,000	\$74,864	\$25,136
1-7130-00	2 STP 18" Transmission Line Assess/Repair (13,200')	10,358	263	24,069	0	(24,068)	34,426
1-7134-00	3 Digital to Leveroni Looping (8"@600')	18,535	103	93,342	0	(93,341)	111,877
1-7135-00	4 Delong to Cain Looping (8"@400')	0	25,956	138,324	0	(138,324)	138,324
1-7139-00	5 PB Repl-City Measure A, Group 5	37,364	16,355	109,305	0	(109,305)	146,669
1-7142-00	6 Shields Ln 6" Cast Iron (6" @ 120')	0	54,616	144,724	225,000	80,276	144,724
1-7143-00	7 Ashley Ct 2" Thinwall Plastic (6" @ 200')	0	0	2,395	40,000	37,606	2,395
1-7144-00	8 Grant/4th 1" Galvanized Steel (6" @ 400')	0	12	11,030	100,000	88,970	11,030
	9 Other Pipeline Replacements (60+ years old)	0	0	0	35,000	35,000	0
b. Main/Pipeline Additions							
1-7145-00	1 Zone A Pressure Improvements - Ignacio	0	7,816	35,915	250,000	214,085	35,915
c. PB Service Line Replacements							
1-7123-11	1 Pacheco Valle (42 Svcs)	2,833	617	617	125,000	124,384	3,449
	2 Replace PB in Sync w/City Paving (45 Svcs)	0	0	0	135,000	135,000	0
1-7123-14	3 Clay Ct PB Repl (9 Svcs)	0	689	28,673	33,000	4,327	28,673
1-7123-15	4 Atherton Oaks/Summit Lane (20 Svcs)	0	0	2,068	60,000	57,932	2,068
	5 Other PB Replacements	0	0	0	47,000	47,000	0
1-7123-16	6 County PB Repl (19 Svcs) (2 Streets)	0	2,788	62,785	0	(62,785)	62,785
1-7123-17	7 City PB Repl (47 Svcs) (9 Streets)	0	308	10,073	0	(10,073)	10,073
d. Relocations to Sync w/City & County CIP							
	1 Other Relocations	0	0	0	80,000		
TOTAL PIPELINE REPLACEMENTS/ADDITIONS		\$69,090	\$113,649	\$688,457	\$1,230,000	\$461,547	\$757,546
e. Aqueduct Replacements & Enhancements							
1-7118-01	1 MSN B1-Utility Agreement Costs	\$170,766	\$7,250	\$34,873	\$0	(\$34,873)	\$205,638
1-7118-02	2 MSN B2-Utility Agreement Costs	28,462	474	5,413	0	(5,413)	33,875
1-7118-03	3 MSN B3-Utility Agreement Costs	131,137	579,234	863,419	0	(863,419)	994,556
1-7118-04	4 AEEP Permitting & Design	680,441	239,768	503,981	4,600,000	4,096,019	1,184,422
1-7118-05	5 AEEP Legal Challenge/Litigation	10,679	0	0	0	0	10,679
1-7118-07	6 AEEP- B1 Construction	67,347	3,810	346,117	0	(346,117)	413,464
1-7118-10	7 MSN Aq Caltrans Reimb - Seg B2 Gunn Dr ⁵	7,597	0	33,361	0	(33,361)	40,958
1-7118-17	8 AEEP B1 Betterment & Depreciation Cost	103,188	0	278,390	0	(278,390)	381,578
1-7118-18	9 AEEP B2 Betterment & Depreciation Cost	0	0	765	0	(765)	765
1-7118-20	10 AEEP-B3 Advance Tree Removal	0	11,291	296,424	0	(296,424)	296,424
1-7118-21	11 AEEP-B3 Tree Removal-NMWD Cost ⁷	0	449	19,689	0	(19,689)	19,689
TOTAL AQUEDUCT REPLACEMENTS AND ENHANCEMENTS		\$1,199,617	\$842,277	\$2,382,431	\$4,600,000	\$2,217,569	\$3,582,048

**NORTH MARIN WATER DISTRICT
CAPITAL IMPROVEMENT PROJECTS
PERIOD ENDING JUNE 30, 2014**

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Description	COST THRU JUNE 2013	JUNE 2014	FYTD TOTAL	FY 13/14 BUDGET	(OVER)/UNDER BUDGET	TOTAL COST
2 SYSTEM IMPROVEMENTS						
1-7008-10 a. RTU Upgrades	\$0	\$0	\$9,783	\$10,000	\$217	\$9,783
1-8677-19 b. Flushing taps at Dead-Ends (12 biennially)	0	1,837	24,121	50,000	25,879	24,121
1-7007-08 c. Detector Check Assembly Repair/Repl (~14/yr)	0	17,186	115,391	150,000	34,609	115,391
1-7090-02 d. Anode Installations (150/yr)	1,618	132	7,384	30,000	22,616	9,002
1-7132-01 e. Radio Expansion Telemetry Upgrades	0	6,423	14,675	25,000	10,325	14,675
1-7054-04 f. Inaccurate Meter Replacement	0	0	8,015	10,000	1,985	8,015
1-7137-00 g. Backflow Device Upgrade-BMK (15 Svcs)	15,732	0	0	30,000	30,000	15,732
1-7146-00 h. Tank Access Hatch/Level Alarms (10 sites)	0	11,054	32,137	35,000	2,863	32,137
1-8650-20 i. Sampling Stations (FY15) (6)	0	0	736	0	(736)	736
TOTAL SYSTEM IMPROVEMENTS	\$17,350	\$36,632	\$212,243	\$340,000	\$127,757	\$229,593
3 BUILDINGS, YARD, & S.T.P. IMPROVEMENTS						
a. Administration Building						
1-6501-43 1 Electronic Document Management System	\$0	\$0	\$0	\$150,000	\$150,000	\$0
1-6501-41 2 Admin Office/Lab/Yard Remodel Plan	0	0	0	50,000	50,000	0
b. Corp Yard/Warehouse/Construction Office						
1-8738-01 1 SMART Crossing Rework (@ Golden Gate Pl)	0	0	379	58,000	57,621	379
1-8738-02 2 SMART Crossing Rework (@ Roblar Rd)	0	138	4,657	0	(4,657)	4,657
1-8738-03 3 SMART Crossing Rework (@ Hanna Ranch)	0	86,615	182,599	0	(182,599)	182,599
c. Stafford Treatment Plant						
1-6600-70 1 Watershed Erosion Control	34,154	0	12,000	25,000	13,000	46,154
1-6600-54 2 Start-Up Flushing Connection	8,539	0	5,888	225,000	219,112	14,428
1-6600-80 3 Lake Aeration Upgrade	28,088	0	0	25,000	25,000	28,088
TOTAL BUILDING, YARD, & STP IMPROVEMENTS	\$70,782	\$86,753	\$205,524	\$533,000	\$327,476	\$276,306
4 STORAGE TANKS & PUMP STATIONS						
1-6201-21 a. Atherton Recoat/Mixing System	\$4,324	\$6,185	\$112,635	\$700,000	\$587,365	\$116,960
1-6112-24 b. Lynwood Pump Station Motor Control Center	36,722	378	22,039	190,000	167,961	58,761
1-6141-00 c. Relocate School Rd/Crest P.S.	6,903	526	12,230	100,000	87,770	19,133
TOTAL STORAGE TANKS & PUMP STATIONS	\$47,949	\$7,089	\$146,905	\$990,000	\$843,095	\$194,854
5 RECYCLED WATER						
5-7127-00 a. NBWRA Grant Program Administration	\$870,080	\$0	\$63,035	\$100,000	\$36,965	\$933,115
5-6055-20 b. RW Expansion N Svc Area-Retrofit-Private Property ²	160,192	0	1,125	0	(1,125)	161,317
5-6055-22 d. RW Expansion N Svc Area-Onsite Retrofit-Const	248,322	0	(13,358)	0	13,358	234,964
5-6055-23 e. RW Expansion N Svc Area-Group 2 Site Retrofit	42,819	0	27,866	0	(27,866)	70,685
5-6056-01 f. Expansion to South Svc Area-Non ARRA	1,920	0	0	0	0	1,920
5-6056-11 g. Expansion to South Svc Area-Phase 1A ^{1,2}	1,439,878	9,552	17,217	100,000	82,783	1,457,095
5-6056-12 h. Expansion to South Svc Area-Phase 1B ^{1,2}	3,863,789	0	64,266	0	(64,266)	3,928,055
5-6056-13 i. Expansion to South Svc Area-Phase 2 ^{1,3}	1,963,783	9,498	198,323	0	(198,323)	2,162,106
5-6056-14 j. Expansion to South Svc Area-Bolling Circle PS	102,794	0	4,518	0	(4,518)	107,313
5-6056-15 k. Expansion to South Svc Area-Phase 1B-Claims	9,816	873	23,247	0	(23,247)	33,063
5-6056-16 l. RW Expansion S Svc Area-PH1A Post Mitigation Monitoring	0	4,403	18,696	0	(18,696)	18,696
5-6056-20 m. RW Expansion S Svc Area-Retrofit-Private Property ^{2,4}	349,653	0	181	0	(181)	349,834
5-6056-21 n. RW Expansion S Svc Area-Retrofit-Govt Property ²	138,542	0	1,000	0	(1,000)	139,543
5-6056-23 o. RW Expansion S Svc Area-Group 2 Site Retrofit	128,457	0	71,708	0	(71,708)	200,165

**NORTH MARIN WATER DISTRICT
CAPITAL IMPROVEMENT PROJECTS
PERIOD ENDING JUNE 30, 2014**

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Description	COST THRU JUNE 2013	JUNE 2014	FYTD TOTAL	FY 13/14 BUDGET	(OVER)/UNDER BUDGET	TOTAL COST
5-6058-10 p. RW Exp-Central Area-Pre Design	0	2,918	4,024	0	(4,024)	4,024
TOTAL RECYCLED WATER	\$9,320,046	\$27,245	\$481,850	\$200,000	(\$281,850)	\$9,801,895
6 WEST MARIN WATER SYSTEM						
<u>System Improvements:</u>						
2-6601-32 a. TP Solids Handling & Land Acquisition ⁸	\$183,261	\$0	\$6,466	\$200,000	\$193,534	\$189,727
2-6601-35 b. Treatment Plant Control Valve Replacement	6,104	0	0	25,000	25,000	6,104
2-7087-02 c. Gallagher Auxiliary Stream Gauge ⁹	299	1,253	71,271	30,000	(41,271)	71,570
2-6130-21 d. Olema PS Flood Protection & RTU Upgrade	0	6,672	19,057	100,000	80,943	19,057
2-7147-00 e. Emergency Generator Connections	0	0	14,405	15,000	595	14,405
2-6257-20 f. Pt Reyes Tank #2 & #3 Seismic Piping Upgrade	38,928	0	1,895	65,000	63,105	40,823
2-7087-01 g. Gallagher Well Pipeline Design ⁹	14,631	(1,050)	93,057	100,000	6,943	107,687
2-7123-18 h. County PB Repl (7 Svcs) (1 Street)	0	96	12,332	0	(12,332)	12,332
2-7087-00 i. Gallagher Well Pipeline CEQA ⁹	29,788	57	57	0	(57)	29,845
2-7087-03 j. Gallagher Well and Pipeline Construction ⁹	0	50,277	56,959	0	(56,959)	56,959
2-7123-13 k. PB Rpl-County Paving-Balboa,Portola,Mesa, 2nd St	57,520	1,695	1,695	0	(1,695)	59,215
TOTAL WEST MARIN WATER SYSTEM	\$330,530	\$59,000	\$277,193	\$535,000	\$257,807	\$548,508
7 OCEANA MARIN SEWER SYSTEM						
8-8672-27 a. Infiltration Repair-FY14	\$0	\$5,578	\$10,298	\$15,000	\$4,702	\$10,298
8-7148-00 b. SCADA RTU Upgrade and Install	0	2,294	9,356	35,000	25,644	9,356
TOTAL OCEANA MARIN SEWER SYSTEM	\$0	\$7,872	\$19,655	\$50,000	\$30,345	\$19,655
TOTAL PROJECT EXPENDITURES	\$11,055,362	\$1,180,518	\$4,414,257	\$8,478,000	\$3,983,746	\$15,410,405
8 LESS FUNDED BY GRANTS, LOANS & REIMBURSEMENTS						
<u>(Accrued)/Deferred</u>						
a. RW Expansion - South Service Area Grant ^{2,3,4}	(\$960,891)	\$0	\$948,704	\$1,099,000	\$150,296	(\$12,187)
b. RW - South Service Area Loan ¹	(3,330,590)	0	3,330,590	3,472,000	141,410	0
c. MSN Aqueduct Caltrans Reimb-Segment B1-B3 ⁵	(206,924)	(293,010)	(424,620)	0	424,620	(631,544)
d. AEEP Segment B1-B3 ⁵	6,308,782	(239,768)	(503,981)	(2,400,000)	(1,896,019)	5,804,801
e. AEEP- B1 Construction ⁵	(40,665)	(3,810)	47,757	0	(47,757)	7,092
f. MSN Aqueduct Caltrans Reimb-Segment B2 Gunn Dr ⁵	(7,597)	0	7,263	0	(7,263)	(334)
g. AEEP-B3 Tree Removal-CT Reimb ⁶	0	(11,291)	(296,424)	0	0	0
h. TP Solids Handling & Land Acquisition ⁷	644,118	0	(4,850)	(200,000)	(195,150)	639,268
i. Gallagher Well Pipeline & Stream Gauge ⁹	(44,717)	150,363	(20,443)	(130,000)	(109,557)	(65,160)
FUNDING BY OTHERS (ACCRUED)/DEFERRED	\$2,361,515	(\$397,516)	\$3,083,998	\$1,841,000	(\$1,539,421)	\$5,741,937
<u>Received</u>						
a. RW Expansion - South Service Area Grant ^{2,3,4}	(\$1,030,785)	\$0	(\$1,086,777)	(\$1,099,000)	(\$12,223)	(\$2,117,562)
b. RW - South Service Area Loan ¹	(2,005,890)	0	(3,351,997)	(3,472,000)	(120,003)	(5,357,887)
c. MSN Aqueduct Caltrans Reimb-Segment B1-B3 ⁵	(4,079)	(293,948)	(479,085)	(2,200,000)	(1,720,915)	(483,164)
d. AEEP Segment B1-B3 ⁵	(7,123,441)	0	0	0	0	(7,123,441)
e. AEEP- B1 Construction ⁶	(26,584)	0	(393,874)	0	393,874	(420,458)
f. MSN Aqueduct Caltrans Reimb-Segment B2 Gunn Dr ⁵	0	0	(40,624)	0	40,624	(40,624)
g. AEEP-B3 Tree Removal-CT Reimb ⁶	0	0	0	0	0	0
h. TP Solids Handling & Land Acquisition ⁷	(781,564)	0	0	0	0	(781,564)
i. Gallagher Well Pipeline & Stream Gauge ⁹	0	(200,901)	(200,901)	0	200,901	(200,901)
FUNDING BY OTHERS RECEIVED	(\$10,972,343)	(\$494,849)	(\$5,553,258)	(\$6,771,000)	(\$1,217,742)	(\$16,324,700)

**NORTH MARIN WATER DISTRICT
CAPITAL IMPROVEMENT PROJECTS
PERIOD ENDING JUNE 30, 2014**

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Description	COST THRU JUNE 2013	JUNE 2014	FYTD TOTAL	FY 13/14 BUDGET	(OVER)/UNDER BUDGET	TOTAL COST
NET PROJECT EXPENDITURES	\$2,444,534	\$288,153	\$1,944,997	\$3,548,000	\$1,226,583	\$4,827,641

	Current Month	FYTD Total	FY 13/14 Budget	FYTD/ Budget%
CIP SUMMARY-GROSS EXPENDITURES:				
Novato Water Capital Projects	\$1,086,400	\$3,635,560	\$7,693,000	47%
Novato Recycled Water Capital Projects	27,245	481,850	200,000	241%
West Marin Water Capital Projects	59,000	277,193	535,000	52%
Oceana Marin Sewer Capital Projects	7,872	19,655	50,000	39%
Gross Capital Improvement Project Outlays	\$1,180,518	\$4,414,257	\$8,478,000	52%

	Current Month	FYTD Total	FY 13/14 Budget	FYTD/ Budget%
CIP SUMMARY-NET EXPENDITURES:				
Novato Water Capital Projects	\$255,864	\$1,551,973	\$3,093,000	50%
Novato Recycled Water Capital Projects	27,245	322,370	200,000	161%
West Marin Water Capital Projects	59,000	51,000	205,000	25%
Oceana Marin Sewer Capital Projects	7,872	19,655	50,000	39%
Net Capital Improvement Project Outlays	\$349,981	\$1,944,997	\$3,548,000	55%

Notes to Capital Improvement Projects Schedule:

- (1) Non-Grant Funded RWS Expansion Costs will be funded by a low-interest rate State Revolving Fund Loan equal to 75% of the project cost, less 25% of the overhead.
- (2) The District will receive ARRA Federal Grant Funding equal to 25% of the project cost less overhead.
- (3) The District will receive Watersmart Federal Grant Funding equal to 25% of the project cost, less overhead.
- (4) The District will receive State Prop 84 Grant Funding equal to project cost less overhead.
- (5) Funding includes a \$7M Bank Loan plus reimbursement from Caltrans for 100% of costs charged to jobs 1.7118.01-1.7118.03, & 1.7118.10.
- (6) Funding provided 100% by Caltrans.
- (7) Funding provided 100% by NMWD.
- (8) Funding provided 75% by Bank of Marin Loan & 25% by connection fees.
- (9) Funding provided 100% by State Dept of Public Health Prop 50 Grant up to \$1,486,000. FY14 Budget was augmented by \$100,000 by BOD on 1/21/14.

North Marin Water District Financial Statement Notes

Note 1 - Restricted Cash

Connection Fee Fund: Cash available from collection of Connection Fees. The fee is charged to developers based upon the estimate of cost necessary to construct capacity to serve the new development. These funds are restricted by law for expansion of the water or sewer facilities within the service area where the development occurs. Funds are disbursed from the Connection Fee Reserve as expenditures are incurred to increase system capacity to serve new development. The fund balance accrues interest monthly.

Wohler Pipeline Financing Fund: In December 2002 the Sonoma County Water Agency sold \$6.8 million (par) of 30-year revenue bonds to finance the Wohler to Forestville Pipeline. NMWD's share of the debt is \$844,050 ($\$6,800,000 \times 11.2 / 90.4$). In January 2003 the District established this designated cash and corresponding reserve account and transferred \$844,050 of FRC money into the fund. The Wohler Pipeline Financing Fund is credited with interest monthly, and is used to pay the revenue bond debt component of the monthly SCWA invoice for water delivery commencing July 2003.

Collector #6 Financing Fund: The Sonoma County Water Agency received a \$15.8 million State Revolving Fund loan commitment at an interest rate of 2.8% repayable over 20 years for construction of Collector #6. NMWD's share of Collector #6 is \$1,950,000 ($\$15,800,000 \times 11.2 / 90.4$). In January 2003 the District established this designated cash and corresponding reserve account and transferred \$1,950,000 of FRC money into the fund. The Collector #6 Financing Fund is credited with interest monthly, and is used to pay the revenue bond debt component of the monthly SCWA invoice for water delivery commencing July 2003.

MMWD Aqueduct Replacement Fund: Beginning February 5, 2014, Marin Municipal Water District (MMWD) shall pay the District a wheeling charge of \$12.00/acre-foot for all MMWD's Russian River water delivered, plus an additional \$4.00/acre-foot set aside charge. The set aside charge is credited to this fund for MMWD's share of the future replacement cost of the North Marin Aqueduct. The set aside charge shall be increased on July 1 of each subsequent year, beginning July 1, 2014, to reflect the change in the Engineering News Record Construction Cost Index for the San Francisco Bay Area for the preceding 12 months, but shall be no greater than 4% per year and no less than 2% per year. The fund balance accrues interest monthly.

Revenue Bond Redemption Fund: Comprised of one year of debt service as required by West Marin revenue bond covenants. These funds are restricted for payment of bond principal, interest and administration fees. The fund balance does not accrue interest.

Bank of Marin Project Fund: The District received an \$8 million loan from the Bank of Marin in October 2011 to fund the Aqueduct Energy Efficiency Project. The 20-year, 3.54% annual percentage rate loan requires monthly payments of \$46,067 and will be fully amortized on 10/27/31. In June 2012 the Board authorized reallocating \$1 million of this loan to West Marin Water to repay Novato Water \$223,000 owed for previous loans to fund Long Range Improvement Projects and the remainder to fund the Solids Handling Facility at the Point Reyes Water Treatment Plant. The unexpended fund balance accrues interest monthly.

Deer Island RWF Replacement Fund: The State Revolving Fund (SRF) loan agreement required the District to agree to establish and maintain a Water Recycling Capital Reserve Fund (WRCRF) for the expansion, major repair, or replacement of the Deer Island Recycled Water Treatment Plant. The WRCRF is maintained in compliance with the "Policy for Implementing the State Revolving fund for Construction of Wastewater Treatment Facilities" in effect at the time the agreement was signed by the District. The September 2003 Recycled Water Master Plan prepared by Nute Engineering recommended limiting the reserve to fund replacement of the RWF electrical and mechanical equipment (including transmission pumps) as they wear out. The cost of said equipment was \$1,483,000 which, at Nute's

recommended 6% interest rate factor and 25-year life, renders an annual funding requirement \$115,000. The fund balance accrues interest monthly.

Tax Receipts held in Marin County Treasury: Balance of tax proceeds collected and disbursed by the County of Marin for repayment of the Olema (OL-2) general obligation bond debt. The County credits interest to these funds quarterly.

STP SRF Loan Fund – Marin County Treasury: The Stafford Treatment Plant State Revolving Fund (SRF) loan agreement requires the District to build a Reserve Fund equal to one year of payments (\$1,044,474) in the Marin County Treasury during the first ten years of the 20-year repayment period. Every January 1 and July 1 the District deposits with the County 10% of the semi-annual SRF payment. The County credits the fund with interest quarterly, and will use the Reserve to pay the last 2 semi-annual SRF loan payments.

RWS North/South SRF Payment Fund: The State Water Resource Control Board Agreements for the seven Clean Water State Revolving Fund Loans made for expansion of the Recycled Water System distribution system require that the District establish a reserve fund equal to one year's debt service.

Note 2 - Designated Cash

Liability Contingency Fund: Established in 1986 when the District first elected to self-insure its general liability risk. This reserve was funded with \$1 million initially and \$200,000 annually thereafter until it reached a balance of \$2 million. In FY98 the West Marin Water System was included in the fund and built-up a proportional reserve of \$74,000 over several years. Commencing FY93, \$1 million of the reserve was made available to fund loans to eligible employees under the District's Employer Assisted Housing Program. In August 2008, \$500,000 was transferred into this reserve from the Self-Insured Workers' Compensation Fund and made available to fund Employer Assisted Housing Program loans. Currently there are \$1,249,200 in Employer Assisted Housing Loans outstanding (see Note 3). In March 2005, \$652,400 was expended from the fund to purchase a home at 25 Giacomini Road in Point Reyes Station. The home is rented to an employee who provides after-hours presence in the community to respond to emergencies. In 2006, \$8,885 was added from the sale of surplus property in West Marin. In October 2013, the District acquired ownership of the home at 15 Gustafson Court in Novato to protect its interest in a \$192,585 Employer Assisted Housing loan. The fund balance does not accrue interest.

Self-Insured Workers' Compensation Fund: Commencing July 2011, the District began self-insuring its workers' compensation liability. The savings accrued through self-insuring the liability is reserved in this fund for possible future claims expense. The District carries a workers' compensation excess policy for claims that exceed \$750,000. See schedule on page 21.

Retiree Medical Benefits Fund: NMWD pays the cost of health insurance for retirees between the ages of 55 and 65 and spouse under any group plan offered by CalPERS. The retiree must be at least 55 and have a minimum of 12 years of NMWD service at the date of retirement. NMWD's contribution toward the chosen plan is capped in the same manner as all other NMWD employees in the same class. Coverage terminates for the spouse when the spouse becomes eligible for Medicare, or for both the retiree and spouse when the retiree becomes eligible for Medicare. When the retiree or spouse becomes eligible for Medicare, NMWD pays up to the couple annuitant rate, which is capped at \$3,830 per year (\$319/month). In August 2003, NMWD transferred \$2.55 million (\$2.3 million for current retirees plus \$250,000 for future retirees) from unrestricted cash into a reserve to fund this obligation. In 2010 the Board directed staff to add \$1,500 per employee annually as a payroll overhead to accrue and accelerate amortization of this liability. In 2013 an Actuarial Analysis calculated NMWD's total actuarial liability at \$4.2 million. This reserve fund earns interest monthly, and currently has a balance of \$3.2 million. Accounting Standards require that the \$4.2M reserve be fully funded in 20 years.

Drought Contingency (Rate Stabilization) Fund: In August 2008, the Board directed staff to establish this reserve with \$135,000 from the Self-Insured Workers' Compensation Fund for the Novato district to draw upon during dry years. A threshold of 3.2 billion gallons of potable consumption was established as a benchmark for 'normal' years. During any fiscal year that water sales volume exceeds 3.2BG, the

incremental revenue generated is deposited into the Drought Contingency Reserve. In those years when sales volume falls below the benchmark, funds are withdrawn from the reserve to maintain the budgeted revenue forecast. The goal is to build a reserve equal to 20% (currently \$2,500,000) of budgeted annual water commodity sales. In FY09 \$50,335 was added to the reserve. The fund was fully depleted in FY10. The fund balance accrues interest monthly.

Maintenance Accrual Fund: Established in FY91 to provide a source of maintenance money for replacement of treatment, storage, transmission and distribution facilities as they wear out. The annual contribution from operating reserves was initially \$200,000. Net polybutylene claim settlement proceeds of \$671,060 were closed into the fund in FY93. In FY94 the annual contribution was reduced to \$100,000. The District's goal is to build a reserve equal to 10% of the net book value of Novato's existing plant, currently \$7.0M. Funds are borrowed from the Maintenance Accrual Fund to offset the shortfall in unrestricted Cash & Investments. The fund balance does not accrue interest.

Conservation Incentive Rate Fund: In 2004 and 2005, a Conservation Incentive Tier Rate was enacted in Novato and West Marin respectively. Monies derived from this tier-rate charge are set aside in the Conservation Incentive Rate Reserve, and used for conservation programs designated by the Board. The fund balance accrues interest monthly.

Operating Reserve Fund: This reserve, comprised of four months of budgeted operating expenditures (less depreciation) as recommended by the District's financial advisors, serves to ensure adequate working capital for operating, capital, and unanticipated cash flow needs that arise during the year. The fund balance does not accrue interest.

Note 3 – Employee Loans

Housing Loans: The District's Employer Assisted Housing Program allows up to \$300,000 to be loaned to an employee for a period of up to 15 years for the purchase of a home within the District service territory that will enable the employee to respond rapidly to emergencies affecting the operation of the District. Repayment is due upon sale, termination of employment, or other event as described in the Program. Interest on the loan is contingent upon and directly proportional to the appreciation in value occurring on the purchased property. There are seven employee-housing loans currently outstanding totaling \$1,249,200: a \$250,000 loan dated August 2004, a \$39,200 loan dated September 2004, a \$300,000 loan dated October 2006, a \$140,000 loan dated September 2007, a \$150,000 loan dated November 2007, a \$125,000 loan dated July 2008, and a \$245,000 loan dated June 2010.

Personal Computer Loans: Up to \$3,500 may be loaned to an employee for a period of up to 36 months under the District's Personal Computer Loan Program. Loans are repaid with interest at the rate earned on the District's investment portfolio at the time of the loan plus one percent. Currently there are 2 employee loans outstanding totaling \$592.

Note 4 – Purchased Water Capital Component

In 2003 the Sonoma County Water Agency issued \$6.8 million in 30-year 4.75% revenue bonds to finance the Wohler to Forestville pipeline. That same year the Agency received a \$15.8 million 2.8% 20-year State Revolving Fund loan to finance construction of Collector #6. For these two projects the District pays the Agency a debt amortization surcharge incorporated into its purchased water cost. The FY13 Purchased Water Capital Cost Component is \$225,000, which is the District's share of the annual debt service for these projects, and is paid as a \$114.83/MG surcharge, based on budgeted water deliveries. The Purchased Water Capital Component is funded from Restricted Cash Reserves established to amortize this debt (see Note 1 - Wohler Pipeline and Collector #6 Financing Funds).

Note 5 – Depreciation

Assets are assigned a useful life based on consultations with the District Chief Engineer and a survey of other water agencies. Depreciation is computed on a straight-line basis over the estimated useful life of the various classes of property as follows:

<u>Facility</u>	<u>Life (Years)</u>
Aqueduct.....	150
Dam.....	100
STP & RWS Structures.....	40
STP & RWS Mains.....	50
STP & RWS Pumping Equipment.....	25
STP & RWS Water Treatment Equipment.....	20
Storage & Transmission Facilities.....	50
Distribution Facilities.....	50
Buildings.....	35
Office, Laboratory, Construction & Shop Tools & Equipment.....	10
Vehicles 1 ton or greater.....	10
All other vehicles.....	5
Sewer Mains.....	40
Sewer Pumps.....	10

Note 6 - Capitalization Policy

The Government Finance Officers Association *Guide for State and Local Governments* recommends that a capitalization policy incorporate a minimum threshold of \$5,000 and an estimated useful life of at least two years. It also cautions that federal grant and loan requirements prevent the use of capitalization thresholds in excess of \$5,000. Thus NMWD's capitalization threshold is \$5,000.

Note 7 – Bond & Loan Servicing Schedule for Fiscal Year 2013-2014

Service Area	Description	Issue Date	Rate	Original Amount	Payment Due	Final Pmt	FY14		6/30/14 Outstanding Balance	
							Interest	Principal		
1	Novato	EDA Loan	1977	5.0%	\$351,770	7/1	7/1/17	\$3,282	\$15,162	\$65,445
2	Novato	SRF Loan - STP	2004	2.39%	\$16,528,850	7/1 & 1/1	7/1/29	\$326,026	\$718,448	\$13,101,376
3	Novato	Bank Marin Loan	2011	3.54%	\$7,000,000	27 th /mo	10/27/31	\$220,049	\$261,833	\$6,254,229
Novato Total Payment								\$549,357	\$995,443	\$19,421,040
Accrued Interest								\$0		
Novato FY14 Interest Expense								\$549,358		
4	RW TP	SRF Loan	2006	2.4%	\$4,302,560	6/19	6/19/27	\$77,236	\$196,131	\$3,022,026
5	RW North	SRF Loans (4)	2013	2.6%	\$4,375,605	Varies	Varies	\$93,811	\$188,081	\$4,082,743
6	RW South	SRF Loans (3)	2013	2.2%	\$5,359,858	Varies	Varies	\$41,920	\$176,717	\$5,183,141
Recycled Water Total Payment								\$212,967	\$560,929	\$12,287,910
Accrued Interest								\$68,678		
Recycled Water FY14 Interest Expense								\$281,645		
7	Olema	OL-2 GO Bond	1975	5.0%	\$70,000	1/1	1/1/15	\$382	\$3,731	\$3,921
8	Point Reyes	EDA Loan	1977	5.0%	\$46,000	7/1	7/1/17	\$451	\$2,252	\$9,057
9	PRE	PRE-1 Revenue	1980	5.0%	\$240,000	10/1 & 4/1	4/1/20	\$4,100	\$10,000	\$73,000
10	Point Reyes	PR-6 Revenue	1981	5.0%	\$217,800	7/1 & 1/1	7/1/21	\$4,200	\$9,000	\$75,000
11	WM Water	Bank Marin Loan	2012	3.54%	\$1,000,000	27 th /mo	10/27/31	\$32,324	\$38,434	\$924,422
West Marin Water Total Payment								\$41,457	\$63,417	\$1,085,400
Accrued Interest								(\$242)		
West Marin Water FY14 Interest Expense								\$41,215		
Total FY14 Payment								\$803,781	\$1,619,789	\$32,354,143
Total FY14 Interest Expense								\$872,218		

1. In 1977 the Federal Economic Development Administration issued a 40-year 5% loan of \$351,770 to assist in the funding emergency Novato Water system projects in response to the drought.
2. In April 2004 the California State Department of Water Resources approved a 2.39% 20-year loan for reconstruction of the Stafford Water Treatment Plant. The project was completed in FY09 with repair of the Outlet Tower Sluice Gate. Interest paid during construction totaled \$1,636,378. The loan covenants require an annual reserve fund contribution of \$104,447 (10% of the annual debt service obligation) be deposited into the Marin County Treasury during each of the first ten years of the repayment period. Debt service is funded 25% by Facility Reserve Charges.
3. In October 2011 Bank of Marin made a 20-year 3.54% (APR) loan of \$8 million to fund the District's share of the Aqueduct Energy Efficiency Project. See Note 16, and note to loan 10 below.

4. In August 2006 the California State Department of Water Resources approved a 2.4% 20-year loan of \$4,264,545 for construction of the Deer Island Recycled Water Facility. With the addition of \$38,015 in Construction Period Interest, the loan principal totaled \$4,302,560. The project was completed in June 2007, and the first payment was made June 19, 2008.
5. In July 2011 the California State Department of Water Resources approved a series of four 2.6% 20-year loans which totaled \$4,375,605 for the Recycled Water North Service Area Expansion Project. The projects were completed on October 31, 2012, and the first payment was made in November of 2012.
6. In March 2012 the California State Department of Water Resources approved a series of three 2.2% 20-year loans totaling \$5,359,858 for the Recycled Water South Service Area Expansion Project. The projects were completed on September 4, 2013, and the first payment will be made in December 2013.
7. In June 1973, after petition and creation of an improvement district (OL-1) for the investigation of water service to Olema and the Point Reyes National Seashore Headquarters, Olema voters, by a 92% "yes" vote, approved formation of an improvement district (OL-2) and a bonded debt of \$70,000 to acquire and improve the Olema Water Company owned by W. Robert Phillips and others and to service that area. The Farmers Home Administration purchased the 1975 bond issue in its entirety. On 6/1/91, at the demand of the FHA, the Novato Water District repurchased the remaining \$56,760 balance in the Olema bond debt. The interest rate paid to Novato Water on the OL-2 bond was thereafter reset to the higher of the rate earned by the District treasury or the stated rate of 5%.
8. In 1977 the Federal Economic Development Administration issued a 40-year 5% loan of \$46,000 to assist in the funding emergency West Marin Water system projects, including temporary diversions from Bear Valley Creek and Lagunitas Creek in response to the drought.
9. The Paradise Ranch Estates private water system was created by David Adams and Sons in 1952 to provide water to 85 homes in the PRE subdivision located north of Inverness Park. Problems with water quality and quantity developed and in 1969 the Marin County Health Department issued a boil-water order to all customers of the company. In 1972 the County declared a moratorium on issuance of building permits. A suit by property owners resulted in an agreement reached in Marin Superior Court in late 1978 directing Adams to finance a District feasibility study for the takeover of the system. This culminated in formation of Improvement District PRE-1 and an election authorizing issue of \$240,000 of 5% 40-year revenue bonds, which, in conjunction with a \$720,000 Farmers Home Administration grant, financed system rehabilitation. Service was provided from the Point Reyes System by installation of an additional well, expansion of the treatment plant, and a 6-inch pipeline connection at the Inverness Park pump station extending 1.6 miles along Sir Francis Drake Boulevard to the newly reconstructed Paradise Ranch Estates distribution system. On 4/22/80 the USDA purchased the revenue bond issue in its entirety.
10. In 1981 work commenced on rehabilitating the Point Reyes Inverness Park water system. 18,865 feet of pipeline was either replaced or installed, a 300,000-gallon tank was added in Point Reyes Station and a 100,000-gallon tank was added in Inverness Park. Total cost of these improvements was \$820,015. A 72% grant combined with a \$217,800 5% 40-year revenue bond acquired 8/28/81 by the Farmers Home Administration financed the project.
11. In June 2012 the Board authorized reallocating \$1 million of the Bank of Marin loan to West Marin Water to repay Novato Water \$223,000 owed for loans to fund Long Range Improvement Projects and the remainder to fund the Solids Handling Facility at the Point Reyes Water Treatment Plant. See note to loan 3 above.

Note 8 – Unemployment Insurance Reserve

NMWD uses the "Reimbursable Method" of paying for Unemployment Costs. Under this method, the District reimburses the State Employment Development Department for all unemployment benefits paid

on our behalf. The reserve is maintained at an amount equal to the higher of the average claim amount paid over the last 5 years or 52 times the maximum weekly benefit amount (currently \$450 x 52 = \$23,400).

Note 9 – Payroll Benefits

Payroll Benefits payable includes payroll taxes; vacation, sick, and holiday leave; Section 125 payments; cancer, long term care and disability insurance premiums; union dues; and employee benefit fund.

Note 10 - Interest Policy on Inter-District Loans

In the event an improvement district expends all of its Undesignated Funds, it shall borrow funds from that improvement district's Board Designated Fund reserves to meet ongoing requirements. In the event an improvement district expends all of its Board Designated Fund reserves, it may receive a loan from the Novato Improvement District in an amount sufficient to meet its ongoing requirements. Restricted Funds shall not be used to finance ongoing normal operating expenses.

No interest shall be paid by an improvement district on funds borrowed from that improvement district's Board Designated Fund reserves. Interest on loans from the Novato Improvement District shall be paid by the recipient district to the Novato district based upon the outstanding loan balance at the close of the previous accounting period. Interest shall be calculated at the higher of: 1. The weighted average interest rate of Novato improvement district debt (2.75% at 6/30/13); or 2. The average interest rate earned on the District treasury since the close of the previous accounting period; plus \$50 per month.

Note 11 – Budget Augmentations

The Board augmented this year's West Marin Capital Improvement Project Budget by \$100,000 on 1/21/14 (with the remaining \$1.386M to be budgeted for FY15) for the Gallagher Pipeline project and adopted a resolution authorizing execution of the California Department of Public Health (CDPH) Funding Agreement. CDPH has authorized a grant in the amount of \$1.486M for construction of the 12-inch pipeline connecting the Gallagher Well to the West Marin's existing water system.

Note 12 – Prior Period Adjustment

Note 13 – Provision for Pension Related Debt and Side Fund

NMWD participates in the CalPERS 2.5% at age 55 retirement plan. Per CalPERS Actuarial Valuation as of June 30, 2012 (most recent data available) NMWD had an accrued liability of \$34.6 million and assets valued on an actuarial basis at \$27.7 million, rendering an unfunded liability of \$6.9 million (\$34.6 - \$27.7), and a funded ratio of 80.1% ($\$27.7 / \34.6). Using the market value of assets at June 30, 2012, the funded ratio was 67.3%.

In 2003 when NMWD was included in a CalPERS pool of agencies with less than 100 employees, a "side fund" was created by CalPERS to account for the difference between the funded status of the pool and the funded status of NMWD's plan. In June 2014, NMWD paid off the CalPERS side fund (\$2,073,701), thus saving the District between \$748,000 and \$915,000 over the next 11 years (depending on the District's Treasury rate).

Note 14 – Explanation of Financial Statement Components

The District's financial statement is comprised of four components: 1) Statement of Net Position, 2) Sources and Uses of Funds Statement – All Service Areas Combined, 3) Income Statement and Cash Flow by Service Area, and 4) Notes to the Financial Statements. This report also contains other supplementary information in addition to the basic financial statements themselves.

The Statement of Net Position (page 4) reports the District's assets and liabilities and provides information about the nature and amount of investments in resources (assets) and the obligations to the District's creditors (liabilities). The difference between assets and liabilities is reported as *net position*. Over time, increases or decreases in the fund balance may serve as a useful indicator of whether the financial position of the District is improving or deteriorating.

The Sources and Uses of Funds Statement – All Service Areas Combined (page 8) compares fiscal year-to-date performance against the Board approved annual budget – presented in the adopted budget format. This Sources and Uses of Funds Statement varies from the income statement in that it includes capital expenditures, debt principal repayment, connection fee revenue, and cash infusions from debt issuance.

The Income Statement and Cash Flow by Service Area (page 9) presents the net income (loss) for the fiscal year-to-date (FYTD) period for each of the District’s four service areas. The income and expenses on this report are presented in conformity with Generally Accepted Accounting Principles (GAAP) and comply with Governmental Accounting Standards Board pronouncements. Accordingly, all income and expenses are reported as soon as the underlying event giving rise to the change occurs, regardless of the timing of related cash flows. This statement measures the success of each service area’s operations and can be used to determine whether the service area has successfully recovered all costs through user fees and other charges.

Also included at the bottom of page 9 is a statement of Cash Flow by Service Area. The primary purpose of this statement is to reconcile in an informative manner the difference between the net income/(loss) for the period of each service area with the resultant change in cash balance that occurred over the same period.

Notes to the Financial Statements (page 31) provide a summary of significant accounting policies and assumptions and other information of value to the financial statement reader.

Other Supplementary Information includes Detail Income Statements presented in accordance with GAAP for each of the four service areas (pages 10, 14, 16, 19). These statements present income and expenditures in close detail for further analysis. Other supplementary schedules of note include the Vehicle Fleet Analysis (page 25), Equipment Expenditures (page 22) and Capital Improvement Project Expenditures (page 27), which show outlays to date, compared with budget authority.

Note 15 –Connection Fee Transfers from Novato Water To Recycled Water

The following Connection Fee (FRC) reserve amounts have been transferred to the Recycled Water fund:

	Expansion Local Share			NBWRA	SRF RWF Loan	Expansion SRF Loan	Total	Transfer Executed
	North	South	Central					
FY07				\$29,725			\$29,725	
FY08				\$50,478	\$22,795		\$73,273	
FY09				\$150,455	\$22,795		\$173,250	
FY10	\$133,659			\$75,198	\$22,795		\$231,652	\$133,659
FY11				\$133,319	\$22,795		\$156,114	
FY12	\$233,478	\$265,500		\$115,883	\$22,795		\$637,656	
FY13				\$315,023	\$22,795	\$464,572	\$802,390	\$1,970,400
FY14	\$236,291	\$723,525	\$4,024	\$63,035	\$22,795	\$500,529	\$1,550,200	\$1,550,200
FY15		\$281	\$8,122	\$61,076		\$100,233	\$169,712	\$169,712

Note 16 –Debt Service Coverage Ratio

Debt Service Coverage Ratio is the ratio of net income/(loss) plus interest expense, depreciation, and connection fee revenue for the fiscal year to the sum of the fiscal year's principal and interest payments on the District's total debt.

	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>
Net Income/(Loss)	(\$3,616,979)	(\$1,156,582)	(\$217,163)	\$2,036,943	\$478,167
Depreciation	\$2,659,884	\$2,660,418	\$2,726,598	\$2,784,648	\$3,115,756
Interest Expense	\$694,044	\$710,416	\$654,484	\$778,762	\$872,218
Connection Fees	\$1,796,028	\$387,610	\$1,005,680	\$876,350	\$152,800
Total Available For Debt Service	\$1,532,977	\$2,601,862	\$4,169,599	\$6,476,703	\$4,618,942
Annual Debt Service	\$1,384,506	\$1,385,156	\$1,770,894	\$2,118,314	\$2,466,973
Debt Service Coverage Ratio	1.11	1.88	2.35	3.06	1.87

<u>Bank of Marin Debt Service Coverage Calculation¹</u>	<u>FY14 Actual</u>	<u>FY14 Budgeted</u>
Change in Net Assets ²	\$1,989,875	\$3,956,000
Interest Expense	\$872,218	\$912,000
Depreciation & Amortization	\$3,115,756	\$2,879,000
Total Available for Debt Service	\$5,977,850	\$7,747,000
Bank of Marin Annual Debt Service	\$552,800	\$552,800
Bank of Marin Coverage Ratio	10.81	14.01

¹ Per the October 27, 2011 Bank of Marin loan agreement, each June 30, beginning June 30, 2012, the Debt Service Coverage Ratio shall not be less than 1.2 to 1. "Debt Service Coverage Ratio" shall mean the ratio of (i) Borrower's change in net assets plus interest, depreciation, and amortization during the fiscal-year period ending on the Determination Date to the sum of the scheduled principal and interest payments on the Loan during the twelve-month period following the Determination Date.

² See page 9

7

MEMORANDUM

ITEM #7

To: Board of Directors

August 15, 2014

From: Pablo Ramudo, Water Quality Supervisor *PR*

Subject: Request Out-of-State Travel for Stacie Goodpaster to attend CA-NV AWWA Fall 2014 Conference

RECOMMENDED ACTION: Approve Out-of-State Travel for Stacie Goodpaster to attend AWWA Fall Conference.

FINANCIAL IMPACT: \$1200

Stacie Goodpaster has been a member of the AWWA California Nevada section Water Quality Laboratory Analyst Certification Committee for over six years and currently serves as Chair. Stacie meets with other members of the committee at regular teleconferences (~1/month). The committee meets bi-annually at the AWWA CA-NV spring and fall conferences.

The annual fall conference this year is taking place in Reno, Nevada from October 19th through the 23rd. In addition to the committee meeting, Stacie will attend technical sessions for continuing education credits necessary for maintenance of the Distribution System Operator certificate and the Laboratory Analyst certificate. Stacie's expenses will be covered by the Water Quality budget for meetings and training.

Recommendation:

Authorize Stacie Goodpaster to travel out of state to attend the AWWA fall conference.

Approved by GM *CD*
Date *8/15/2014*

8

MEMORANDUM

To: Board of Directors August 15, 2014

From: Robert Clark, Operation/Maintenance Superintendent *RC*

Subject: Approval for Out-of-State Travel for Robert Clark to Attend CA-NV AWWA Fall 2014 Conference
x:\maint sup\2014\awwa ca_nv fall 2014 conf justification memo.doc

RECOMMENDED ACTION: Approve out-of-state travel for the Operations/Maintenance Superintendent to Attend CA-NV AWWA Fall 2014 Conference.

FINANCIAL IMPACT: \$1200 (included in FY15 Maintenance Dept. Budget)

This year's California-Nevada AWWA Annual Fall Conference will be held on October 19-23, 2014, in Reno, Nevada. The conference will be covering a variety of emerging and timely issues regarding emergency planning, pipeline rehabilitation, water tank rehabilitation, material performance, large meter replacement programs, residential fire service applications and asset management programs. These conferences also offer excellent opportunities for networking with some of the key people in the water industry, as well as developing relationships with our counterparts in other water agencies.

I have been active in the CA-NV AWWA Section for the past few years participating in various Committees and more recently I have become more involved with the Asset Management, Safety & Security Planning and Backflow Committees.

Expenses for conference attendance are included in the FY15 Maintenance Department budget for meetings and training. Cost to the District is expected to be approximately \$1200: including conference, registration, hotel, travel, etc.

RECOMMENDATION

Approve out-of-state travel for the Operation/Maintenance Superintendent to Attend CA-NV AWWA Fall 2014 Conference.

Approved by GM *CD*
 Date *8/15/2014*

9

MEMORANDUM

To: Board of Directors

August 15, 2014

From: Drew McIntyre, Chief Engineer
Carmela Chandrasekera, Associate Engineer

Subject: Atherton Tank Rehabilitation Project – Award Construction Contract to Blastco

\\nmwdsrv1\engineering\Folders by Job No\8000 jobs\6201.21\BOD memos\6201.21 BOD Memo Approve Contract Award to Blastco 8-12-14.doc

RECOMMENDED ACTION:

1. Disallow Advanced Industrial Services, Inc bid protest of Blastco, Inc.
2. Approve award of the contract to Blastco, Inc. and authorize the General Manager to execute an agreement with Blastco, Inc.

FINANCIAL IMPACT: \$1,348,850 plus contingency reserve of \$70,000 (~5%)

Background

The 5 million gallon Atherton Tank Rehabilitation Project includes: (1) complete interior/exterior re-coating, (2) installation of a new mixing system, (3) miscellaneous improvements such as a second access hatch and flexible inlet/outlet piping connection to comply with current AWWA guidelines and (4) structural repair of corroded roof girders. The Board authorized bid advertisement for the above referenced project on June 17, 2014. The advertisement date for this project was June 20, 2014 with a bid opening on July 24, 2014. The District advertised the project in the Marin IJ and posted the contract documents electronically on eBidboard (a web-based bid management service). There were 37 interested contractors and builders exchanges in the greater bay area. Fifteen (15) contractors, including nine (9) prime contractors, attended the mandatory pre-bid meeting on July 8, 2014. The bid period was for approximately five (5) weeks and included one addendum. Six bids were received ranging from a low of \$1,348,850 to a high of \$2,193,001.

	CONTRACTOR	TOTAL BASE BID
1.	Blastco, Inc., Downey CA	\$1,348,850
2.	Advanced Industrial Services, Los Alamitos CA	\$1,414,690
3.	Utility Services, Perry GA	\$1,575,000
4.	Farr Construction, Sparks NV	\$1,631,359
5.	Crosno Construction, Arroyo Grande CA	\$1,695,500
6.	Paso Robles Tank, Paso Robles CA	\$2,193,001
	<i>Engineers Estimate</i>	<i>\$2,200,000</i>

The Engineer's Estimate was \$2,200,000. The bid span between the Number 1 and Number 2 low bidders (Blastco and Advanced Industrial Services) was \$65,840 (for a variance of 5%). The next four bids were within 60% of the second low bidder.

Bid Protest by Advanced Industrial Services, Inc

The second low bidder, Advanced Industrial Services, Inc. (AIS), submitted a bid protest letter on July 31, 2014 (Attachment 1) within five (5) business days of the July 24 bid opening as

required by the Contract Documents. The letter asserted that AIS was the lowest responsive bidder and Blastco Inc's (Blastco) bid was non-responsive because they "*failed to turn in a complete and proper bid proposal as required in the bid specifications,*" the primary issue being that AIS believed Blastco answered incorrectly on the bid form by stating there were no claims filed against Blastco on a construction project within the past five years.

AIS's bid protest letter was sent to the three lowest apparent bidders as specified in the Contract Documents. NMWD received two responses from Blastco, dated August 4 and August 5, 2014 (Attachment 2). Blastco's August 5, 2014 letter asserted that its bid was responsive and it interpreted the bid form question regarding claims differently than AIS did (Blastco's bid is provided as a reference in Attachment 3).

District legal counsel, Mr. Carl Nelson, was asked to review AIS's bid protest letter and Blastco's responses and render an opinion on whether Blastco's bid is non-responsive. Mr. Nelson's letter (Attachment 4) concludes that Blastco's bid is responsive. Of note, AIS did not submit the required financial qualifications within five (5) days following the bid opening date as was done by the other two of the three lowest bidders (i.e., Blastco and Utility Service Company), and AIS's bid is therefore non-responsive.

Bid Evaluation

Blastco, Inc., of Downey, California, submitted the lowest responsive bid of \$1,348,850 which is \$851,150 (39%) below the Engineer's construction cost estimate of \$2,200,000. Blastco's bid is \$65,840 (4.6%) below the next lowest bidder (Advanced Industrial Services). A bid evaluation (Attachment 5) was performed by District staff. Blastco has a proven track record with the District having successfully completed re-coating of the Plum Street Recycled Water Tank (interior/exterior) and Crest Tank No. 1 (interior) in 2011-2012.

Project Financing

The Atherton Tank Rehabilitation project was most recently estimated at a total project cost of \$2.48 M. The total project cost estimate is now \$1,900,000 resulting in a reduction of approximately \$580,000 from the previous estimate prepared in June 2014 (Attachment 6).

RECOMMENDATION

That the Board:

1. Reject Advanced Industrial Services' protest of Blastco's bid.
2. Approve award of the contract to Blastco, Inc. and authorize the General Manager to execute an agreement with Blastco, Inc. for \$1,348,850 and set aside a contingency reserve of \$70,000 (~5%)



ADVANCED INDUSTRIAL SERVICES, INC.

CA License No. 631053 · AZ License No 248164 · NV License No. 0072026

July 31, 2014

North Marin Water District
Attn.: Drew McIntyre
For: ATHERTON TANK REHABILITATION PROJECT, 1 6201.21
999 Rush Creek Place
Novato, CA. 94948

RECEIVED

JUL 31 2014

North Marin Water District

Subj.: BID PROTEST

Mr. McIntyre,

It has come to the attention of Advanced Industrial Services (AIS) that the apparent low bidder for the Atherton Tank Rehabilitation Project has failed to turn in a complete and proper bid proposal as required in the specifications.

In the Financial Qualifications section of the bid documents, sub-section C tells the "Bidder shall identify any claims filed in court or arbitration against the Bidder in the past five years which concerned Bidder's work on a construction project." In the "Claims Filed Against Bidder", response area Blastco Inc. list's "none".

The attached document from the Painters & Allied Trades Compliance Administrative Trust lists (9) claims against Blastco Inc. with at least 1 being filed court.

Blastco Inc. has failed to list those legal claims rendering their bid incomplete, and as a public funded Entity, the Water District is obligated to follow the provisions of the Public Contract Code when evaluating bid proposals for any construction project. Under this process there should be no deviation from the list of documents required to be submitted by the bidding contractor in the bid proposal package.

We trust that you will reject their bid as non-responsive and award the contract to the next lowest bidder.

Respectfully,

Brett Johnston,

Project Manager

7831 Alondra Blvd., California 90723
(562) 940-8305 • Fax (562) 940-8306
CA License No. 631053

**PAINTERS & ALLIED TRADES
COMPLIANCE ADMINISTRATIVE TRUST**
1155 Corporate Center Dr., Monterey Park, CA 91754
Phone: (626) 792-3019 * Fax: (626) 798-0528

RECEIVED
JUL 31 2014
North Marin Water District

Via Certified Mail 7010 2780 0000 2231 9752

Drew McIntyre
Chief Engineer
North Marin Water District
999 Rush Creek Place
Novato, CA 94948

July 30, 2014

Re: Project name: Atherton Tank Rehabilitation Project, 1 6201.21
Bidder: Blastco, Inc.

Dear Mr. Drew McIntyre:

Our understanding is that contractor Blastco, Inc. ("Blastco") is a current bidder for the project listed above. The purpose of this letter is to explain why we believe Blastco **is not a responsible bidder** and, therefore, why public work should not be awarded to Blastco.

As detailed below, the State's Division of Apprenticeship Standards and Division of Labor Standards Enforcement have issued multiple administrative complaints against Blastco for violating the key Labor Code requirements applicable to public work on numerous projects, including by failing to pay required wages, failing to make fringe benefits contributions, and failing to make contributions to train apprentices:

1. On February 7, 2011, the Division of Apprenticeship Standards issued a Notice of Complaint alleging Blastco failed to submit DAS 140 and DAS 142 forms or to make training contributions, as required by Labor Code §1777.5, in relation to work performed at the Las Palmas 3b Reservoir in Fullerton. Blastco paid \$2,650.00 to settle the Complaint. (See Exhibit 1.)
2. On October 14, 2011, Blastco paid \$4,700.00 to settle a Notice of Complaint issued by the Division of Apprenticeship Standards alleging violations of the Labor Code with respect to work performed at Rancho California Water District Project D16, D1620, D1625, D1628. (See Exhibit 2.)
3. On July 12, 2013, the Division of Labor Standards Enforcement issued a Civil Wage and Penalty Assessment against Blastco alleging the violation of Labor Code §1775 for failure to pay prevailing wages, including the underpayment of fringe benefits and travel and subsistence for work performed for the East Bay Municipal Utilities District on the Bayview No. 2, Fire Trail Nos. 1 and 2 and Gwin Reserve Project. Blastco settled that Civil Wage and Penalty Determination by paying \$6,908.85. (See Exhibit 3.)

4. On July 17, 2013, the Division of Labor Standards Enforcement issued a Civil Wage and Penalty Assessment against Blastco alleging the failure to pay prevailing wages, fringe benefits, travel and subsistence, and training contributions for work performed for the East Bay Municipal Utilities District at its Alamo Reservoir Storage Tank Project. Blastco settled that Civil Wage and Penalty Assessment by paying \$21,136.34. (See Exhibit 4.)

5. On January 16, 2014, the Division of Labor Standards enforcement reported that Blastco paid to settle a complaint for apprenticeship violations on the San Diego County Helix Water District Calvo Tank Project. (See Exhibit 5.)

6. On January 16, 2014, the Division of Labor Standards Enforcement reported that Blastco paid to settle a complaint arising from its work on the Torrey Pines and Crest Reservoir Project. (See Exhibit 6.)

7. On January 16, 2014, the Division of Labor Standards Enforcement reported that Blastco paid to settle a complaint arising from its work on the 657-1 & 657-2 Reservoir Exterior & Interior Upgrades Project for the Otay Water District. (See Exhibit 7.)

8. On February 14, 2014, the Division of Labor Standards Enforcement reported that Blastco had resolved via settlement a complaint for violations of Labor Code §1777.5 arising from the Centinela State Prison Water Tank Project. (See Exhibit 8.)

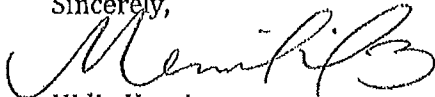
In addition to this very long string of administrative complaints and settlements for failing to follow the Labor Code, Blastco is presently being sued by its current and former employees in *Cabrera, et al. v. Blastco*, for failure to pay required wages and overtime, failure to provide meal periods, failure to authorize and permit rest periods, failure to timely pay wages upon termination of employment, failure to furnish timely and accurate wage statements, and violation of the California Unfair Competition Law. (See Exhibit 9.)

In light of the foregoing, this contractor should not be considered a responsible bidder for public works projects by your agency.

Painters and Allied Trades Compliance Administrative Trust works diligently to ensure fairness and compliance by all contractors in the bidding and performance of public works projects and provides information to public agencies about prospective contractors.

If you have any questions, please feel free to contact me.

Sincerely,



Nidia Henriquez

Case Investigator

nidia.henriquez@patcat.org

Enclosure:

- Letters from Department of Industrial Relations, Division of Apprenticeship Standards (Exhibit 1 & 2)
- Letters from Department of Industrial Relations, Division of Labor Standards Enforcement (Exhibits 3-8)
- Class Action Complaint (Exhibit 9)

cc: Chris DeGabriele, General Manager/NMWD:
Dennis J Rodoni, Board Member/NMWD:
Rick Fraites, Board Member/NMWD:
Stephen Petterle, Board Member/NMWD:
John C. Schoonover, Board Member/NMWD:

cdegabriele@nmwd.com
djrodoni@gmail.com
rfraites@nmwd.com
spetterle@nmwd.com
jschoonover@nmwd.com

Contractor License #767974

BLASTCO

incorporated

August 4, 2014

Mr. Drew McIntyre
North Marin Water District
999 Rush Creek Place
Novato, CA 94948

Re: Atherton Tank Rehabilitation Project, 1 6201.21

Dear Mr. McIntyre:

I am writing in response to a letter from Nidia Henriquez, a "case investigator" for the Painters and Allied Trades Compliance Administrative Trust ("PATCAT") which is improperly attempting to challenge the status of Blastco, Inc. ("Blastco") as a responsible bidder. I would like to address three specific points.

First, according to case law as cited below, Blastco is, in fact, a responsible bidder and, as *the* lowest responsible bidder on the project, Blastco is legally entitled an award of the North Marin Water District contract. Second, not only does PATCAT misrepresent the nature and extent of Blastco's purported "violations," but most of these complaints were self-servingly filed by PATCAT to paint Blastco in a poor light. Please note that *all* of PATCAT's delineated "violations" were settled for nominal amounts, i.e., less than 10 cents on the dollar and Blastco has never been denied a public contract because of them. Third, PATCAT lacks standing to protest Blastco's bid. PATCAT's sole purpose is to protest potential contract awards to non-union contractors. Given these facts, I urge the Board to confirm the award of the contract to Blastco.

Blastco Is a Responsible Bidder

According to *City of Inglewood-L.A. County Civic Center Auth. v. Superior Court* (1972) 7 Cal.3d 861, 867: "[A] contract must be awarded to the lowest bidder unless it is found that he is **not** responsible, i.e., **not qualified to do the particular work under consideration.**"



WARREN GROUP INC.

Blastco is a T.F. Warren Group company.

Contractor License #767974

MCM Construction, Inc. v. City and County of San Francisco (1998) 66 Cal.App.4th 359, 368 concurs that "public entities are required to...award the contract to the lowest responsible bidder," and defines a "responsible bidder" is one that "can perform the contract as promised."

Blastco has been licensed as a Class C33 painting contractor since 1999, and has held a Class A engineering contractor's license since 2007.

Blastco is properly licensed and has the experience required to complete the project. There is no basis for a determination that Blastco is somehow non-responsible.

PATCAT Has Misrepresented the Nature and Extent of Blastco's Purported "Violations"

PATCAT's sole purpose is to protest the award of public works contracts to non-union contractors. All of the administrative complaints that PATCAT has listed in their letter are exactly that. Blastco agreed to settle these complaints directly with the Department of Industrial Relations for such things as not have the correct ratio of apprentice workers or not properly notifying all union apprenticeship councils of the project award. Blastco has never had a notice filed against them for workmanship on a project.

Finally, although there is a "class action" lawsuit pending against Blastco in Los Angeles County, case number BC490519, the case is in the discovery phase; no class has been certified, and Blastco has not been found liable for any Labor Code violations.

In sum, none of the purported "violations" cited by PATCAT has any merit and may not be used for the basis of a determination that Blastco is not a responsible bidder.

PATCAT Lacks Standing to Protest the Award of a contract to Blastco

PATCAT is not a licensed contractor and did not bid on this project. In fact, PATCAT is organized as a private trust, rather than as a corporation, partnership or limited liability company, in order to conceal its ownership and management.

As PATCAT is not a contractor and did not bid on the project, it lacks standing to protest the award of a contract to Blastco. *Monterey Mechanical Co. v. Sacramento Regional County Sanitation Dist.* (1996) 44 Cal.App.4th 1391, 1414 fn. 12.

In sum, PATCAT was organized as a private trust in order to hide its management and to avoid the handbilling restrictions imposed on unions by the National Labor Relations Act. Although it lacks standing to do so, PATCAT routinely protests award of public contracts to non-union contractors and files frivolous complaints against those contractors throughout the course of their performance on public projects. Those contractors are forced to litigate the complaints at great cost or to settle them



WARREN GROUP INC.

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Contractor License #767974

for nominal amounts. PATCAT then uses the nominal settlements as "evidence" that the contractor is non-responsible when the contractor is bidding on subsequent projects. This is exactly what PATCAT did to Blastco.

The Board should disregard the protest filed by PATCAT and award the project to Blastco as the lowest responsible bidder.

Sincerely,



Brent Matteson
General Manager
Blastco Inc.
11905 Regentview Ave
Downey, CA 90241



WARREN GROUP INC.

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Contractor License #767974

BLASTCO

incorporated

August 5, 2014

North Marin Water District
Attn: Drew McIntyre
RE: Atherton Tank Rehabilitation Project 1 6201.21
999 Rush Creek Place
Novato, CA 94948

RE: Bid Protest on Atherton Tank Rehabilitation Project 1 6201.21 by Advanced Industrial Services, Inc.

Dear Mr. McIntyre,

Blastco, Inc. ("Blastco") hereby responds to the Bid Protest that North Marin Water District received on July 31st, 2014, from Advanced Industrial Services, Inc.

The sole claim set forth in the bid protest letter is that Blastco answered incorrectly in response to questions "C" and "D" of Financial Qualifications section of the bid documents.

Question "C" states the following: "Bidder shall identify any claims filed in court or arbitration against Bidder in the past five years which concerned Bidder's work on a construction project." Blastco interpreted this question seeking information pertaining to construction claims relating to its work on a project, such as claims submitted against Blastco by a property owner or general contractor for defective workmanship on a construction project, claims for breach of contract in the performance of a construction project, or claims for money due asserted by a subcontractor. Blastco has never had such a complaint filed against it for any workmanship or breach of its contract on a public works project. Blastco has had administrative claims (neither filed in court nor arbitration) with the Department of Industrial Relations ("DIR"), but these claims were resolved with the DIR directly and for very nominal amounts, and did not impact Blastco's performance or work on any project. Also, as noted in the PATCAT letter attached to the protest, Blastco is a Defendant in an action pending in Los Angeles Superior Court by certain of its employees seeking overtime wages, but that action also does not involve Blastco's work on a construction project, nor have the allegations, in any manner, effected Blastco's performance or work on any construction project.

Question "D" in the Financial Qualification section states the following: "Bidder shall also identify any claims filed in court or arbitration by Bidder against a project owner in the past five years concerning



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work on a project or payment of a contract." Blastco also correctly answered this question. Blastco has not filed any claim against a project owner in the last five years.

Blastco has successfully completed previous projects for the North Marin Water District, and has every intention to complete another project on time and within budget for the District. Blastco is confident that it accurately and completely responded to all questions in the bid documents based on its reasonable interpretation of the questions posed.

Should you have any further questions, please feel free to contact myself directly at the contact information below.

Sincerely,



Brent Matteson
Blastco Inc
11905 Regentview Ave.
Downey, CA 90241
562-231-5456 - Direct



WARREN GROUP INC.

Blastco is a T.F. Warren Group company.

BLASTCO

SECTION 00300

BID

DATE: 7-24-14

The undersigned, as bidder, declares that we have received and examined the Contract Documents entitled Atherton Tank Rehabilitation Project, 1 6201.21, and will contract with the District, on the form of Agreement provided herewith, to do everything required for the fulfillment of the Contract Document for the construction of the Atherton Tank Rehabilitation Project at the prices and on the terms and conditions herein contained.

This checklist has been prepared and furnished to aid Bidders in including all necessary supporting information with their bid. Bids should include, but are not limited to, the following:

ITEM		CHECKED
1	Bid Form (Pages 00300-1 thru 2)	✓
2	Bid Schedule (Page 00310-1 thru 2)	✓
3	Iran Contracting Act Certification (Page 00400-1)	✓
4	Bid Guaranty Bond (Page 00410-1 thru 2)	✓
5	Certification of Bidders Experience and Qualifications (Pages 00420-1 thru 7)	✓
6	Proposed Subcontractors (Page 00430-1 thru 2)	✓
7	Site Visit Affidavit (Page 00440-1)	✓
8	Schedule of Major Equipment and Material Supplier, Products Identified by Name and Substitution (Page 00450-1 thru 3)	✓
9	Non-Collusion Affidavit (Page 00480-1)	✓

We acknowledge that the following addenda numbers have been received and have been examined as part of the Contract Documents.

<u>Addenda #</u>	<u>Date Received</u>	<u>Initials</u>
<u>1</u>	<u>7/15/14</u>	<u>SF</u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>

Attached is a bid guaranty bond or certified or cashier's check as required by Paragraph 00100-16.0, **BID GUARANTY**.

BLASTCO, INC.
Name of Company Submitting Bid

If our bid is accepted, we agree to sign the Agreement without qualifications and to furnish the performance and payment bonds and the required evidences of insurance within ten (10) calendar days after receiving written Notice of Award of the Contract.

We further agree, if our bid is accepted and a Contract for performance of the Work is entered into with the District, to so plan work and to prosecute it with such diligence that the Work shall be completed within the time stipulated.

The undersigned certifies that the undersigned holds California Contractor's License,

Class A, Number 767974, Expiration Date 8/31/15.

BLASTCO, INC.
Name of Company Submitting Bid

Dale J Kulczyk
Signature for Company Submitting Bid

Dale J Kulczyk
Name and Title of Signatory

11905 REGENTVIEW AVE DOWNEY CA 90241
Address of Company Submitting Bid

Brent Matteson
Witness

BRENT MATTESON GEN MGR
Name and Title of Witness

DELAWARE
State of Incorporation

(562) 869 - 0200
Phone Number

(562) 869 - 0210
FAX Number

BRENT.MATTESON@TFWARREN.COM
E-Mail Address

END OF SECTION

SECTION 00310

BID SCHEDULE

Pursuant to Section 00020, INVITATION TO BID, and Section 00100, INSTRUCTIONS TO BIDDERS, the undersigned hereby proposes and agrees that on award by the North Marin Water District under this Bid, and in accordance with the provisions therein stated, to execute the Agreement, with necessary bonds, to furnish and install any and all labor, materials, transportation, and services for the construction of the **ATHERTON TANK REHABILITATION** project, in accordance with the Contract Documents therefor adopted and on file with the North Marin Water District within the time hereinafter set forth and at the prices named in this Bid as follows:

BASE BID

Item No.	Estimated Quantity	Item Description	Unit Price	TOTAL
1	Lump Sum	Mobilization/demobilization allowance (not to exceed 5% of total bid amount)	50,000	\$ 50,000
2	Lump Sum	Trenching, sheeting, shoring, and bracing or equivalent method of protection of works in accordance with Section 6700-6708 of the California Labor Code.	5,000	\$ 5,000
3	Lump Sum	Tank roof outer ring girder rehabilitation	35,000	\$ 35,000
4	Lump Sum	Install tank mixing system	230,000	\$ 230,000
5	Lump Sum	Overflow pipe and drain modifications	25,250	\$ 25,250
6	Lump Sum	Install modifications to 20" inlet/outlet tank connection	42,000	\$ 42,000
7	Lump Sum	Install Shell Manway (Maintenance Access Hatch)	8,500	\$ 8,500
8	100 Hrs	Grinding	\$ 110 /Hr	\$ 11,000
9	Lump Sum	Install Cathodic Protection System	20,200	\$ 20,200
10	Lump Sum	Install three (3) sample taps	3,500	\$ 3,500
11	Lump Sum	Misc. Appurtenance replacements shown on drawing not part of items above.	25,500	\$ 25,500
12	Lump Sum	Prepare surfaces, furnish and apply material for a full interior coating.	600,000	\$ 600,000
13	Lump Sum	Remove and dispose of spent abrasive and interior coating residue.	26,000	\$ 26,000
14	Lump Sum	Prepare surfaces, furnish and apply material for a full exterior coating.	231,000	\$ 231,000
15	Lump Sum	Remove and dispose of spent abrasive and exterior coating residue.	28,000	\$ 28,000

16	Lump Sum	Cost associated with reporting, handling and disposal of waste material classified as hazardous.	4,900	\$ 4,900
		Total Base Bid (Sum of Bid Item No. 1 through 16, inclusive of all work incidental thereto and connected therewith		\$ 1,348,850

TOTAL BASE BID amount written in words:

one million three hundred forty-eight thousand eight hundred fifty dollars and zero cents.
 Bid amount of each of the above bid items must be filled in and completed in ink.

BLASTAO, INC.

Name of Company Submitting Bid

END OF SECTION

SECTION 00400

IRAN CONTRACTING ACT CERTIFICATION

As specified in Paragraphs 00100-7.0, PREPARATION OF BID FORMS, and 15.0, BID PRICES, pursuant to Public Contract Code section 2204, each bidder submitting a Bid in which the Total Amount set forth on its Bid Schedule is \$1,000,000 or more must also submit with its bid this IRAN CONTRACTING ACT CERTIFICATION, and the failure to submit the IRAN CONTRACTING ACT CERTIFICATION may render the bid non-responsive except as otherwise specified in Paragraph 00100-26.0, REJECTION OF BIDS.

The undersigned Bidder certifies as follows (check the applicable circumstance):

X

The company submitting the accompanying bid is not on the current list of persons engaged in investment activities in Iran created by the California Department of General Services ("DGS") pursuant to Public Contract Code section 2203(b), and is not a financial institution extending twenty million dollars (\$20,000,000) or more in credit to another person, for 45 days or more, if that other person will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS.

The company submitting the accompanying bid has previously received written permission from the District, pursuant to subdivision (c) or (d) of Public Contract Code section 2203, to submit a bid. A copy of the written permission from the District is submitted with the accompanying bid.

I, the person signing below, hereby certify that I am duly authorized to execute this certification on behalf of the Company identified below, and that I am aware that Public Contract Code section 2205 establishes penalties for providing false certifications, including civil penalties equal to the greater of \$250,000 or twice the amount of the contract for which the false certification was made; contract termination; and three-year ineligibility to bid on contracts.

Blastco Inc.
Name of Company Submitting Bid

Dale S Kulczyk
Signature for Company Submitting Bid

Dale S Kulczyk P.M.
Name and Title of Signatory

7/22/14
Date

END OF SECTION

SECTION 00410

BID GUARANTY BOND

The attached form shall be turned in with the bid as the Bid Guaranty Bond with the form signed and notarized by the surety. Alternately, the bidder may submit the following forms of bidder's security:

1. Cash
2. A cashier's check made payable to the District
3. A certified check made payable to the District

If a bid guaranty bond is submitted on a form other than that provided herein, then the alternate bid guaranty bond must meet all the requirements of the form provided herein.

If the alternate bid guaranty bond is not acceptable to the District, then the bid may be subject to rejection. The District shall be the sole judge as to whether the alternate bid guaranty bond form is acceptable.

BID GUARANTY BOND

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WE, Blastco Incorporated AS

PRINCIPAL, AND Hanover Insurance Company AS SURETY, are held and firmly bound unto the NORTH MARIN WATER DISTRICT in the penal sum of TEN PERCENT (10%) OF THE TOTAL AMOUNT OF THE BID of the Principal above named, submitted by said Principal to the North Marin Water District for the Work described below, for the payment of which sum in lawful money of the United States, well and truly to be made to the North Marin Water District to which said bid was submitted, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents, in no case shall the liability of the surety hereunder exceed the sum of \$ Ten Percent of Amount Bid (10% of A/B)

THE CONDITION OF THIS OBLIGATION IS SUCH

THAT WHEREAS, the Principal has submitted the above-mentioned bid to the North Marin Water District, aforesaid, for certain construction specifically described as follows, for which bids are to be opened at 999 Rush Creek Place, Novato, CA.

FOR: ATHERTON TANK REHABILITATION PROJECT, 1 6201.21

NOW, THEREFORE, if the aforesaid Principal is awarded the contract and, within the time and manner required under the specifications, after the prescribed forms are presented for signature, the Principal enters into a written contract in the prescribed form, in accordance with the bid, and files two bonds with the North Marin Water District, one to guarantee faithful performance, and the other to guarantee payment for labor and materials as required by law, and provide certificate of insurance coverage required by the Contract Documents, then this obligation shall be null and void; otherwise, it shall be and remain in full force and effect, and the surety shall pay said penal sum to North Marin Water District on demand.

IN WITNESS WHEREOF, we have hereunto set our hands on this 24th

day of July, 2014.

Dale S Kulczyk P.M.
Name and Title of Signatory (seal)
Dale S Kulczyk
Signature of Principal

Hanover Insurance Company
Harold Miller Jr. Attorney-in-Fact
Name and Title of Signatory (seal)
[Signature]
Signature of Surety

Best Rating: A XIV

Address 11905 Regentview Ave
Downey CA 90241

Address 440 Lincoln Street Worcester, MA 01653

Note: Signatures of those executing for the surety must be properly acknowledged.

END OF SECTION

THE HANOVER INSURANCE COMPANY
MASSACHUSETTS BAY INSURANCE COMPANY
CITIZENS INSURANCE COMPANY OF AMERICA

POWERS OF ATTORNEY
CERTIFIED COPY

KNOW ALL MEN BY THESE PRESENTS: That THE HANOVER INSURANCE COMPANY and MASSACHUSETTS BAY INSURANCE COMPANY, both being corporations organized and existing under the laws of the State of New Hampshire, and CITIZENS INSURANCE COMPANY OF AMERICA, a corporation organized and existing under the laws of the State of Michigan, do hereby constitute and appoint

William T. Krumm, Sharon A. Foulk, Karen E. Socha, Jon A. Schroeder, Arlene M. Filipski, Harold Miller, Jr.,
Kathleen Weaver, Joan B. Ward, Michael R. Pesch and/or Jodie Sellers

of Itasca, IL and each is a true and lawful Attorney(s)-in-fact to sign, execute, seal, acknowledge and deliver for, and on its behalf, and as its act and deed any place within the United States, or, if the following line be filled in, only within the area therein designated any and all bonds, recognizances, undertakings, contracts of indemnity or other writings obligatory in the nature thereof, as follows:

Any such obligations in the United States, not to exceed Twenty-Five Million and No/100 (\$25,000,000) in any single instance

and said companies hereby ratify and confirm all and whatsoever said Attorney(s)-in-fact may lawfully do in the premises by virtue of these presents. These appointments are made under and by authority of the following Resolution passed by the Board of Directors of said Companies which resolutions are still in effect:

"RESOLVED, That the President or any Vice President, in conjunction with any Vice President, be and they are hereby authorized and empowered to appoint Attorneys-in-fact of the Company, in its name and as its acts, to execute and acknowledge for and on its behalf as Surety any and all bonds, recognizances, contracts of indemnity, waivers of citation and all other writings obligatory in the nature thereof, with power to attach thereto the seal of the Company. Any such writings so executed by such Attorneys-in-fact shall be as binding upon the Company as if they had been duly executed and acknowledged by the regularly elected officers of the Company in their own proper persons." (Adopted October 7, 1981 - The Hanover Insurance Company; Adopted April 14, 1982 - Massachusetts Bay Insurance Company; Adopted September 7, 2001 - Citizens Insurance Company of America)

IN WITNESS WHEREOF, THE HANOVER INSURANCE COMPANY, MASSACHUSETTS BAY INSURANCE COMPANY and CITIZENS INSURANCE COMPANY OF AMERICA have caused these presents to be sealed with their respective corporate seals, duly attested by two Vice Presidents, this 15th day of January 2013.



THE HANOVER INSURANCE COMPANY
MASSACHUSETTS BAY INSURANCE COMPANY
CITIZENS INSURANCE COMPANY OF AMERICA

Robert Thomas, Vice President

Joe Brenstrom, Vice President

THE COMMONWEALTH OF MASSACHUSETTS)
COUNTY OF WORCESTER) ss.

On this 15th day of January 2013 before me came the above named Vice Presidents of The Hanover Insurance Company, Massachusetts Bay Insurance Company and Citizens Insurance Company of America, to me personally known to be the individuals and officers described herein, and acknowledged that the seals affixed to the preceding instrument are the corporate seals of The Hanover Insurance Company, Massachusetts Bay Insurance Company and Citizens Insurance Company of America, respectively, and that the said corporate seals and their signatures as officers were duly affixed and subscribed to said instrument by the authority and direction of said Corporations.



BARBARA A. GARLICK
Notary Public
Commonwealth of Massachusetts
My Commission Expires Sept. 21, 2018

Barbara A. Garlick, Notary Public
My Commission Expires September 21, 2018

I, the undersigned Vice President of The Hanover Insurance Company, Massachusetts Bay Insurance Company and Citizens Insurance Company of America, hereby certify that the above and foregoing is a full, true and correct copy of the Original Power of Attorney issued by said Companies, and do hereby further certify that the said Powers of Attorney are still in force and effect.

This Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of The Hanover Insurance Company, Massachusetts Bay Insurance Company and Citizens Insurance Company of America.

"RESOLVED, That any and all Powers of Attorney and Certified Copies of such Powers of Attorney and certification in respect thereto, granted and executed by the President or any Vice President in conjunction with any Vice President of the Company, shall be binding on the Company to the same extent as if all signatures therein were manually affixed, even though one or more of any such signatures thereon may be facsimile." (Adopted October 7, 1981 - The Hanover Insurance Company; Adopted April 14, 1982 - Massachusetts Bay Insurance Company; Adopted September 7, 2001 - Citizens Insurance Company of America)

GIVEN under my hand and the seals of said Companies, at Worcester, Massachusetts, this July 24, 2014.

THE HANOVER INSURANCE COMPANY
MASSACHUSETTS BAY INSURANCE COMPANY
CITIZENS INSURANCE COMPANY OF AMERICA

J. Michael Pete, Vice President

SURETY ACKNOWLEDGMENT (ATTY-IN-FACT)

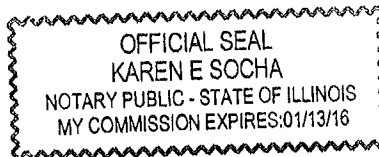
State of Illinois
County of DuPage

I, Karen E. Socha Notary Public of DuPage , County, in the State of Illinois, do hereby certify that Harold Miller Jr. Attorney-in-Fact, of The Hanover Insurance Company who is personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person, and acknowledged that he signed, sealed and delivered said instrument, for and on behalf of The Hanover Insurance Company for the uses and purposes therein set forth.

Given under my hand and notarial seal at my office in the City of Itasca in said County, this 24th day of July , 2014 .



Notary Public Karen E. Socha
My Commission expires: 1/13/2016



SECTION 00420

CERTIFICATION OF BIDDER'S EXPERIENCE AND QUALIFICATIONS

The undersigned Bidder certifies that it is, at the time of bidding, and shall be, throughout the period of the contract, licensed under the provisions of Chapter 9, Division 3, of the Business and Professions Code of the State of California, to do the type of work contemplated in the Contract Documents. Bidder further certifies that it is skilled and regularly engaged in the general class and type of work called for in the Contract Documents. In accordance with Public Contract Code Section 20103.5, any Bidder not so licensed shall be subject to all legal penalties imposed by law, including, but not limited to, any appropriate disciplinary action by the Contractor's State License Board.

The Bidder represents that it is competent, knowledgeable, and has special skills on the nature, extent, and inherent conditions of the work to be performed. Bidder further acknowledges that there may be certain peculiar and inherent conditions existent in the construction of the particular facilities which may create, during the construction program, unusual or peculiar unsafe conditions hazardous to persons and property. Bidder expressly acknowledges that it is aware of such peculiar risks and that it has the skill and experience to foresee and to adopt protective measures to adequately and safely perform the construction work with respect to such hazards.

A. ESSENTIAL REQUIREMENTS FOR QUALIFICATION

If the answer to any of questions 1 through 3 is "no", or if the answer to any of questions 4 through 7 is "yes", the Bidder will be deemed ineligible or not responsible for purposes of the Contract.

1. Bidder possesses a valid and current California Contractor's license as required for the project for which it intends to submit a bid.

Yes No

2. Bidder will comply with and provide all insurance as defined in Section 00700 Article 6.25, Liability and Insurance.

Yes No

3. Bidder has current Workers' Compensation insurance coverage as required by the Labor Code or is legally self-insured pursuant to Labor Code section 3700 et. seq.

Yes No

4. Has your contractor's license been revoked at any time in the last five (5) years?

Yes No

5. Has a surety firm completed a contract on your behalf, or paid for completion because your firm was default terminated by the project owner within the last five years?

Yes No

6. At the time of submitting this qualification form, is your firm ineligible to bid on or be awarded a public works contract, or perform as a subcontractor on a public works contract, pursuant to either Labor Code section 1777.1 or Labor Code section 1777.7.

Yes No

7. At any time during the last five (5) years, has your firm, or any of its owners or officers been convicted of a crime involving the awarding of a contract of a government construction project, or the bidding or performance of a government contract?

Yes No

B. COMPANY EXPERIENCE

For the Owner to consider the Bidder properly experienced in work of similar nature to this project, the Bidder must list at least \$2,000,000 in construction volume on no more than five (5) projects and not less than three (3) projects completed within the last ten (10) years of the following types of projects:

1. Brief Description Construction, rehabilitation or re-coating of welded steel tanks of 1 million gallons or larger storage capacity

The Bidder can include project(s) currently under construction, but only the total amount paid by the Owner(s) as of three (3) months prior to the bid date on uncompleted project(s) can be included in the construction volume for purposes of this certification. The Bidder is allowed to list up to a maximum of five (5) projects of the types listed above, that combined, will add up to at least the cost in completed volume of work listed above. Any projects listed below which are not as defined above will not be considered by the District in meeting this experience requirement.

Bidder also certifies that Bidder self-performed at least fifty percent (50%) of the Work on each of the projects listed below. The District considers this level of past self-performance demonstrates a benefit to a Project in terms of better control of cost, schedule and safety.

If the Bidder is a Joint Venture of two or more companies, each participant in the Joint Venture shall meet this prior project experience requirement and provide project information for each Joint Venture participant in the format below.

1. Project Name: Lamitas Reservoir
Owner: City of Industry
Construction Cost: \$ 402,575
Construction Time: 180 days Calendar Days
Owner's Representative: CNC Engineering / Gerry Perez
Owner's Telephone No.: (606) 333-0336
Date of Substantial Completion: 3-25-13

2. Project Name: Alamo Reservoir
 Owner: EBMUD
 Construction Cost: \$ 2,977,589
 Construction Time: 365 days Calendar Days
 Owner's Representative: Bill Hossfeld.
 Owner's Telephone No.: 510 287-1786
 Date of Substantial Completion: 12-10-2012
3. Project Name: Bayview No 2, Firetrail No 2. & Gwin
 Owner: EBMUD
 Construction Cost: \$ 3,623,645
 Construction Time: 425 ~~#~~ Calendar Days
 Owner's Representative: Joe Kacyra
 Owner's Telephone No.: 510,287-1011
 Date of Substantial Completion: 3-10-2013
4. Project Name: Rancho CA. 10 Tank Project.
 Owner: Rancho CA. Water District.
 Construction Cost: \$ 1,031,279
 Construction Time: 180 Calendar Days
 Owner's Representative: Cody Smith
 Owner's Telephone No.: 951 296-6989
 Date of Substantial Completion: April 2013
5. Project Name: G street Tank
 Owner: City of Lencore.
 Construction Cost: \$ 164,400

Construction Time: 120 Calendar Days
 Owner's Representative: David Jacobs
 Owner's Telephone No.: (559) 733-0440
 Date of Substantial Completion: March 2013

C. SAFETY QUALIFICATION CRITERIA

The following information will be used to determine if you meet the minimum safety requirements for this project. To qualify to bid and be awarded the project, the Contractor shall have a safety record that meets or exceeds one of the following safety criteria:

1. If the Contractor's three-year average Workers' Compensation Experience Modification (EMR) is equal to or less than 100%, the contractor meets the minimum safety requirements for this project;
2. If the Contractor's three-year average EMR is greater than 100%, the Contractor's three-year average Recordable Incident Rate (RIR) must not be greater than 5.5 and three-year average Lost Time Incident Rate (LTIR) must not be greater than 2.0 to meet the minimum safety requirements for this project;
3. If the Contractor only meets either the three-year average RIR or LTIR value, the Contractor shall be required to hire at no additional cost to the District a mutually acceptable safety consultant who will prepare a project specific safety plan, conduct random weekly inspections of the Contractor's activities to ensure conformance with the safety plan and prepare and submit a weekly report to the District summarizing the results of each inspection. The contractor's shall adhere to the safety plan. The contractor's activities shall be adjusted immediately to address any issues resulting from the weekly safety inspection.

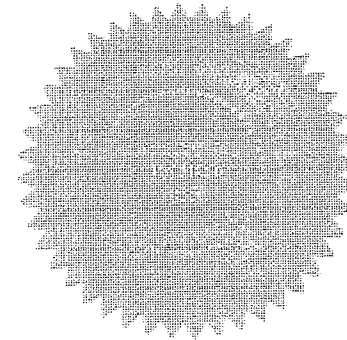
Contractors that cannot meet any of the three safety criteria above are not eligible to work for the District.

The Bidder shall list its Experience Modification Rate, Lost Time Incident Rate, and Recordable Incident Rate for the last three complete years (available from your insurance carrier).

Year	EMR	RIR	LTIR
2014 - 2015	.80		
2013 - 2014	.73		
2012 - 2013	.71		
AVERAGE: .75			

To verify the above information, the District will contact the Bidder's Workers' Compensation Insurance carrier. The Bidder shall authorize its carrier to release this information. Failure to release this information will result in the bid being non-responsive and result in automatic disqualification of the bid.

Workers' Compensation Insurance Company: CHUBB INDEMNITY INSURANCE
 Contact Person for Insurance Company: SUSAN MCCAFFREY - AGENT
 Telephone Number: (816) 395-8694



Blastco, Inc.

of
Houston, TX & Downey, CA

*has met or exceeded the requirements set forth in the
SSPC Painting Contractor Certification Program for*

**FIELD APPLICATION OF COATINGS
COMPLEX STRUCTURES
SSPC-QP1**

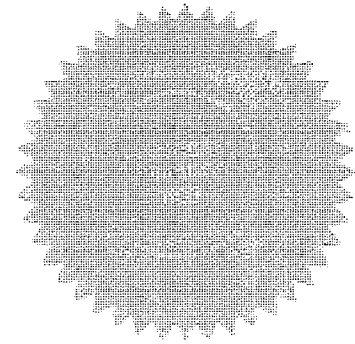


.....
President, SSPC

March 31, 2014 – March 31, 2015

.....
Validation Period

Owners are advised to contact SSPC at 412-281-2531 ext. 2255 or ext. 2209 to verify authenticity of certification.



Blastco, Inc.

of

Houston, TX & Downey, CA

*has met or exceeded the requirements set forth in the
SSPC Painting Contractor Certification Program for*



**INDUSTRIAL HAZARDOUS
PAINT REMOVAL
SSPC-QP2**

"A"

Category

President, SSPC

March 31, 2014 – March 31, 2015

Validation Period

Owners are advised to contact SSPC at 412-281-2331 ext. 2235 or ext. 2209 to verify authenticity of certification.

Signed this 22 day of July, 2014.

BLASTCO, INC.
Name of Company Submitting Bid

767974
Contractor's License No.

8/31/15
Expiration Date

Dale J. Kulczyk
Signature for Company Submitting Bid

Dale J. Kulczyk P.M.
Name and Title of Signatory

D. FINANCIAL QUALIFICATIONS

To be submitted by the three (3) lowest bidders within five (5) days following the bid opening date.

Provide evidence that the Bidder has sufficient financial resources to provide all work necessary to complete the project including construction, start-up, and warranty services.

A. Bidder must provide one or more of the following to assist the District in determining the Bidder's financial condition:

1. Copy of a reviewed or audited financial statement with accompanying notes and supplemental information. A financial statement that is not either reviewed or audited is not acceptable.
2. A certified Credit Report, current within 30 days of the date proposals are due. This credit report shall show a Dun & Bradstreet, or equal, credit risk category rating.
3. A letter from the Bidder's bank certifying their opinion of the Bidder's credit risk category rating and Bidder's current available line of credit.

B. Bidder must provide a letter from its Surety or Surety Broker which certifies that Bidder's current bonding capacity is sufficient for the bonding requirements for this Project.

C. Bidder shall identify any claims filed in court or arbitration against Bidder in the past five years which concerned Bidder's work on a construction project. For each claim, if any, the Bidder shall provide the project name, date of the claim, name of the claimant, a brief description of the nature of the claim, the court in which the case was filed and a brief description of the status of the claim (pending or, if resolved, a brief description of the resolution). Are there any pending claims against your company that should you lose the claim(s), would adversely affect your financial position or your ability to meet your obligations if awarded the contract for this project? If so, please explain.

Claims Filed Against Bidder

Project Name: NONE
Date of Claim: _____
Claimant Name: _____
Court: _____
Status of Claim: _____
Explanation: _____

Bidder shall also identify any claims filed in court or arbitration by Bidder against a project owner in the past five years concerning work on a project or payment for a contract. For each claim, if any, the Bidder shall provide the project name, date of the claim, a brief description of the nature of the claim, the court in which the case was filed and a brief description of the status of the claim (pending or, if resolved, a brief description of the resolution). Are there any pending claims filed by your company against a project owner that should you lose the claim(s), would adversely affect your financial position or your ability to meet your obligations if awarded the contract for this project? If so, please explain.

Claims Filed By Bidder

Project Name: NONE
Date of Claim: _____
Claimant Name: _____
Court: _____
Status of Claim: _____
Explanation: _____

All financial information provided by Bidder that is marked "Confidential" or "Proprietary" shall be handled by the Owner in accordance with Section 00700- 4.5.10, Public Records Act.

The undersigned hereby states that all representations regarding the Bidder's Company Experience, and Safety Qualification Information are correct and true.

Signed this 22 day of JULY, 2014.

BLASTCO, INC.
Bidder's Name

Bert Mattz
Authorized Signature

7-22-2014
Date

General Manager
Title of Signatory

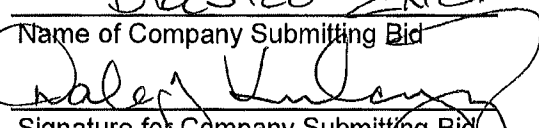
END OF SECTION

SECTION 00430

PROPOSED SUBCONTRACTORS

Pursuant to California Public Contracting Code, Section 4100 et seq., the following list gives the name, business address, and portion of work (description of work to be done) for each subcontractor that will be used in the Work if the bidder is awarded the Contract. The Bidder shall list only one subcontractor for each portion of the work (as defined by the Bidder for the purpose of listing subcontractors). (Additional supporting data may be attached to this page. Each page shall be sequentially numbered, and headed "Proposed Subcontractors" and shall be signed.) Failure to comply with these requirements will render the bid non-responsive and may be grounds for rejection of the bid.

<u>Name</u>	<u>Business Address</u>	<u>Description of Work</u>	<u>% of Work</u>	<u>¹Status</u>
Premier Tank	14625 Domart Normal, CA	Metals Fab ^s Install	12%	N/A
Corpro	5141 W. Markello Ave Glendale AZ	Cathodic Protection	2%	N/A

Blastco Inc.
 Name of Company Submitting Bid

 Signature for Company Submitting Bid
 Dale S. Kulczyk P.M.
 Name and Title of Signatory

¹Status M=Minority Owned Business Enterprise
 W=Women Owned Business Enterprise

END OF SECTION

SECTION 00440

SITE VISIT AFFIDAVIT
TO BE EXECUTED
BY BIDDER, NOTARIZED AND SUBMITTED WITH BID

(To Accompany Bid)

State of California)
County of) ss.

Brent Matteson, being first duly sworn, deposes and says that he or
(Contractor's Authorized Representative)

she is

General Manager of Blasko Inc, the party making the
(Title of Representative) (Contractor's Name)

foregoing bid, has visited the Site of the Work as described in the Contract and has examined and familiarized him or herself with the existing conditions, as well as all other conditions relating to the construction which will be performed. The submission of a bid shall be considered an acknowledgement on the part of the Bidder of familiarity with conditions at the site of Work. The Bidder further acknowledges that the site examination has provided adequate and sufficient information related to existing conditions which may affect cost, progress or performance of the Work.

Brent Matteson
Signature

Blasko Inc
Name of Bidder

General Manager
Title

7-22-14
Date

END OF SECTION

ACKNOWLEDGMENT

Title of Document: Site Visit Affidavit
Date of Document: 7-22-2014

STATE OF California
COUNTY OF Los Angeles SS:

On 7-22-2014 before me, CINDY J. GALINDO a Notary Public, personally appeared BRENT MATTESON

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Cindy J Galindo
[Handwritten Signature]

(This area for notary stamp)



SECTION 00450

SCHEDULE OF MAJOR EQUIPMENT AND MATERIAL SUPPLIER, PRODUCTS IDENTIFIED
BY NAME AND SUBSTITUTION

Bidders must designate the manufacturer/supplier of each item of equipment, materials or system included on the attached list. The Bidder shall name a manufacturer for each item and the supplier of the item if the supplier is not the manufacturer.

In accordance with California Public Contract Code Section 3400, where the project plans or specifications list products by manufacturer's name, brand or model number, such information indicates the quality and utility of the items desired and does not restrict bidders to that manufacturer's name, brand or model number, absent an express requirement that the listed product is only available from one source, or is necessary to match others in use on a particular public improvement either completed or in the course of completion. Except where expressly indicated in the plans, specifications, or this schedule that a particular brand product is only available from one source or is necessary to match others in use, when a manufacturer's name, brand or model number is listed, it shall be construed to be followed by the words "or equal" whether or not those words in fact follow the manufacturer's name, brand name or model number listed. Absent an express requirement that the listed product is only available from one source, or is necessary to match others in use on a particular public improvement either completed or in the course of completion, bidders may propose equals of products listed by manufacturer name, brand name or model number.

Complete information for products proposed as equals must be submitted to the District for review no later than 5:00 p.m. on the fifth day following the Bid opening by the low Bidder and by the second low Bidder if so requested by the District. To be considered, proposals concerning products proposed as equals must include sufficient information to permit the District to determine whether the products proposed as equals are in compliance with the requirements of the Contract Documents, and will satisfy the same performance requirements as products listed by manufacturer's name, brand or model number. Such performance requirements may include, but are not limited to, size, strength, function, and appearance, ease of maintenance and repair, and useful life requirements. Proposals concerning products proposed as equals that are submitted later than 5:00 p.m. on the fifth day following the bid opening may not be considered. Full submittal information as specified under Specification Section 01300, **SUBMITTALS**, shall be submitted following award.

The Bidder shall be responsible for any additional costs necessary for the incorporation of such substitutions.

Failure to bid products specified by manufacturer name, brand name or model number where the plans or specifications specify that a particular product is only available from one source or is necessary to match others in use, or to timely submit a proposal concerning products proposed as equals may render a bid non-responsive.

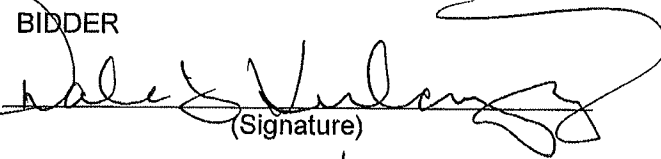
If the District should determine that a proposed "or equal" substitute does not meet the requirements of the Contract Documents, the District will provide written notice to the Bidder of such determination. Such notice will stipulate that the Bidder has five working days from the Bid opening to provide written response as to which listed manufacturer/supplier it will provide or to

submit documentation for an acceptable "or equal" substitute in either case without change in the Bid price or alternatively to request to withdraw its Bid in accordance with California Public Contract Code Section 5100 and following. If the Bidder fails to provide written response the Bidder will be required to provide the first listed manufacturer/supplier without change in the Bid price.

The following named items of major equipment and materials will be supplied by the manufacturers or suppliers as indicated by the Bidder, where no manufacturer or brand name is specified or as specified by the District. By so indicating, the Bidder warrants that the equipment and material manufactured and/or supplied by the named manufacturer or supplier will be provided on the project unless review of submittal information or performance under tests reveals that the equipment or material does not meet the Contract requirements.

If the Bidder fails to identify a manufacturer/supplier for any item shown on this list, the District has the right to waive such omission. In such case it will be assumed that the manufacturer/supplier to be used by the Bidder will be the first listed manufacturer/supplier identified for the given item under these Specifications without change in the contract price.

Equipment	Manufacturer
(List Specification Section and type of major equipment)	(Identify any sole source equipment manufacturers)
Hydrodynamic Mixing System	Tideflex
Force balanced flexible expansion joint	Flexend.
Coating manufacturer	Sherwin Williams
Dehumidification equipment	Dry Co

BIDDER

(Signature)
7-22-14
(Date)

END OF SECTION

SECTION 00480

NON-COLLUSION DECLARATION TO BE EXECUTED BY BIDDER AND SUBMITTED WITH
BID

The undersigned declares:

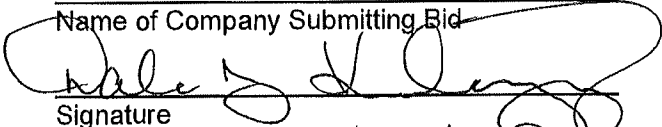
I am the Parent Manager Blastco Inc. the party making the foregoing bid. The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on 7-22-14 [date], at Downey [city], CA [state].

Blastco Inc.

Name of Company Submitting Bid


Signature

Dale S Kulezyk P.M.
Name and Title of Signatory

7-22-14
Date

END OF SECTION

BOLD, POLISNER, MADDOW, NELSON & JUDSON

ROBERT B. MADDOW
CARL P.A. NELSON
CRAIG L. JUDSON

A PROFESSIONAL CORPORATION
500 YGNACIO VALLEY ROAD, SUITE 325
WALNUT CREEK, CALIFORNIA 94596-3840
TELEPHONE (925) 933-7777
FAX (925) 933-7804
office@bpmni.com

SHARON M. NAGLE
DOUGLAS E. COTY
MICHAEL W. NELSON

FREDERICK BOLD, JR.
(1913-2003)

JEFFREY D. POLISNER
(RETIRED)

August 13, 2014

Drew McIntyre
Chief Engineer
North Marin Water District
999 Rush Creek Place
Novato, California 94948

Re: ***Atherton Tank Rehabilitation Project:***
Responsiveness of Apparent Low Bid

Dear Mr. McIntyre:

You asked that I advise the North Marin Water District ("NMWD") of our opinion as to whether the apparent low bid submitted by Blastco, Inc. is non-responsive as alleged by the bid protest letter dated July 31, 2014, which was timely submitted by the apparent second low bidder, Advanced Industrial Services (AIS). For the reasons that follow, it is our opinion that the bid submitted by Blastco, Inc. was *not* non-responsive, and accordingly that the contract may properly be awarded to Blastco., Inc., based on it having submitted the lowest responsive bid.

The basis of AIS's protest was that Blastco allegedly "has failed to turn in a complete and proper bid proposal letter" because Blastco wrote "NONE" in the line entitled "Project Name" immediately beneath the heading "Claims Filed Against Bidder" on page 00420-6. (This is the place provided for the Bidder to respond to the direction, "Bidder shall identify any claims filed in court or arbitration against Bidder in the past five years which concerned Bidder's work on a construction project.") AIS's protest letter goes on to assert, referencing "(9) claims against Blastco Inc." identified in the July 30, 2014 letter from the Painters & Allied Trades Compliance Administrative Trust ("Painters Trust"), that "Blastco Inc. has failed to list those legal claims rendering their bid incomplete." (The Painters Trust letter took a different approach, advising the District that "Blastco is not a responsible bidder" and therefore the contract "should not be awarded to Blastco.")

Based on our review of the bid, the Contract Documents, the protest letter and the letter from the Painters Trust, and Blastco's response letters, we conclude that the Blastco bid is responsive, and the allegations do not suffice to justify the conclusion that Blastco is not a responsible bidder.

As a leading case explained:

A bid is responsive if it promises to do what the bidding instructions demand. A bidder is responsible if it can perform the contract as promised. [Citation omitted.]

[¶] A determination that a bidder is responsible is a complex matter dependent, often, on information received outside the bidding process and requiring, in many cases, an application of subtle judgment. Not only is the process complex, but the declaration of nonresponsibility may have an adverse impact on the professional or business reputation of the bidder. [¶] [N]onresponsiveness on the other hand ... can be determined from the face of the bid.... In most cases, the determination of nonresponsiveness will not depend on outside investigation or information....

(*Taylor Bus Service, Inc. v. San Diego Bd. of Education* (1987) 195 Cal.App.3d 1331, 1341-1342; see *MCM Const., Inc. v. City & County of San Francisco* (1998) 66 Cal.App.4th 359, 368.)

Nothing on the face of Blastco's bid suggests any impropriety; Section 00420 of its bid was

BOLD, POLISNER, MADDOW, NELSON & JUDSON

August 13, 2014

Drew McIntyre

Re: *Atherton Tank Rehabilitation Project:*

Responsiveness of Apparent Low Bid

Page 2

complete and fully filled out. The protest letter (referencing the letter from the Painters Trust) essentially brings in information outside the bid to support the assertion that Blastco is not trustworthy because one of its answers was incorrect. As Blastco correctly pointed out, eight of the nine "claims" were not "filed in court or arbitration against Bidder," which is the type of claim that section 00420 requested that Bidders identify, and Blastco asserts that the ninth claim – the pending lawsuit – "does not involve Blastco's work on a construction project." Turning to the essence of responsibility, whether the contractor "can perform the contract as promised," Blastco asserts that it "has successfully completed previous construction projects" for the District." You have advised that this is correct.

This is sufficient to support a discretionary determination that Blastco is a responsible bidder. Indeed, a conclusion to the contrary would require that Blastco be extended certain procedural protections. In *City of Inglewood-L.A. County Civic Center Auth. v. Superior Court* (1972) 7 Cal.3d 861, the California Supreme Court has held that before a contract could be awarded to other than the lowest bidder on the basis that it was not responsible, "the public body must (1) notify the low monetary bidder of any evidence reflecting upon his responsibility receive from others or adduced as a result of independent investigation, (2) afford the bidder an opportunity to rebut such evidence and (3) permit him to present evidence that he is qualified to perform the contract. (*Id.*, at 870-871; *Taylor Bus Service, Inc.*, *supra*, 195 Cal.App.3d, at 1341.)

Finally, it bears mention that this project is subject to the increased scrutiny of the District's Labor Compliance Program. The monitoring associated with the Program should help ensure strict compliance with the Labor Code requirements that it is alleged that Blastco has violated on prior projects, thereby alleviating any concerns about Blastco's trustworthiness. In conclusion, the applicable law, as applied to the facts at hand, supports the award of the contract to Blastco, Inc., as a responsible bidder who submitted the lowest responsive bid.

Yours very truly,



Carl P.A. Nelson

North Marin Water District Project No. 1.6201.21
Atherton Tank Rehabilitation Project

Bid Items From Bid Schedule				Engineer's Estimate	Blastco		Advanced Industrial Services		Utility Services Co.	
Item No.	Qty.	Unit	Description of Items	Total Amount	Unit Price	Total Amount	Unit Price	Total Amount	Unit Price	Total Amount
1		LS	Mobilization/demobilization allowance (not to exceed 5% of total bid amount)			\$50,000		\$39,000		\$75,000
2		LS	Trenching, sheeting, shoring, ...			\$5,000		\$3,300		\$16,000
3		LS	Tank roof outer ring girder rehabilitation			\$35,000		\$27,600		\$50,000
4		LS	Install tank mixing sytem			\$230,000		\$301,000		\$250,000
5		LS	Overflow pipe and drain modifications			\$25,250		\$27,100		\$30,000
6		LS	Install modifications to 20" inlet/outlet tank connection			\$42,000		\$53,690		\$60,000
7		LS	Install Shell Manway (Maintenance Access Hatch)			\$8,500		\$9,200		\$8,000
8	100	Hrs	Grinding		\$110	\$11,000	\$134	\$13,400	\$100	\$10,000
9		LS	Install Cathodic Protection System			\$20,200		\$26,000		\$26,000
10		LS	Install three (3) sample taps			\$3,500		\$3,300		\$3,000
11		LS	Misc. Appurtenance replacements shown on drawing not part of items above.			\$25,500		\$5,400		\$25,000
12		LS	Prepare surfaces, furnish and apply material for a full interior coating.			\$600,000		\$567,000		\$685,000
13		LS	Remove and dispose of spent abrasive and exterior coating residue.			\$26,000		\$39,000		\$22,000
14		LS	Prepare surfaces, furnish and apply material for a full exterior coating.			\$234,000		\$282,800		\$295,000
15		LS	Remove and dispose of spent abrasive and exterior coating residue.			\$28,000		\$6,900		\$16,000
16		LS	Cost associated with reporting, handling and disposal of waste material classified as hazardous.			\$4,900		\$10,000		\$4,000
Total Base Bid :				\$2,200,000		\$1,348,850		\$1,414,690		\$1,575,000

Bid Forms:

"IN" Stamped before bid closing		yes	yes	yes
Bid multiplies out and sums correctly		yes	yes	yes
License - Possesses valid class A license		A, QP1 QP2	A and C33	A and C33
Bid Form - Addendums 1 acknowledged		yes	yes	yes
Bid Form - Signed by Authorized Individual		yes	yes	yes
Section 00400 - Iran Contracting Certification		yes	yes	yes
Section 00410 - Bid Guaranty Bond		yes	yes	yes
Section 00420 - Certification of Bidders Experience and Qualifications		submitted	submitted	submitted
A Essential requirements Satisfied		yes	yes	yes
B Company Experience Satisfied		yes	yes*	no**
C Safety Qualification Criteria Satisfied		yes	yes	yes
D Financial Qualifications Satisfied		submitted	not submitted	submitted
Claims by/against Bidder		none*	none*	two claims
Section 00430 - Proposed Subcontractors		yes	yes	yes
Section 00440 - Site Visit Affidavit		yes	yes	yes
Section 00450 - Schedule of Equipment / Material		complete	complete	complete
Section 00480 - Non-Collusion Declaration		yes	yes	yes
References		checked, OK	not checked	not checked

Notes:

- * Per Bidder - not checked
- ** Listed less than Less than \$2M - project volume - only adds up to ~\$1 M - lots of smaller projects in other states

Sub Contractors

Blastco Premier Tank - Metal Fab 12%, Corpro 2%
 Advanced Industrial Spiess Const. - structural 30%, American Construction and Supply 1.5%
 Utility Services Simpson sand blasting - coatings 45%

**NORTH MARIN WATER DISTRICT
WATER SYSTEM IMPROVEMENTS/SPECIAL PROJECTS
PROJECT SUMMARY**

COMPLETED BY: David Jackson
DATE: 3/18/2013

UPDATED BY: Carmela Chandrasekera
DATE: 8/13/2014

SERVICE AREA: **NOVATO**

WEST MARIN

OCEANA MARIN

Job No.	6201.21	Job Title:-Atherton Tank Rehabilitation Project	Facility Type (Pipelines, Pump Stations, etc.): TANK
Facility No. 6201			

Description:
 - Recoat interior and exterior of Atherton Tank. Perform structural strengthening of roof outer ring girder. A tank mixing system will be added. Install new flex connection at tank inlet/outlet. A second shell manway will be added and the overflow pipe to drain connection will be modified to include air gap. The half-height staff gauge will be replaced and three sample taps will be added.
 - Interior work consists of removing existing coating, none of which is anticipated to be disposed of as hazardous waste due to high zinc or lead levels, and surface preparation to SSPC-SP10, white metal blast. New interior coating consists of a single coat of NSF 61 approved 100% solids epoxy.
 - Exterior work consists of complete coating removal and replacement. Lead abatement will be required. New exterior coating consists of a 2-coat system of epoxy primer & urethane topcoat.
 - Dehumidification equipment is mandated for the interior recoating of this job.
 - Coating inspection is to be provided under the lead of an outside consultant. environmental monitoring shall be conducted during exterior lead-based paint removal.
 A new cathodic protection system will be installed.

Project Justification:
 Due to deteriorated original (circa 1973) interior and exterior coatings, high structural corrosion levels, and updated construction standards; this tank is scheduled for recoating and repairs.

Baseline Cost Estimate		Initial (3/13)	Updated (3/14)	Updated (6/14)	Updated (8/14)	Expended to Date	Baseline Schedule	Start	Finish (Est.)	Finish (Actual)
1	Project Dev.	\$13,000	\$13,000	\$13,000	\$13,000	\$13,873	Project Dev.	7/1/2013	2/1/2014	
1A	Design		\$60,000	\$60,000	\$60,000	\$61,405				
2	Mobilization / Bonds	\$60,000	\$60,000	\$60,000	\$55,000		Design	3/1/2014	6/20/2014	
3	CP System ⁴	\$30,000	\$30,000	\$30,000	\$20,200		Permitting			
4	Structural Repairs and Grinding interior surface ⁵	\$90,000	\$90,000	\$90,000	\$73,750		Procurement			
5	Int. Coating Removal & Recoat ¹	\$650,000	\$418,000	\$917,141	\$600,000		Construction	8/20/2014	5/24/2015	
5A	Roof Outer Girder strengthening		\$675,768	\$155,000	\$35,000					
6	Ext. Coating Removal & Recoat ²	\$380,000	\$380,000	\$548,000	\$234,000		Project Closeout		6/30/2015	
7	Remove & Dispose Spent Abrasive & Int / Ext Coating Residue	\$37,000	\$37,000	\$37,000	\$54,000					
8	Hazard Waste Removal Additive	\$25,000	\$25,000	\$25,000	\$4,900					
9	Mixing System	\$80,000	\$80,000	\$80,000	\$230,000					
10	Outside Inspection ³	\$75,000	\$75,000	\$90,000	\$90,000					
11	Dist Maintenance (___ man days)	\$10,000	\$10,000	\$10,000	\$50,000	\$2,435				
12	Dist Operations (___ man days)	\$10,000	\$10,000	\$10,000	\$50,000					
13	Inlet/Outlet Flex Valve	\$30,000	\$40,000	\$40,000	\$42,000					
14	Install Temp Tanks, Piping, and drain ⁶	\$10,000	\$45,000	\$45,000	\$45,000	\$44,594				
15	Miscellaneous Items ⁷	\$10,500	\$10,500	\$10,500	\$20,000	\$1,528				
16	Const. Admin.	\$25,000	\$25,000	\$25,000	\$35,000					
17	Project Closeout	\$10,000	\$10,000	\$10,000	\$15,000					
18	SubTotal	\$1,545,500	\$2,094,268	\$2,255,641	\$1,726,850					
19	Project Contingency (10%)	\$154,550	\$209,427	\$225,564	\$172,685					
Total		\$1,700,000	2,303,695	2,481,205	1,900,000	\$123,835				


Comments: Items 2,3,4,5,5A,6,7,8,9 and 13 were updated in 8/14 estimate based on Blastco bid schedule (\$1,348,850). Shown below is 6/14/estimate comments.
¹ Interior Recoat: (76,428 Ft2 * \$12.00/Ft2 = \$917,136)
² Exterior Recoat: (39,122 Ft2 * \$14.00/Ft2 = \$547,708)
³ Estimated at 600 hours @ \$150 per hour for coating inspection and environmental monitoring
⁴ Add new CP system
⁵ Appurtenances and structural repairs
⁶ Includes Labor & Materials for Temporary systems
⁷ Includes Air Gap/Drainage Inlet & Sample Taps

FY 2014 \$125,000 FY 2015 \$1,775,000

10

MEMORANDUM

TO: Board of Directors August 15, 2014

FROM: Drew McIntyre, Chief Engineer 

SUBJ: Approve Contract: Third Party Coating Inspection for Atherton Tank Rehabilitation Project – DB Gaya Consulting LLC

R:\Folders by Job No\6000 jobs\6201.21\BOD memos\6201.21 tank coating inspection BOD MEMO 8-19-2014.doc

RECOMMENDED ACTION: Authorize the General Manager to execute an agreement with DB Gaya Consulting LLC for coating inspection services on a time and expense basis with a not to exceed limit of \$37,800

FINANCIAL IMPACT: \$37,800 (plus contingency reserve of \$5,000)

BACKGROUND:

In addition to structural rehabilitation of the tank roof, the Atherton Tank Rehabilitation Project includes lead based coating removal and complete re-coating of the tank interior and exterior. To ensure quality application of the tanks' new protective coating systems, the services of a certified coating inspector is recommended. The scope of work includes but is not limited to inspecting coating removal, conducting surface assessment prior to re-coating, overseeing the surface preparation, monitoring coating product mixing, inspecting the application, documenting all daily tasks performed, verifying that work follows contract specifications and conduct interim and final testing.

The District solicited Request for Proposals (RFP) from six firms experienced with protective coating inspections. Five firms submitted proposals based on a time and materials basis.

	Firm	Hourly Rate		Total Hours	Total \$
		Regular	OT		
1	Bay Area Coating Consultants Inc., Denair, CA	\$95	\$141	450	\$42,750
2	DB Gaya Consulting LLC, Sebastopol, CA	\$70	\$100	540	\$37,800
3	KTA-Tator Inc., Concord, CA	\$73	\$98	640	\$87,168 ⁽¹⁾
4	MCS Coating Inspection Group, Paso Robles, CA	\$65	-	528	\$45,295
5	West Coast Coating Consultants, Berkeley, CA	\$65	\$85	960	\$62,400

⁽¹⁾Includes lodging charges and travel costs

DB Gaya Consulting LLC (Gaya) proposal provided the lowest estimated cost. Travel and subsistence costs are not charged to the project. They assumed nine weeks of full time inspection and nine weeks of half time inspection and the total time estimated is 540 hours (two firms had more hours and two firms had less hours estimated). From past experience of the staff, the time estimated for inspection by Gaya is realistic and fees are reasonable. The District has obtained coating inspection services of DB Gaya in the past and their services have been satisfactory.

Therefore, staff recommends awarding the inspection contract to DB Gaya Consulting LLC.

RECOMMENDATION:

Board authorize the General Manager to execute an agreement with DB Gaya Consulting LLC for coating inspection services on a time and expense basis with a not to exceed limit of \$37,800 plus an approved contingency reserve of \$5,000.

11

MEMORANDUM

ITEM #11

To: Board of Directors
From: Drew McIntyre, Chief Engineer 
Subject: 2014 West Marin Water System Master Plan – Acceptance of Final Report
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Date: August 15, 2014

RECOMMENDED ACTION: Board accept the 2014 West Marin Water System Master Plan Final Report.

FINANCIAL IMPACT: None.

BACKGROUND

The Administrative Draft of the 2014 West Marin System Master Plan was distributed to the Board at the June 24, 2014 meeting where staff highlighted the critical elements and provided key background information on the Plan. At the time of the June 24 meeting, staff solicited additional comments on the Administrative Draft prior to finalization and requested any final comments be provided to staff no later than July 15, 2014. With passage of the July 15 deadline, the review comment period was closed and staff initiated preparation of the final report.

The final report has been completed and an electronic file is enclosed for your reference. Hard copies will be made available upon request. The administrative draft was reviewed by all department heads, General Manager, Chief Engineer and the Directors. All appropriate review comments have been incorporated into the final report.

PATH FORWARD

Staff requests that the Board accept the 2014 West Marin Water System Master Plan Final Report. If there are any additional comments that result in corrections to the document, those specific pages can be modified and the old page(s) replaced with the new page(s) as appropriate. The 2014 Water System Master Plan will continue to serve as a guideline and blueprint for West Marin potable water system planning. It is staff's intent that the Plan will be updated every ten years.

Please note that acceptance of the final report does not constitute approval or acceptance of any specific project or idea contained in the report. Any capital improvement project identified in the Plan must be approved and budgeted separately through the annual District budgeting process. Accordingly, any new expenditures will be approved through the regular annual District budget preparation process.

RECOMMENDATION

That the Board accept the 2014 West Marin Water System Master Plan Final Report.

**WEST MARIN WATER SYSTEM
MASTER PLAN 2014**

FINAL

ACKNOWLEDGEMENTS

This report was completed under the supervision and guidance of the following District Officers and Department Heads:



Chris DeGabriele

General Manager



Drew McIntyre

Chief Engineer



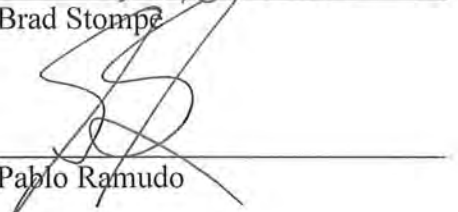
Robert Clark

Operations \ Maintenance Superintendent



Brad Stompe

Distribution / Treatment Supervisor



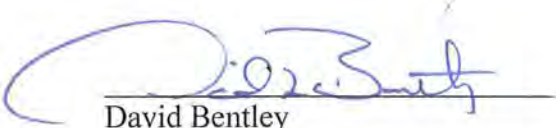
Pablo Ramudo

Water Quality Supervisor



Tony Arendell

Construction Superintendent



David Bentley

Auditor-Controller

Many District staff from all departments (too numerous to name) were involved with the preparation of the West Marin Water Master Plan, without whose help the project would not have been successfully completed.

WEST MARIN WATER MASTER PLAN
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LIST OF REFERENCES

1. Brejle and Race Consulting Civil Engineers (2001)-"West Marin Long Range Plan" - Prepared in Conjunction with North Marin Water District.
2. Jenipher Hubley, Associate Engineer (2002) - Memorandum - "West Marin Tank Seismic Retrofit Study - Seismic Analysis".
3. Soldati Engineering Services (2000) - "West Marin Storage Capacity Analysis" - Prepared for North Marin Water District.
4. SPH Associates (2005) - "Point Reyes Water Treatment Plant Upgrade Study - North Marin Water District".

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SECTION 1 INTRODUCTION

SECTION 1

INTRODUCTION

1.1 PURPOSE OF STUDY

The North Marin Water District (NMWD) has prepared this 2014 update of the West Marin Water System Master Plan to guide immediate and planned future system improvements. The West Marin Water System serves primarily the Point Reyes Station (PRS), Olema, Bear Valley, Inverness Park and Paradise Ranch Estates (PRE) communities and parcels later annexed in to the PRS and PRE-improvement district within NMWD's West Marin service territory in Marin County, encompassing approximately 24 square miles. The West Marin Service Area boundary is shown on Figure 1-1.

The previous West Marin Long Range Plan was prepared in 2001 by Brelje & Race Consulting Civil Engineers. This Master Plan Update identifies necessary system improvements for both current operation and as water demands increase in the future. The Master Plan Update includes a proposed Capital Improvement Plan that identifies the improvement projects and required funding throughout the planning period through FY 2035.

Projects contained in the Capital Improvement Plan are separated by budget category utilized in the District budgeting process. Projects are identified for the following categories.

- Pipeline Replacement/Additions (Category #1)
- System Improvements (Category #2)
- Pt Reyes Treatment Plant Improvements and Other Improvements (Category #3)
- Storage Tanks/Pump Stations (Category #4)

Proposed projects related to water conservation are beyond the scope of the master plan and are not included herein.

1.2 MAJOR MODIFICATIONS SINCE 2001 LONG RANGE PLAN

The 2001 West Marin Long Range Plan was undertaken by the District in an attempt to develop a long-range strategic plan for identifying and implementing necessary capital improvement projects in the water transmission and distribution system. The effort, including consolidation of various recent planning efforts, a procedure and approach for developing current water consumption by zone, and for monitoring new development within the District boundaries and projecting water demands through buildout. The result of the work was a Capital Improvement Plan that identified a phased plan for implementing recommended improvement projects.

The 2014 Master Plan Update built on the original Long Range Plan with updated historical water production records, updated development forecast and water demand projections. In addition, limited hydraulic analysis was added to evaluate distribution system performance and an asset management section was added to summarize the District's efforts to collect data on existing infrastructure and create a reasonable plan to replace aging facilities.

1.3 SCOPE OF PROJECT

The scope of work consisted of several discrete tasks that covered a particular portion of the study. The following major tasks were performed for this project:

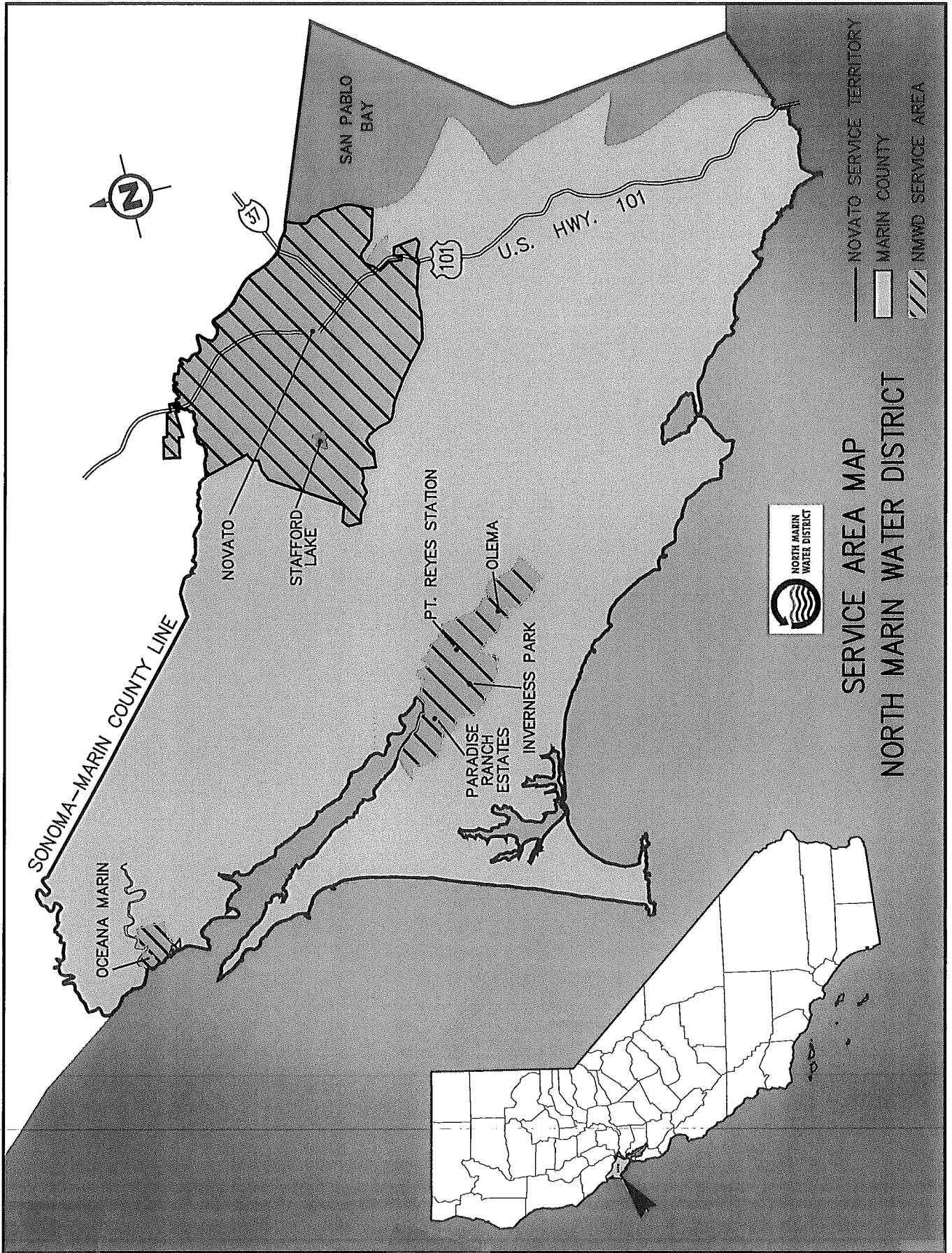


FIGURE 1-1

- Task 1 – Research Existing Materials
- Task 2 – Establish Planning and Evaluation Criteria
- Task 3 – Update Water Supply System Planning Discussion
- Task 4 – Limited Hydraulic Modeling
- Task 5 – Update Water Demand Projections
- Task 6 – Perform Storage and Pumping Capacity Evaluation
- Task 7 – Perform Hydraulic Evaluation
- Task 8 – Evaluate Water Quality
- Task 9 – Evaluate Facility Replacements
- Task 10 – Develop Capital Improvement Program
- Task 11 – Prepare Master Plan Report

1.4 PROJECT TEAM

The project was performed as a collaborative effort between District staff. Associate Engineer Carmela Chandrasekera has served as the overall Project Manager for preparation of the 2014 Master Plan with Pablo Ramudo (Water Quality Supervisor) providing the section on Water Quality Evaluation (Section 6) and Robert Clark (Operations/Maintenance Superintendent) providing the Asset Management (Section 8). Other staff members have participated in the project through interviews and input in revisions of specific chapters. Each discipline and department within the District has been represented as part of the project team and each section has been updated to reflect current data and information.

1.5 LIST OF ABBREVIATIONS

The following abbreviations were utilized in the report and are defined below.

Abbreviation	Definition
AC, ACP	Asbestos Cement Pipe
ADPM	Average Day Peak Month
AF	Acre Feet
AFA	Annual Acre Feet
AM	Asset Management
AOC	Assimilable Organic Carbon
APT	Apartment
AVE, AVG	Average
AWWA	American Water Works Association
CC	City/County Coordination
CI	Cast Iron
CIP	Capital Improvement Plan

Abbreviation	Definition
Cl ₂	Chlorine
COP	Copper
DBP	Disinfection By-Products
DBPR	Disinfection By-Product Rule
DCMS	Distributed Control and Monitoring System
DPH	California Department of Health Services
DIP	Ductile Iron Pipe
DP	District Planning
DU	Dwelling Unit
EDU	Equivalent Dwelling Unit
fps	feet per second
Ft	Foot, feet
FY	Fiscal Year
GAC	Granular Activated Carbon
Gal	Gallons
GHG	Green House Gas
GIS	Geographic Information System
Gpd	Gallons per day
Gpm	Gallons per minute
HA	Hydraulic Analysis
HAA	Haloacetic acids
HDPE	High-Density Polyethylene
HGL	Hydraulic Grade Line
HP	Horsepower
In	Inch
ISO	Insurance Services Organization
kW	Kilowatt
LIMS	Laboratory Information Management System
LTESWTR	Long-term Enhanced Surface Water Treatment Rule
M/DBP	Microbial/Disinfection By-Product
MCL	Maximum Contaminant Level
mg	Million gallons
mg/l	Milligrams per liter
mgd	Million gallons per day
MH	Mobile Home
MMWD	Marin Municipal Water District
MOU	Memorandum of Understanding
ND	Non-detectable
MCFD	Marin County Fire Department
NMWD	North Marin Water District
PB	Polybutylene (Plastic)
PG&E	Pacific Gas and Electric
POU	Point-Of-Use

Abbreviation	Definition
PR	Pressure Regulator
PS	Pump Station
psi	pounds per square inch
PVC	Poly Vinyl Chloride (Plastic)
RAA	Running Annual Average
RCP	Reinforced Concrete Pressure Pipe
SCADA	Supervisory Control and Data Acquisition
SF	Single Family
SP	Storage and Pumping Capacity Analysis
SS	Stainless Steel, Sanitary Sewer
STL	Steel
SWTR	Surface Water Treatment Rule
TDH	Total Dynamic Head
THC	Townhome / Condominium
THM	Trihalomethane
TOC	Total Organic Carbon
TTHM	Total Trihalomethane
ug/l	Micrograms per liter
USEPA	United States Environmental Protection Agency
WQ	Water Quality
WTP	Water Treatment Plant
WUI	Wildland Urban Interface

**SECTION 2
PERFORMANCE AND
EVALUATION CRITERIA**

SECTION 2

PERFORMANCE AND EVALUATION CRITERIA

2.1 INTRODUCTION

The performance and evaluation criteria used to evaluate the West Marin Water System are presented in Section 2.

In order to perform the required hydraulic evaluation of the existing and buildout water distribution system, conduct storage and pumping capacity evaluations and develop the Capital Improvement Plan, it is necessary to identify the evaluation criteria that will enable identification of deficiencies and to judge the effectiveness of alternative improvements. Performance and evaluation criteria include:

- Water demand peaking factors for average day peak month (ADPM), maximum day (MDD) and peak hour (PHD) demands for use in developing current and buildout water demands
- Water system operating criteria, including minimum and maximum distribution system pressures and minimum and maximum pipeline velocities and head loss under various demand scenarios
- Storage capacity goals
- Pumping capacity goals
- System reliability goals

The performance and evaluation criteria are summarized in Table 2-1 and further described herein.

**Table 2-1
Performance and Evaluation Criteria**

Item	Criteria
Peaking Factors	<ul style="list-style-type: none"> • Average day peak month (ADPM) demand = annual average day x 1.45 • Maximum day demand (MDD) = ADPM x 1.43 (or annual average day x 2.11) • Peak hour demand (PHD) = MDD x 1.9 (or annual average day x 4.0)
Minimum pressure	<ul style="list-style-type: none"> • 40 psi under average day demand • 30 psi under maximum day demand • 20 psi at fire hydrant under fire flow event
Maximum pressure	<ul style="list-style-type: none"> • 80 psi (services with greater static pressure require a pressure regulator)
Maximum pipeline velocity	<ul style="list-style-type: none"> • 8 fps under average day demand • 10 fps under maximum day or fire flow demand
Maximum pipeline head loss	<ul style="list-style-type: none"> • 3 feet per 1000 feet under average day demand • 10 feet per 1000 feet under maximum day demand
Fire flow/storage goals	<ul style="list-style-type: none"> • 2,000 gpm for 2 hours in Point Reyes Station and 1,000⁽¹⁾ gpm for two hours in all other service zones.
Storage capacity goals	<ul style="list-style-type: none"> • Storage capacity goal per zone is the sum of operational storage and the greater of the emergency storage or the fire storage volume • Operational storage = 25% of maximum day demand • Fire storage = see above • Emergency storage = 100% of maximum day demand
Pumping capacity goals	<ul style="list-style-type: none"> • Station firm capacity is equal to maximum day demand pumped over 16 hour duration • Firm capacity = station capacity with largest pump out of service • Pump stations sized for firm capacity equal to maximum day demand

(1) - A minimum goal of 500 gpm for 2 hours will be used in remote locations where the 1,000 gpm goal would be cost prohibitive.

2.2 WATER DEMAND PEAKING FACTORS

Peaking factors represent the increase above the average annual demand experienced during a specified time period. The various peaking conditions are statistical concepts or numerical values obtained from a review of historical data and, at times, tempered by engineering judgment. The following peaking conditions are of particular significance to hydraulic analysis of the water system.

The peaking factors shown in Table 2-1 are averages obtained from the historical water production data as shown in Table 4-1 in Section 4. The development of the peaking factors shown in Table 2-1 is presented in Section 4.

2.3 HYDRAULIC NETWORK MODELING

Hydraulic modeling was not performed during the 2001 West Marin Long Range Plan. Limited flow modeling was performed during the 2014 Master Plan for each individual tank pressure zone to analyze pipeline sizing or storage deficiencies. A description of the model preparation and proposed use of the model is included in Section 7.

2.4 WATER SYSTEM OPERATING CRITERIA

The following operating criteria is used to evaluate system operation and hydraulic analysis.

2.4.1 Distribution System Pressure

In accordance with District Regulation 11, the minimum pressure under normal operation for the West Marin Water System is 40 psi measured at the service meter or building pad. Service connections with less than 40 psi pressure are designated "low-pressure services" and will be furnished only in accordance with Regulation 11.

In accordance with District Regulation 12, the maximum pressure under normal operation for the West Marin Water System is 80 psi measured at the service meter or building pad. Service connections with greater than 80 psi are designated "high-pressure services" and will be furnished only in accordance with Regulation 12. Services with normal static pressure greater than 80 psi are required to install a privately owned pressure regulating device. The maximum design pressure in distribution system pipelines is 150 psi, unless special conditions mandate otherwise.

In evaluating the water system hydraulic operation, the minimum allowable pressure under maximum day demand conditions is 30 psi and the minimum residual pressure at the fire hydrant under fire demand conditions is 20 psi.

2.4.2 Pipeline Flow and Velocity

Distribution system pipelines are generally sized to carry the greater of: 1) peak hour demand; or 2) maximum day demand plus fire flow. The minimum pipeline diameter is 6 inches per District Regulation 21. However, the West Marin Distribution system still has 2-inch and 4-inch mains that were installed prior to NMWD purchasing the water system from Pt Reyes Station Water Company and the Inverness Park Water Company in the 1960's. All pipe segments with a single fire hydrant shall be a minimum of 6 inches diameter (although some existing fire hydrants are on 4-inch laterals).

Other criteria related to the distribution system piping include maximum and minimum velocity and the maximum allowable friction head loss. Pipeline velocity should be limited to approximately 8 feet per second under normal operation. Velocities could increase to approximately 10 fps without damage if not sustained for long periods. There is no minimum velocity requirement in water system design, except that stagnant flow in dead ends is discouraged as water quality suffers.

In most situations, as long as the maximum velocity and pressure criteria are not violated, high head loss by itself is not an important factor. However, a pipe segment with high head loss may serve as a warning that the pipe is nearing the limit of its carrying capacity and may not have excess capacity to perform during peak demand conditions. It is normally good practice to limit head loss to no greater than 10 feet per 1000 feet under maximum day demands or fire flow conditions. Head loss should be limited to approximately 3 feet per 1000 feet under average day demand conditions.

2.5 WATER SUPPLY FACILITIES

Typically, water supply sources must be large enough to meet the various water demand conditions and also be able to meet some demand during emergencies such as power outages and natural disasters. Ideally, water supply sources should meet the maximum day demand. The diurnal fluctuations during the maximum day demand are handled by gravity storage capacity.

2.6 STORAGE FACILITIES

The detailed storage capacity evaluation will be presented in Section 5. The following criteria will serve as a guideline for the analysis.

Storage capacity goals for each zone consist of three components:

- Operational storage volume
- Fire storage volume
- Emergency storage volume

The sum of these three components is the typical total storage capacity used in larger water systems. However, in the 2001 West Marin Long Range Plan, the total storage was calculated as the sum of the operational storage (25% of MDD) and the greater of the emergency storage (100% MDD) or the fire storage volume. The criterion used in the 2001 Long Range Plan will be used for this Master Plan as well (as summarized in Table 2-1). The total storage capacity goal is compared to the existing storage capacity to determine if a surplus or deficit exists within the zone.

2.6.1 Operational Storage Volume

Operational storage volume is the amount of storage capacity in a system to absorb fluctuations of demand versus supply. Ideally, water supply sources are sized to provide the maximum day demand, with gravity storage capacity delivering the remainder during peak demand periods. With adequate operational storage capacity, system pressures are stabilized and adequate storage capacity can be provided for fire and emergency use. In accordance with AWWA guidelines, operational storage capacity is assumed to be 25 percent of the maximum day demand for each pressure zone.

2.6.2 Fire Storage Volume

Fire storage volume is provided for fire-fighting purposes to allow gravity flow in the event the source flow is interrupted. Fire storage volumes vary and are based on the specified fire flow rate for a specified duration as described above.

Fire flow rates are normally based on the requirements of the local Fire Marshal and Insurance Services Office (ISO) requirements. Fire flows are defined as a specified flow rate for a specified duration of time based on the structure size, type of building construction and land use.

The District and the Marin County Fire Department (MCFD) have cooperatively developed fire flow and fire storage capacity goals throughout the West Marin Water System Service Area. The most recent correspondence between the MCFD and the District is provided in Appendix A-1. The MCFD has indicated a minimum fire flow goal of 2,000 gpm for a duration of 2 hours in the Point Reyes Station Area, and 1,000 gpm for a duration of two hours in other service zones.

Based on the representative land use in each of the pressure zones, previous District experience, and in collaboration with the Marin County Fire Department, the District has adopted the following fire flow rates and fire storage volume goals for each pressure zone shown in Table 2-2.

Fire flow goals represent flows over a specific duration for the purpose of determining fire storage capacity. It is desirable to provide the fire flow goal everywhere in the distribution system; however, there are many locations within the system that cannot meet the fire flow goals due to small diameter pipelines or the particular piping configuration in that vicinity. It is not always possible to make improvements for all locations that cannot meet the updated fire flow goals.

**Table 2-2
Fire Flow and Fire Storage Volume Goals**

Service Area	Pressure Zone	Area Type	Fire Flow Standard	Fire Storage Goal
Pt. Reyes	1	Comm/Res	2000 gpm for 2 hrs	240,000
Inverness Park	1	WUI	1,000 gpm for 2 hrs	120,000
Paradise Ranch Estates	1,2,3,4	WUI	1,000 gpm for 2 hrs	120,000
Bear Valley	1	WUI	1,000 gpm for 2 hrs	120,000
Olema	1	WUI	1,000 gpm for 2 hrs	120,000

2.6.3 Emergency Storage Volume

Emergency storage volume is the storage volume available to meet demand during emergency situations such as pipeline failures, major trunk main failures, pump failures, electrical power outages or other natural disasters. The volume of water allocated for emergency use is determined by historical record of emergencies experienced and by the amount of time which is expected to lapse before the emergency can be corrected. The amount of emergency storage volume included within a particular water system is District-specified, based on an assessment of risk and the desired degree of system reliability. In California, emergency storage volumes range from 25 percent of average day demand to over 100 percent of maximum day demand. The lower criterion would apply to systems with a single pressure zone, adequate and reliable water supply sources (usually with emergency power), and redundant sources. If some, or all, of these criteria do not apply, it is appropriate to use a higher figure.

The District's normal criterion is one maximum day demand for each pressure zone to be reserved as emergency storage capacity.

In West Marin, historically, the District had utilized a total storage capacity criterion equal to two days of maximum day demand. In the 2001 West Marin Long Range Plan, the total storage was calculated as the sum of the operational storage (25% of MDD) and the greater of the emergency storage (100% MDD) or the fire storage volume. The 2001 criterion will be used as the storage capacity goal for this Master Plan as well.

2.7 PUMPING FACILITIES

Providing adequate storage capacity is only one distribution system element that benefits system operation. Adequate pumping capacity must also be provided to enable the storage tank to recover depleted volume in a reasonable time period. Undersized pumps may reduce the effectiveness of storage capacity. An analysis of the pumping capacity is presented in Section 5.

Booster pump stations feeding the higher pressure zones are normally sized to pump the maximum day demand. In order to account for outages and routine maintenance procedures, the District has adopted a criterion that all booster pump stations must have adequate capacity to pump the maximum day demand over a 16-hour interval. Each station should have enough firm capacity to meet the maximum day demand over the 16-hour interval. This results in a reserve duration of eight (8) hours for unplanned contingencies such as power interruptions, pipeline breaks, etc. Firm capacity is defined as the station capacity with one pump out of service. The District's goal is to have at least two pumps at each booster pump station.

2.8 RELIABILITY CRITERIA

Reliability criteria have been established for the major facilities and operation of the water system to provide a level of reliability for the system.

2.8.1 Water Sources

It is preferable to have more than one source of water supply for a water system to provide flexibility should one source be lost. In 2008, CDPH adopted revised Waterworks Standards that require new groundwater based systems to have a minimum of two approved sources. NMWD historically has relied on the two Pt Reyes Wells (aka Coast Guard Wells) located to the south of its Pt Reyes Treatment Plant (PRTP) to supply water for the West Marin service area.

Due to the wells' location in the lower tidal reach of Lagunitas Creek, they are subject to periodic salinity intrusion and occasional flooding. The District is working on having more than one source of water supply to the West Marin Water System. A pipeline connecting the Gallagher Well to the PRTP will be installed in 2014. Once the Gallagher well is connected to the West Marin service area, it will provide the second source of supply.

2.8.2 Booster Pump Stations

District standard design practice is to have at least two pumps at each booster pump station. Additional reliability is designed into the design criteria which limit pumping capacity to a 16-hour window in order to account for outages, mechanical problems and issues of this nature. Although standby power is not required at each station, the District has made provisions for emergency standby power. A portable power generator is available that can be used in the case of a local power failure.

2.8.3 Storage Tanks

Water storage capacity provides for gravity supply of water demand if a pump station is off-line or out of service. The District prefers to have at least two storage tanks for each pressure zone to allow one tank to remain in service while one is taken out of service for maintenance or repairs. All new tanks are designed to meet seismic codes and requirements. Existing tanks not meeting current seismic requirements have been evaluated and the seismic upgrade recommendations are further discussed in Section 9. A Seismic study of West Marin tanks was performed in 2002 (job 2.8713).

2.8.4 Distribution System Pipelines

The distribution system should be adequately looped to minimize dead ends and promote good water circulation. Ideally, there should be at least two paths for water delivery at all locations in the system. Looping is especially important for those areas that do not have storage facilities in the immediate vicinity. However, the system is not looped adequately other than in the Pt Reyes Station zone due to the topography of the area.

Isolation valves should be located to allow shutdown of pipe segments enabling routine maintenance and emergency repairs which impact the fewest customers.

**SECTION 3
EXISTING WEST MARIN
WATER SYSTEM**

SECTION 3

EXISTING WEST MARIN WATER SYSTEM

3.1 INTRODUCTION

Section 3 describes the existing distribution system facilities of the North Marin Water District (NMWD, District) West Marin Water System and presents a general overview of system operation.

3.2 WEST MARIN WATER SYSTEM OVERVIEW

The West Marin Water System serves primarily the Point Reyes Station (PRS), Olema, Bear Valley, Inverness Park and Paradise Ranch Estates (PRE) communities and parcels later annexed in to the PRS and PRE-improvement district within NMWD's West Marin service territory in Marin County, encompassing approximately 24 square miles. The West Marin Service Area boundary is shown on Figure 3-1.

As of June 30, 2013, the West Marin Service area had approximately 776¹ active service connections serving approximately 811¹ dwelling units. The estimated service area population is 1,700¹.

3.3 WATER SUPPLY SOURCES

The North Marin Water District water supply for the West Marin Service area is currently derived from a single source, from two wells (Well Nos. 2 and 4) located on the Coast Guard housing facility property in Point Reyes Station and adjacent to Lagunitas Creek. Prior to installation of Well No. 4 in 2013, a total of three supply wells had been in place. Historically, at any one time, only two of these wells had been in service. These wells were identified as Well Nos. 1, 2 and 3. All the wells are installed in close proximity to each other. Well No. 1 was abandoned in 2002 by grouting with concrete. Well No. 4 was installed in 2013 as a replacement well for Well No. 3 due to decrease in the water production capacity from Well No. 3. Well No. 3 is no longer active and is now used as a monitoring well for measuring the depth of groundwater. Due to the Coast Guard Wells' location in the lower tidal reach of Lagunitas Creek, they are subject to periodic salinity intrusion and occasional flooding.

In 1993, Gallagher well was constructed 1.3 miles northeast of Highway 1 within the Gallagher Ranch for use as an emergency source. It is located upstream of any flooding and tidal reach of Lagunitas Creek but not connected to the West Marin Water System. NMWD plans to use Gallagher Well as the source during periods of salinity intrusion and flooding when Coast Guard Wells cannot be operated. A project to connect the Gallagher Well to the Point Reyes Treatment Plant by installing approximately 5,300 ft of pipeline is scheduled to be completed in calendar year 2014 funded by using a California Department of Public Health Prop 50 grant. The Gallagher Well pipeline will connect the well with an existing 6-inch pipeline near the abandoned Downey well site which extends to the PRTP.

NMWD abandoned the use of Downey Well that was located within the Lagunitas Creek stream channel in 2007. The well was originally constructed on the bank of the stream, but the creek has migrated and captured the wellhead. This well produced water with poor water quality.

¹Source: NMWD Annual Report FY 2013

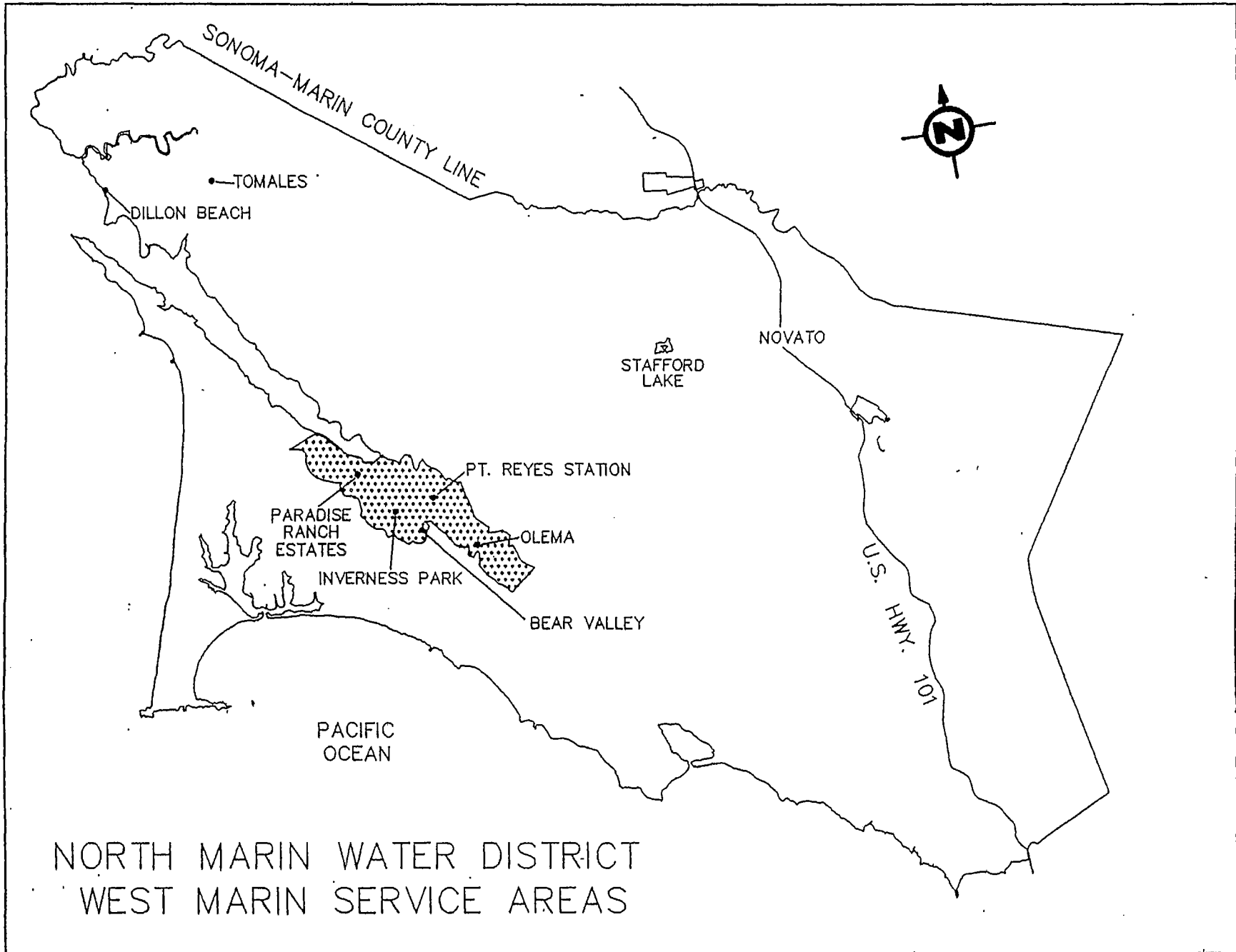


FIGURE 3-1

From 1994 to 2007, this well was used to deliver raw water to the Giacomini Ranch for irrigation. Proposed water supply source locations in West Marin are shown in Figure 3-2.

3.3.1 Coast Guard Wells

The North Marin Water District Point Reyes potable Well Nos. 2 and 4 (Coast Guard Wells) are located on U.S. Coast Guard Property at 101 Commodore Webster Drive, Point Reyes Station, Marin County, California. As shown on the attached Figure 3-2, the Coast Guard well site is located on a grassy flat below residential units on the Coast Guard's Point Reyes Housing Unit. The site is west of Lagunitas Creek. The water from the two existing wells at this well site is pumped by individual 30 HP pumps to the nearby Point Reyes Water Treatment Plant (PRTP) where the water is treated and distributed to the West Marin Service Area. Well Nos. 2 and 4 have respective capacities of 250 gpm and 300 gpm. When both pumps are running at the same time, the combined capacity reduces to a total of 420 gpm.

3.3.2 Gallagher Well Supply

NMWD historically has relied on the two Coast Guard Wells located to the south of its Pt Reyes Treatment Plant (PRTP) to supply water for the West Marin service area. Due to the wells' location in the lower tidal reach of Lagunitas Creek, they are subject to periodic salinity intrusion and occasional flooding. In contrast, the Gallagher well, which was drilled in 1993 as an emergency water source, is upstream of any flooding and tidal reach of Lagunitas Creek. The District is constructing a new 12-inch pipeline so that the existing well is connected to NMWD's PRTP. The capacity of the existing Gallagher well is approximately 120 gpm and construction of additional well(s) is planned in the future.

The Gallagher Well and the new pipeline will provide a second reliable water source that not only addresses salinity intrusion and flooding issues with NMWD's existing Coast Guard Wells but also complies with CDPH Waterworks Standards Section 64554 which states that, community water systems using only ground water shall have a minimum of two approved water sources.

Gauging Station

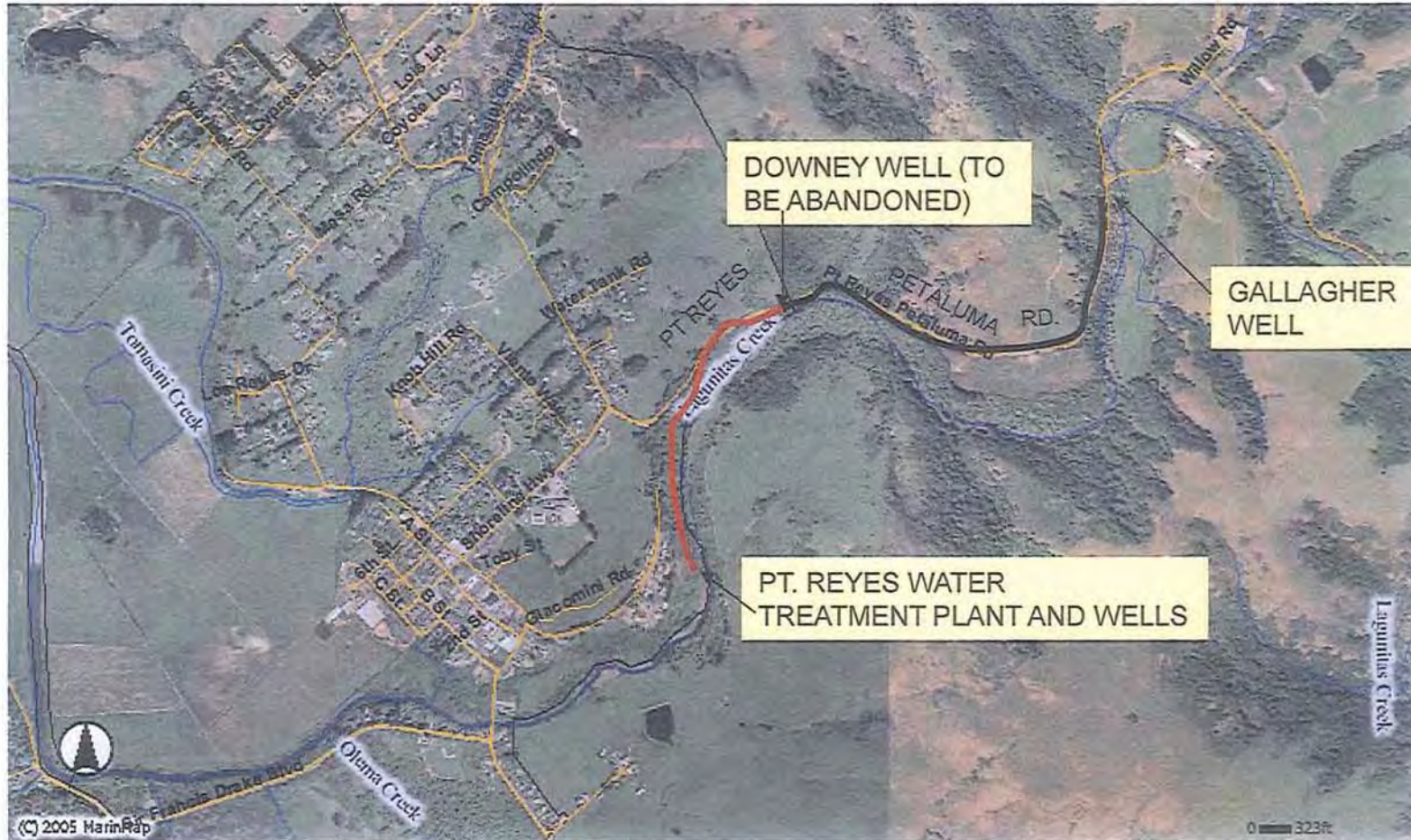
An existing stream gauging station is located between Point Reyes-Petaluma Road and Lagunitas Creek immediately north of the Gallagher Ranch driveway.

In order to gauge the effect of the water drawdown from the well on stream flow downstream of the area where the existing and the new Gallagher Well would be located, an auxiliary (temporary) gauge was installed in 2013 at a location about 1,200 feet south of the existing Gallagher Well. The testing showed that Gallagher Well production was limited to 120 gpm and the drawdown had no significant effect on the downstream flow.

3.4 Existing Water Rights

NMWD diverts water from Lagunitas Creek through a Water License and two Water Right Permits. Water License 4324B allows NMWD to divert water between May 1 and November 1 of each year at a rate not exceeding 0.67 cubic feet per second (cfs) for a maximum diversion of 148.8 acre-feet per year. Approved points of diversion for License 4324B include the Coast Guard Wells, Downey Well, and the Gallagher Well.

Fig 3-2 West Marin Supply Sources



LEGEND:

NEW 12" MAIN - 


EX. 6" MAIN - 

FIGURE 3-2

The Water Right Permit 19724 allows diversion of 0.699 cfs (maximum of 212.7 acre-feet diverted) on a year-round basis. Water Right Permit 19725 allows a maximum diversion of 0.961 cfs (292.5 acre-feet maximum) on a year-round basis. The water rights under these two Permits are junior rights that are not available during the summer months (July through October) of dry years. A dry year is defined as a year in which the total precipitation that occurs from October 1 through April 1 is less than 28 inches as measured at the Marin Municipal Water District's Kent precipitation gauge. The Permits authorize diversion from the Coast Guard Wells, Downey Well and Gallagher Well site.

To meet water demand in dry years when water cannot be diverted from Lagunitas Creek due to the restrictions described above, NMWD has an Intertie Connection Agreement with the Marin Municipal Water District (MMWD) to release up to 250 acre-feet of water from Kent Lake.

Dedication of Water for In-Stream Uses

As allowed under California Water Code Section 1707, the purpose of use for Water Right Permit 19724 includes instream use for fish and wildlife preservation and enhancement. The Permit allows diversion of 212.7 acre feet of water per year (at a maximum rate of 0.699 cubic feet per second). NMWD petitioned the State Water Resources Control Board (SWRCB) to change the place of use and purpose of use for 0.699 cubic feet per second (cfs) of water diverted from Lagunitas Creek under Water Right Permit 19724 for municipal uses in the NMWD West Marin Service Area for the purpose of preserving and enhancing wetland habitat, and fish and wildlife resources in Lagunitas Creek pursuant to Water Code Section 1707. The new place of use is defined as instream flows for the protection, preservation, restoration and recovery of aquatic organisms, including but not limited to coho salmon and steelhead trout pursuant to Recovery Planning measures to be developed under the Memorandum of Understanding Among National Marine Fishery Service, California Department of Fish and Game, Army Corps of Engineers, Fish Net4C, counties of Mendocino, Sonoma, Marin, San Mateo, Santa Cruz and Monterey and the County of Humboldt as executed on May 16, 2002. This was approved in February 2013.

3.5 CLIMATE PROTECTION MANAGEMENT PLAN

Climate change is a global phenomenon with local implications. Local and regional actions can affect the overall amount of greenhouse gas emitted, and the District pledges its support to reduce greenhouse gases and improve air quality.

The District has embarked on a program to increase awareness of the affects its operation has on greenhouse gas emissions. Over the past five years, the GHG Emission Reduction Program has included participation in the Marin Clean Energy program with greater than 50% of its power supplied from carbon free emissions, staff training on truck & equipment idling operation, efficient vehicle operation and employee commute options. Operational efficiencies have been implemented at all NMWD pump stations and in new fleet & materials purchases utilizing the most energy-efficient products.

With these improvements, the District has been able to meet the California Assembly Bill 32 (AB32) 2010 targets for emission reduction for both the fleet and electricity uses. The District continues to seek opportunities to reduce greenhouse emissions through programs and philosophies, including the following:

- Utilizing high efficiency pumps and motors at pumping plants.
- Investigate opportunities to reduce energy usage at District facilities.
- Install solar power panels to generate power for District-owned facilities.
- Investigate upsizing transmission mains to reduce overall pumping requirements and reducing energy usage.
- Participate in regional Climate Protection Mitigation Management programs, particularly those with Marin County, Sonoma County and other bay area governments.
- Investigate the possibility of 100 percent energy self-sufficiency.
- Investigate the potential impacts to District facilities from a possible three foot sea level rise by 2050 and a 15 foot sea level rise by 2100.
- Include climate impacts in all CEQA documents for future projects.
- Purchase "Deep Green" power through the Marin Clean Energy Program.

3.6 WATER CONSERVATION

NMWD maintains a comprehensive and innovative Water Conservation Program aimed at improving water use efficiency for residential, commercial, and large landscape customers. Each water conservation program element is analyzed to assure that it will efficiently produce long-lasting water savings, mutually worthwhile to the customer and the District.

Focused residential activities include residential water use surveys (Water Smart Home Survey), high efficiency washing machine rebates, Ultra Low Flush Toilet (ULFT) rebates, High Efficiency Toilet (HET) rebates, a Cash-for-Grass Program (turf removal rebate), Conservation Incentive Rates, flapper rebates, weather based irrigation controller rebates, and a plumbing retrofit on resale program (toilets, showerheads, and bathroom sink aerators). Commercial water conservation programs include High Efficiency Toilet (HET) rebates, high efficiency washing machine rebates, and free water audits/surveys.

The public outreach program includes direct mail newsletters, bill text, newspaper advertisements and articles, and a variety of other customer outreach campaigns. The outreach program is designed to increase customer participation in the various programs offered by the District and fosters customer awareness of water supply issues.

NMWD requires new development to meet some of the most stringent water use standards in the nation, including installation of a high efficiency washing machine, high efficiency toilets, weather based irrigation controllers, a maximum of 400 square feet of turf for residential development and no turf for commercial development, drip or other subsurface irrigation for all irrigated non-turf areas and other landscape requirements consistent with the State model Water Efficient Landscape Ordinance (WELO).

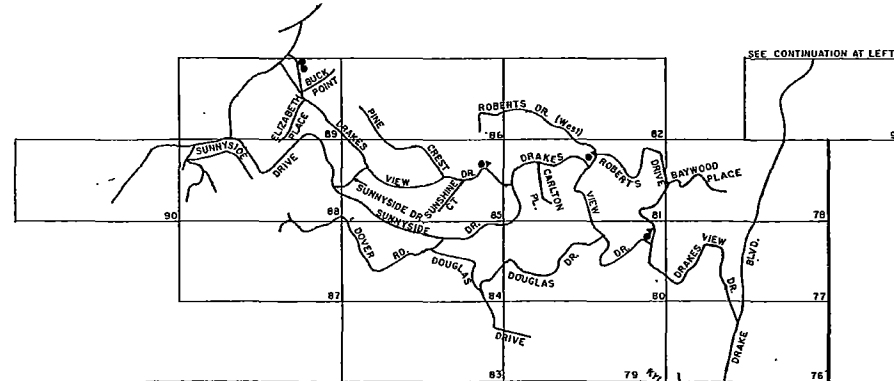
3.7 DISTRIBUTION SYSTEM CHARACTERISTICS

The distribution system facilities for the West Marin Water System are described below. The distribution system piping and major facilities are shown on Figure 3-3. A schematic of the West Marin water system is shown on Figure 3-4.

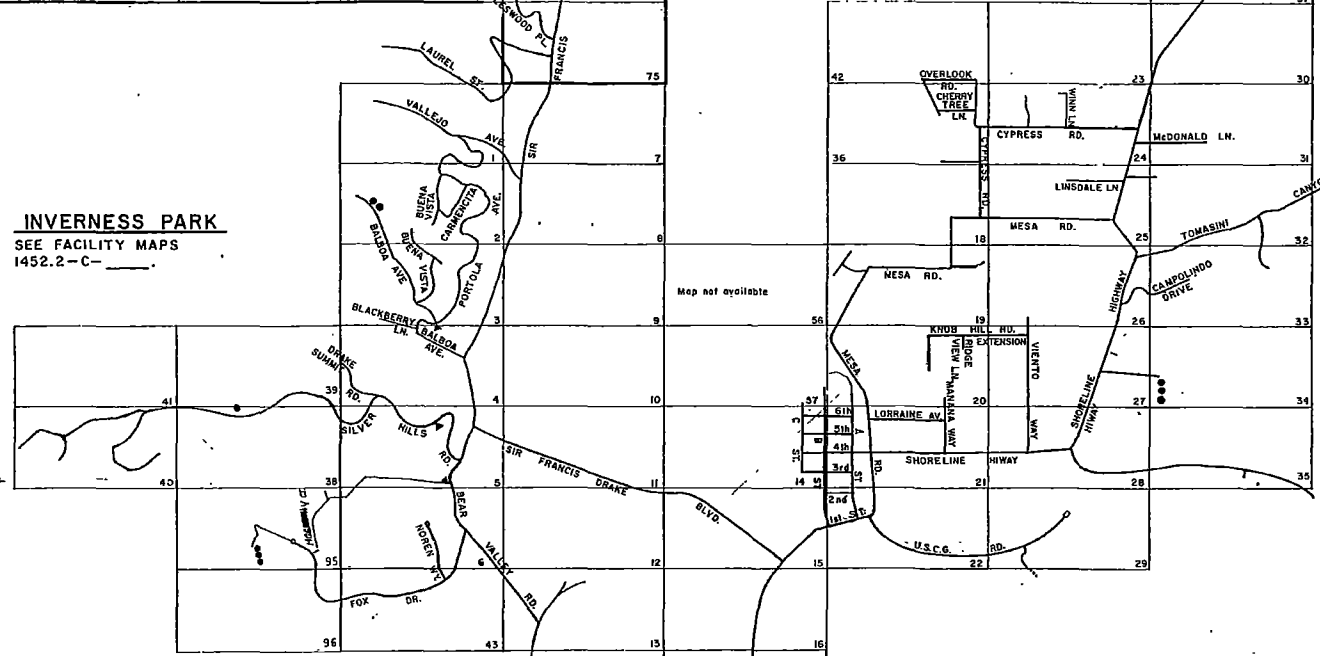
3.7.1 Service Areas

The District has seven separate service and pressure zones in West Marin based on ground surface elevations and geographic locations. Each zone has one or more water storage tanks

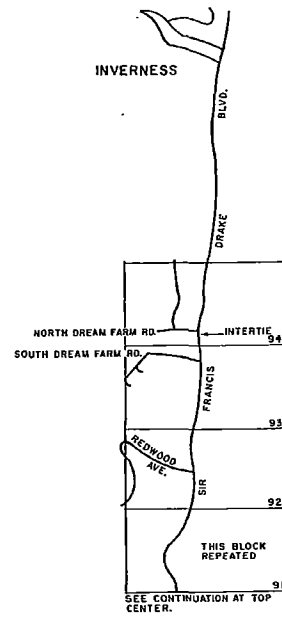
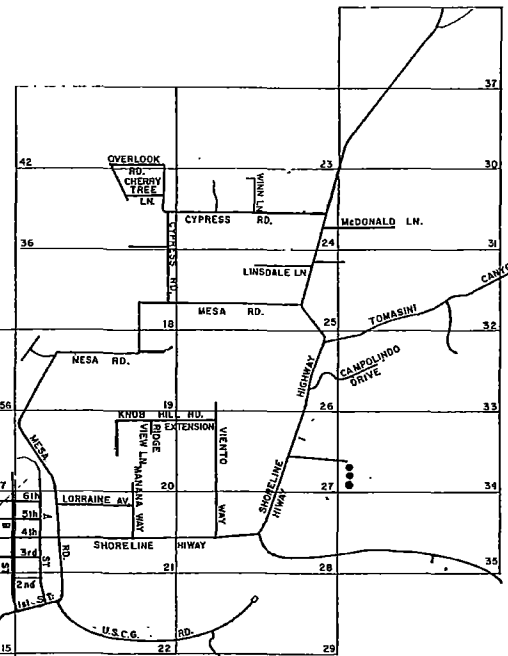
PARADISE RANCH ESTATES
SEE FACILITY MAPS
1931P-C-



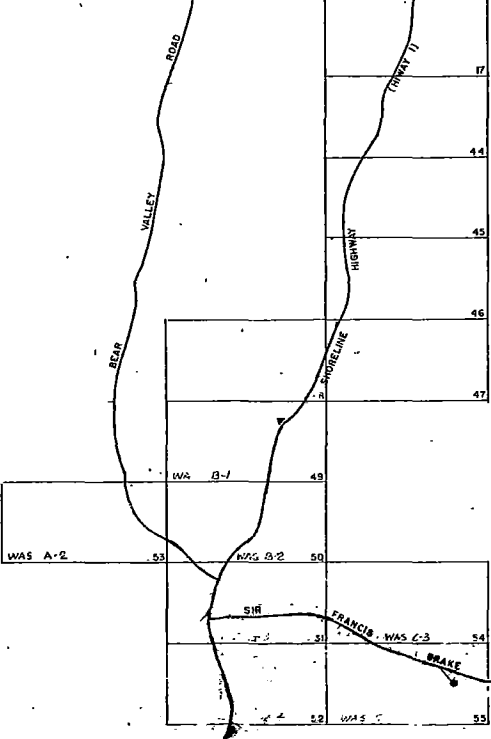
INVERNESS PARK
SEE FACILITY MAPS
1452.2-C-



POINT REYES
SEE FACILITY MAPS
1452.2-C-



OLEMA
SEE FACILITY MAPS
1452.2-C-



SCALE: 1"=1150'

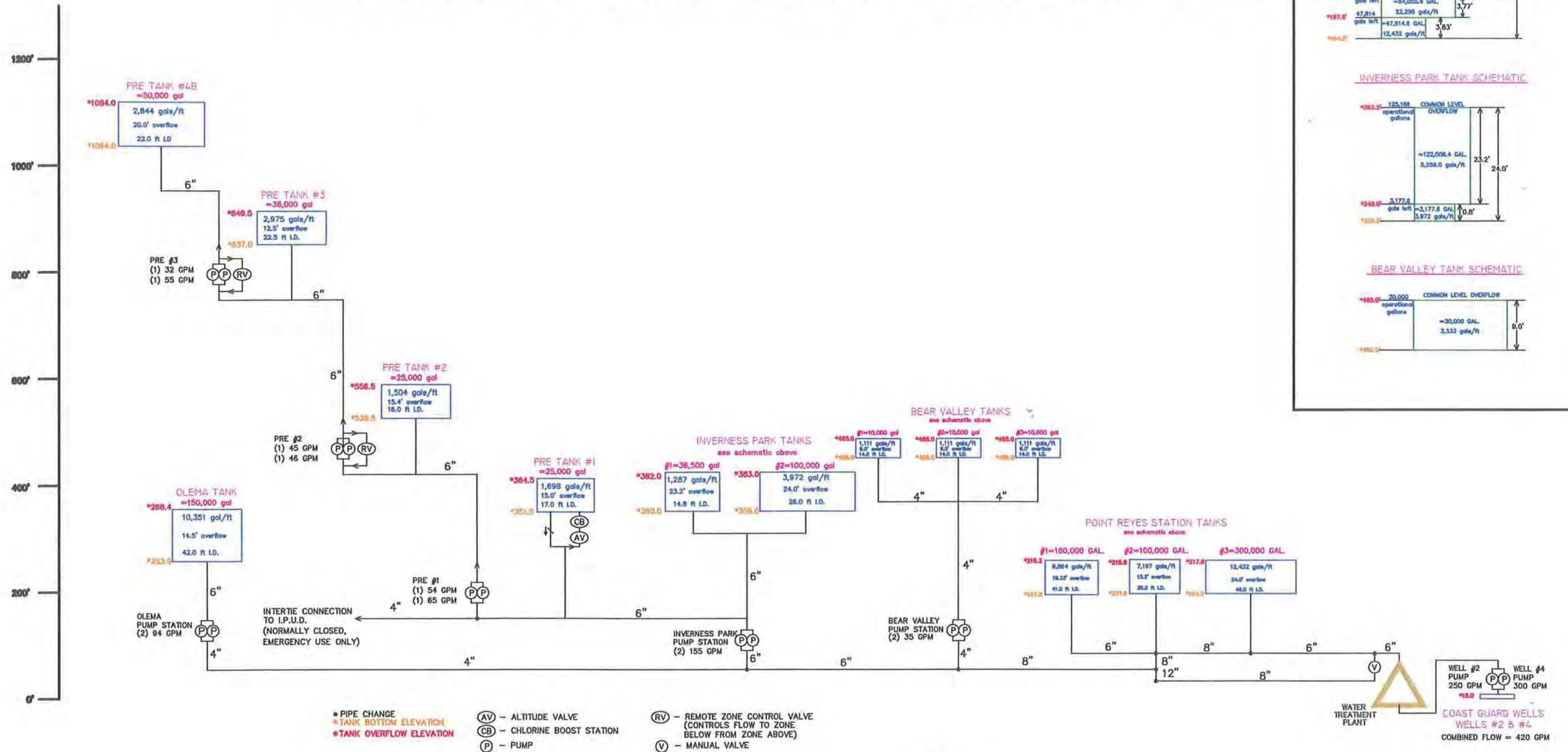
- LEGEND**
- ▲ PUMP STATION
 - STORAGE TANK
 - WELL

Date: 2/28/11 WLM

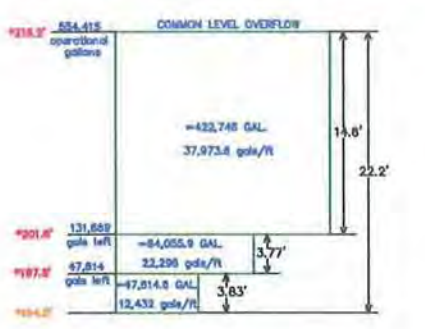
FACILITY MAP INDEX

FOR:
POINT REYES
INVERNESS PARK
OLEMA
PARADISE RANCH ESTATES

WEST MARIN DISTRIBUTION SYSTEM PROFILE



POINT REYES STATION TANK SCHEMATIC



INVERNESS PARK TANK SCHEMATIC



BEAR VALLEY TANK SCHEMATIC



- * PIPE CHANGE
- * TANK BOTTOM ELEVATION
- * TANK OVERFLOW ELEVATION
- (AV) - ALTITUDE VALVE
- (CB) - CHLORINE BOOST STATION
- (P) - PUMP
- (RV) - REMOTE ZONE CONTROL VALVE (CONTROLS FLOW TO ZONE BELOW FROM ZONE ABOVE)
- (V) - MANUAL VALVE

NOT SHOWN ON DRAWING:
PRESSURE SYSTEMS
REGULATING STATIONS

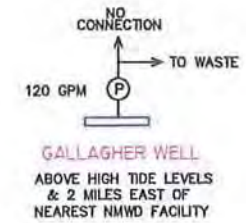


FIGURE 3-4

NORTH MARIN WATER DISTRICT
NOVATO, CALIFORNIA

WEST MARIN DISTRIBUTION SYSTEM PROFILE

DES	DR	CH	SCALE	NONE
CC	DM	UU	DATE	01/30/01
CC	DM	MM	APPROVER: CHIEF ENGINEER	SHEET NO. 1 OF 1 SHEETS
LJ	MM	BY	SERVICE AREA	2
NO.	DATE	REASON	ACCT.NO.	NO. OP13

Jun 05, 2014 - 2:06i
 Folders by Job No. 8000 Job No. 8000 Job No. 8000 (West Marin) 8887 (West Marin) 8887 (West Marin) Master Plan Update 2013_1_1 Other
 id\W Marin Distribution System Profile_HALF SZ.dwg User: MIMCORNUGH

that establish the maximum water surface elevation for that zone and provide gravity flow during peak demand periods.

The main service zones in West Marin are Point Reyes Station (PRS Zone), Olema, Bear Valley, Inverness Park and the Paradise Ranch Estates (PRE).

Water from the Point Reyes Treatment Plant is first pumped from Coast Guard Wells through the PRTP in to the Point Reyes Station tanks. The Olema, Bear Valley and Inverness Park booster pump stations pump from the Point Reyes zone to Olema, Bear Valley and Inverness Park zones.

Inverness Park pumps and tank supply water to PRE-1 tank. PRE-1 tank uses an Altitude valve because it is lower than the fill elevation of Inverness Park Tank.

Inverness Park Service Zone serves customers along and mostly west of Sir Francis Drake Blvd from approximately Balboa Avenue to Kyleswood Place. PRE-1 serves customers to the north along Sir Francis Drake Blvd and lower areas of the PRE. The Paradise Ranch Estates Service Area consists of four separate pressure zones, each being fed by a booster pump station from the lower PRE-1 pressure zone. PRE-1 Pump Station (PS) pumping to PRE-2 tank, PRE-2 PS pumping to PRE-3 tank and PRE-3 PS pumping to PRE-4 tank. There are two pumps at each of the pump stations.

Storage tanks and pump stations are described in the next sections. The PRE service areas are able to use a cascading system for providing emergency / fire storage using the combined storage of these areas using the available cascading system by pumping from lower zones to the higher zones (or by gravity, bypassing the pumping system in case of an emergency condition in the lower elevation zones).

For FY 2013, Point Reyes Station Service Zone accounted for 64.4 percent of the water demand, the highest demand in the West Marin system. Inverness Park and PRE Service Zones accounted for approximately 19.7 percent of the total system demand. Of this demand, approximately 8.2 percent is for PRE 2, 3, and 4 subzones and 11.5% for Inverness Park Service Zone. Olema Service Zone accounted for approximately 12.5 percent of the total system demand. Bear Valley Service Zone demand accounted for only 3.3 percent of the total system demand.

3.7.2 Storage Tanks

Each pressure zone has gravity storage capacity in one or more storage tanks. There are a total of 13 storage tanks throughout the West Marin Water System, totaling almost 1.035 MG. PRS has a storage capacity of 580,000 gallons. Inverness Park has a total storage capacity of 136,500 gallons. PRE has a combined storage capacity of 138,000 gallons. Bear Valley has 30,000 gallons and Olema has 150,000 gallons of storage capacity. Tank sizes range from 10,000 gallons to 300,000 gallons. Pertinent information for all storage tanks is shown in Table 3-1.

3.7.3 Booster Pump Stations

A total of 6 booster pump stations deliver water from a lower pressure zone to a higher pressure zone. Individual pumps range from 5 hp to 30 hp. Booster pumps are operated based on water surface levels in a storage tank serving the pressure zone. High and low level set points control

**Table 3-1
Storage Tanks**

Zone	Storage Tanks	Capacity Gallons	Overflow depth (ft)	Elevation		Inside Diameter (Ft)	Gal Per Ft.	Type Of Construction	Year Built
				Bottom	Overflow				
PR	Point Reyes# 1	180,000	18.33	197.83	216.2	41.0	9,864	Concrete	2004
PR	Point Reyes# 2	100,000	15.2	201.6	216.8	35.0	7,197	Welded Steel	1973
PR	Point Reyes# 3	300,000	24.0	194.0	217.8	46.0	12,432	Welded Steel	1982
IP	Inverness Park# 1	36,500	22	360.0	382	16.8	1,658	Concrete	2009
IP	Inverness Park# 2	100,000	24.0	359	383	26.0	3,972	Welded Steel	1982
PRE	PRE# 1	25,000	15.0	351.5	364.5	17.0	1,698	Redwood	1975
PRE	PRE# 2	25,000	15.4	539.5	556.5	16.0	1,504	Redwood	1980
PRE	PRE# 3	38,000	12.5	837.0	849.5	22.5	2,975	Concrete	2002
PRE	PRE# 4A*	25,000						Redwood	1975
PRE	PRE# 4B	50,000	20.0	1064.0	1084.0	22.0	2,844	Redwood	1980
BV	Bear Valley# 1	10,000	8.8	456.0	465.0	14.0	1,111	Concrete	1978
BV	Bear Valley# 2	10,000	8.8	456.0	465.0	14.0	1,111	Concrete	1978
BV	Bear Valley# 3	10,000	8.8	456.0	465.0	14.0	1,111	Concrete	1978
Olema	Olema	150,000	14.5	253.9	268.4	42	10,351	Concrete	2005
Total		1,034,500							

* PRE Tank #4A was destroyed in 1995 Mount Vision Fire

R:\Folders by Job No\8000 jobs\8600s\8687 (West Marin)\8687.01 WM Master Plan Update 2013_14\Tables\Tables Section 3 WM MP.xlsx]Table 3-1

the priority operation of the pumps within each station. Tank level set points vary by season. None of the booster pump stations has permanent standby power facilities. Portable generators are available to power the pump stations in emergency situations. All pumps can be run by emergency generators. All stations have been retrofitted with manual transfer switches to disconnect from the power grid and to accommodate the portable generator hookups.

Water is pumped from the Coast Guard wells directly to PRS system through the PRTP. Olema, Bear Valley, Inverness Park/PRE-1 each have a booster pump station pumping water to these service zones. PRE-1, 2, 3 booster pumps each pump to the next higher level tank (i.e., PRE-2, 3 and 4 respectively). Pertinent information for all pump stations is shown in Table 3-2.

3.7.4 Hydropneumatic Systems

Hydropneumatic systems are installed for small demands that cannot be met from the primary pressure zones. There are no District operated hydropneumatic systems in the West Marin service area.

3.7.5 Pressure Regulator Valves

Normally, services located at elevations that do not match the primary zone elevations are served by intermediate pressure zones. Water is delivered to these intermediate pressure zones from a higher pressure zone through a pressure regulating station, which consists of two or three pressure reducing valves set at an appropriate downstream pressure to serve the zone. There are no pressure regulating valves installed for this purpose in West Marin. All customer services are supplied directly from tanks.

However, there is a system of pressure regulating valves installed at each of the PRE pump stations to create a cascading system to use water from the higher pressure zones during a main failure or high demand (due to fire fighting) in a lower pressure zone. The cascading system is physically set at each regulator.

There are 76 recorded high pressure services (HP) in West Main per the NMWD billing program. These are mainly located all along Sir Francis Drake Blvd, Vallejo Avenue, Laurel Street, and parts of Portola Avenue in Inverness Park Service area, along Fox Drive and Noren Way in Bear Valley Service Area, and along lower areas of Roberts Drive and Baywood Place in Paradise Ranch Estates. These services are required to have private pressure regulator valves installed and maintained by the home owners.

The billing program also shows 13 low pressure (LP) and 49 normal pressure (NP) services. There are 628 undeclared services some of which could be high pressure or low pressure services. No further study was performed to verify if any of these undeclared services are high or low pressure services.

3.7.6 Relief Valves

Pressure relief valves are located at the intermediate zones to open to relieve high pressure that may build up in the distribution system. No pressure relief valves are used in the West Marin System.

**Table 3-2
Pump Stations**

Pump From	Pump Name	Number Pumps	H.P. Size	Capacity GPM each	Suction Pressure	Discharge Pressure	Pumps to
Well	P.R. Wells	2	30, 30	250, 300	0 psi	100 psi	Point Reyes System
P.R.	I.P. P.S.	2	10, 10	155	50 psi	132 psi	I.P. tanks & PRE #1
P.R.	Olema P.S.	2	7.5, 7.5	94	68 psi	124 psi	Olema System.
P.R.	Bear Valley P.S.	2	5.0	35	72 psi	200 psi	Bear V.& Silver H.
PRE1	PRE 1 P.S.	2	5.0, 5.0	54, 65	8 psi	90 psi	PRE Tank 2 System
PRE2	PRE 2 P.S.	2	5.0, 5.0	45, 46	8 psi	135 psi	PRE Tank 3 System
PRE3	PRE 3 P.S.	2	3.0, 5.0	32, 55	8 psi	105 psi	PRE Tank 4 System
Well	Gallagher Well	1	25	120			Not in Service

3.7.7 Pipelines

The transmission system consists of 8-inch and 4-inch diameter pipelines to convey water supply to the distribution system. The primary transmission mains include 8-inch diameter main connecting the Point Reyes Treatment Plant to Point Reyes Station Tanks and an 8-inch pipeline along Sir Francis Drake Blvd delivering water from the Point Reyes Station zone to Inverness Park and Bear Valley systems. There is also a 4-inch transmission main conveying water to the Olema zone. Transmission system piping is generally constructed of Asbestos Cement (AC) or PVC pressure pipe.

The majority of the distribution system (86%) is comprised of 2-, 4-, or 6-inch diameter pipelines to distribute water from the transmission mains. There are both 8-inch and 12-inch distribution pipes installed (14%) in the more recent developer funded projects such as Point Reyes affordable housing and Heidrun Meadery. Distribution system pipelines are constructed primarily of PVC, AC, and steel pipe. There are older 2-inch galvanized pipe in the PRE zone which had been installed before the District acquired the system from Adams in the 1970s. AC pipe had been used before early 1990s and since 1992 distribution system piping is heavy walled PVC pipe (C-900, dimension ratio 14).

As of June 30, 2013, the distribution system totals approximately 26.5² miles of pipeline, based on data initially obtained from a review of the District facility maps in 2001, and continuously updated as projects are completed. The distribution system pipeline characteristics, including the lengths of each pipe material, pipe diameter, and age of pipe, are shown in Table 3-3.

3.8 SYSTEM CONTROL AND OPERATION

The District utilizes a Supervisory Control and Data Acquisition (SCADA) system which allows the system operator to remotely control and monitor pumps, tank levels, pressures and alarm settings for all of the major West Marin facilities which are connected to the SCADA system.

Flow control measurement of the source water is accomplished at the Point Reyes Treatment Plant. Also flow metering is available at each of the pump stations and is connected to the SCADA system.

**Table 3-3
West Marin Distribution System Pipeline Characteristics (March 14, 2014)**

Pipe Age	Total (ft)	Total (miles)	% of Total
<10 years	4,191	0.79	3.0
10-19 years	7,475	1.42	5.3
20-29 years	3,931	0.74	2.8
30-39 years	89,038	16.86	63.6
40-45 years	25,458	4.82	18.1
over 45 years	9,799	1.86	7.0
Total	139,892	26.5	100

Pipe Material	Total (ft)	Total (miles)	% of Total
Asbestos Cement (ACP)	99,023	18.8	70.8
Ductile Iron (DI)	351	0.1	0.3
Galvanized Steel (GS)	2,152	0.4	1.5
Plastic (PVC)	36,801	7.0	26.3
Steel (STL)	1,565	0.3	1.1
Total	139,892	26.5	100.0

Size (in)	Total (ft)	Total (miles)	% of Total
1	20	0.0	0.0
2	10,468	2.0	7.5
4	25,341	4.8	18.2
6	84,496	16.0	60.4
8	15,678	3.0	11.1
12	3,889	0.7	2.8
Total	139,892	26.5	100

¹Source: Per West Marin Pipe Count Database

Each tank has a high and low level alarm programmed in the SCADA system. Each pump has a low suction and high discharge pressure alarm in the SCADA system. Pumps can be turned on or off manually from the SCADA system. Other system alarms included are power failure, pump failure, low battery (backup), transducer failure, and communication failure alarms.

3.9 WATER QUALITY

Distribution system water quality is presented in greater detail in Section 6.

3.10 FUTURE DEVELOPMENT

Future development projection and buildout forecast presented in Section 4.

SECTION 4
HISTORICAL WATER DEMANDS
AND DEMAND FORECASTS

SECTION 4

HISTORICAL WATER DEMANDS AND DEMAND FORECASTS

The historical, current and forecast buildout water demands for the North Marin Water District's West Marin Water System are presented in Section 4.

4.1 HISTORICAL WATER PRODUCTION

Historical annual water production for the last forty years since FY 1973 for West Marin water supply is shown in Table 4-1.

4.2 CONSUMER ACTIVITY

The District maintains five principal residential customer classifications: single family detached unit (SF); single family attached unit, such as townhouse, condominium or duplex unit (THC); apartment unit (APT); mobile home (MH), and Ranch. The District maintains two other billing classifications that cover non-residential customers: commercial (CM) and government (GVT).

As of June 30, 2013, the approximate water usage, active services and residential dwelling unit mix, per customer classification is as follows:¹

Structure Type	Consumption (MG)		Number of Accounts		Number of Dwelling Units	
SF	51.2	65%	665	86%	700	86%
THC	0.9	1%	3	0%	34	4%
APT	2.5	3%	16	2%	63	8%
MH	0.2	0%	3	0%	3	0%
Ranch	4.7	6%	8	1%	11	1%
Total	59.5	75%	695	90%	811	100%
CM	13.3	17%	71	9%		
GVT	6.2	8%	10	1%		
Non-Residential Total	19.5	25%	81	10%		
System Total	79.0		776			

¹ Source: NMWD Auditor Controller, November 2013

Table 4-1 - Historical Potable Water Production and Demands

Fiscal Years	FY Acre Feet	Million Gallons	Annual Daily (mgd)	Peak Month (mgd)	ADPM (mgd)	Factor	Factor	Factor	Water Bank	Lost Water	
						ADPM/AD	Max Day Demand (mgd)	Max day/ADPM	Max Day/AD	Total EDUs	%
1973-1974	150.68	49.10	0.13	5.30	0.17	1.27					
1974-1975	184.13	60.00	0.16	6.80	0.22	1.33					
1975-1976	184.75	60.20	0.16	7.00	0.23	1.37					
1976-1977	168.48	54.90	0.15	6.50	0.21	1.39					
1977-1978	160.50	52.30	0.14	5.40	0.17	1.22			21		
1978-1979	208.68	68.00	0.19	8.30	0.27	1.44			18		
1979-1980	190.89	62.20	0.17	8.30	0.27	1.57			16		
1980-1981	225.26	73.40	0.20	8.40	0.27	1.35			104	18%	
1981-1982	247.66	80.70	0.22	9.60	0.31	1.40			9	11%	
1982-1983	260.24	84.80	0.23	9.70	0.31	1.35			40	17%	
1983-1984	253.18	82.50	0.23	11.70	0.38	1.67			25	18%	
1984-1985	273.44	89.10	0.24	11.80	0.38	1.56			26	21%	
1985-1986	301.67	98.30	0.27	12.30	0.40	1.47			16	25%	
1986-1987	342.80	111.70	0.31	13.80	0.45	1.45			10	28%	
1987-1988	349.95	114.03	0.31	13.20	0.43	1.36			12	31%	
1988-1989	336.30	109.58	0.30	12.92	0.42	1.39			24	29%	
1989-1990	297.22	96.85	0.27	11.60	0.37	1.41			13	16%	
1990-1991	342.58	111.63	0.31	11.71	0.38	1.24			9	23%	
1991-1992	311.87	101.62	0.28	12.49	0.40	1.45			8	20%	
1992-1993	294.07	95.82	0.26	12.28	0.40	1.51			6	12%	
1993-1994	298.72	97.34	0.27	12.30	0.40	1.49			9	11%	
1994-1995	288.01	93.85	0.26	11.63	0.38	1.46			5	10%	
1995-1996	320.99	104.59	0.29	12.85	0.41	1.45			7	12%	
1996-1997	332.98	108.50	0.30	14.35	0.46	1.56			10	10%	
1997-1998	319.89	104.24	0.29	14.13	0.46	1.60			3	10%	
1998-1999	381.89	124.44	0.34	16.49	0.53	1.56			4	23%	
1999-2000	392.87	128.02	0.35	15.23	0.49	1.40			0	22%	
2000-2001	375.95	122.50	0.34	13.82	0.45	1.33	0.66	1.47	1.96	8	10%
2001-2002	365.83	119.21	0.33	14.01	0.45	1.38	0.69	1.52	2.10	5	16%
2002-2003	332.17	108.24	0.30	15.09	0.49	1.64	0.61	1.26	2.07	1	9%
2003-2004	334.70	109.06	0.30	14.47	0.47	1.56	0.57	1.23	1.92	37	18%
2004-2005	336.00	109.49	0.30	16.76	0.54	1.80	0.75	1.40	2.52	2	9%
2005-2006	324.22	105.65	0.29	13.03	0.42	1.45	0.63	1.50	2.18	21	21%
2006-2007	380.36	123.93	0.34	13.94	0.45	1.32	0.62	1.37	1.82	13	19%
2007-2008	303.67	98.95	0.27	11.55	0.37	1.37	0.62	1.67	2.30	4	12%
2008-2009	301.17	98.14	0.27	11.86	0.38	1.42	0.53	1.39	1.97	6	14%
2009-2010	236.38	77.03	0.21	10.59	0.34	1.62	0.44	1.27	2.06	4	2%
2010-2011	243.65	79.39	0.22	9.93	0.32	1.47	0.63	1.98	2.92	3	6%
2011-2012	242.23	78.93	0.22	9.44	0.30	1.41	0.40	1.32	1.86	3	6%
2012-2013	249.71	81.37	0.22	9.81	0.32	1.42	0.40	1.26	1.79	1	4%
Max	1066.11	347.39	0.35	16.76	0.54	1.80		1.98	2.92		21%
Minimum	150.68	49.10	0.13	5.30	0.17	1.22		1.23	1.79		2%
Average	303.29	98.83	0.26	11.51	0.37	1.45		1.43	2.11		11%

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4.3 HISTORICAL WATER DEMANDS

As noted in Section 2, water demand peaking factors are utilized to analyze and evaluate the water distribution system. Peaking factors are based on review of historical water demands and production data, operational impacts, and industry standards.

Historical water demand for the West Marin Water System is shown in Table 4-1. The observed annual average day demand, average day peak month (ADPM) demand and maximum day demand (starting from FY2001), along with calculated peaking factors and lost (un-accounted) water percentages for the WM Water System as a whole are also shown in Table 4-1. Daily production data prior to FY2001 were not available.

Historical annual, average day, average day of the peak month and maximum day production records are used to forecast the future demand. Over the past 40 years, the peaking factors have been highly variable and even though the trend is decreasing, the forecast relies on the historical average, which has been relatively constant, continuing to predict average day of the peak month as a function of average daily demand.

4.3.1 Average Day Peak Month Demand

The average day of the peak month (ADPM) demand represents an average daily demand during the month of highest demand for the year, typically July or August. This factor is used by the District to develop unit water demands and plan system improvements. For FY2013, the average day peak month peaking factor is 1.42 times the average day demand. Since FY1974, the ADPM/Average Day peaking factor has varied between 1.22 and 1.8. The 40-year average is 1.45.

4.3.2 Maximum Day Demand

The maximum day demand represents the highest daily demand for the entire year. A water system is usually evaluated under maximum day demand conditions or maximum day demand plus fire flow conditions. This condition allows the system to be stressed at a higher demand rate to ascertain if supply sources and pipeline carrying capacities are adequate. Hydraulic evaluation under maximum day plus fire flow demand conditions represents a reasonable "worst case" scenario of system operation.

For FY2013, the maximum day to ADPM demand peaking factor is 1.26. Thus, the maximum day to average day demand peaking factor is 1.79. Since FY2001, the maximum day to average day demand peaking factor has varied between 1.79 and 2.92. The 13-year average maximum day to ADPM peaking factor is 1.43 and the maximum day to average day peaking factor is 2.11. Maximum day to average day demand peaking factors generally range from 1.2 to 2.5 (per American Waterworks Association guidelines) except for one occurrence which was higher than 2.5 in FY2011 (2.92). In West Marin, the maximum day to average day factor is generally higher than that compared to in the AWWA guidelines.

4.3.3 Peak Hour Demand

The peak hour demand represents the highest hourly demand on the entire system, and simulates the highest flow rate expected on the hottest day of the year. Peak hour demand usually occurs during the morning or evening peak usage periods. Depending on the data, peak hour demand is sometimes considered the "worst case" scenario instead of maximum day demand plus fire flow. It is not appropriate to evaluate a system against a demand rate of peak hour plus fire flow, as the likelihood of a fire event at the hottest hour demand of the year is extremely low.

Actual operational data is not readily available to determine the peak hour to maximum day demand peaking factor for the West Marin Water System. Based on calculations using Harmon Formula and PRP-Gumbel (indoor use only) and comparison with other similar water systems, the peak hour to maximum day demand peaking factor is estimated to be 1.9 (which equates to a peak hour to average day demand peaking factor of 4.0). Peak hour to maximum day demand peaking factors generally range from 1.3 to 2.0 per American Waterworks Association guidelines.

4.3.4 Lost (Un-accounted) Water

Lost water is the water that cannot be credited after accounting for flushing flows, hydrant flow tests, water leaks, and other non-billed usage. The amount of un-accounted for water (or lost water) exhibits a decreasing trend over the past 33 years. The production numbers since FY 2001 are tied to the daily production reports and consumption numbers are from the District's "CORE" utility billing data base. The average lost water percentage for both the last 33 years and the last 13 years (since FY2001) happens to be 11%. Although, the lost water percentages since FY2009 has dropped to an average of 5%, the forecast assumes that there will be no change in the percent or share of un-accounted for water in the future and is projected to continue at an average of approximately 11.0 percent.

4.4 FY 2013 WATER DEMANDS

The FY2013 water demand will be utilized in this Master Plan for several tasks including the hydraulic evaluation of the distribution system and the storage and pumping capacity evaluations. FY2013 demand is also separated by pressure zone.

FY2013 water demand data was obtained from District operations records. In FY2013, the total water produced is 81.37 million gallons.

For FY2013, the average annual water demand in the West Marin System was 0.22 mgd. The average day peak month demand was 0.32 mgd (which occurred in July 2012). The maximum day demand was 0.399 mgd (which occurred on July 8, 2012).

The FY2013 demand, separated by Inverness Park (including PRE), Olema, Bear Valley and Point Reyes, is shown in Table 4-2. Separation of demand by service zones was accomplished by reviewing pump station production records. Point Reyes Station Service Zone is fed directly by the water delivered from the Coast Guard Wells. The Olema, Bear Valley and Inverness Park service zones are all fed by booster pump stations from the Point Reyes Station Service Zone. Each service zone has one or more tanks that provide gravity flow during peak demand periods. Inverness Park pumps and tank supply water to PRE-1 tank. PRE-1 tank uses an Altitude valve

Table 4-2
FY 2013 Water Demands by Service Area

Service Area	Annual Usage Demand (gallons)	Average Day Demand (gpd)	Average Day Demand (gpm)	Max. Day/Ave. Day Peaking Factor	Maximum Day Demand (gpd)	Maximum Day Demand (gpm)	Percentage of Use
Point Reyes Station	55,191,519	151,210	105	2.11	319,052	221.6	64.4
Olema	10,746,267	29,442	20	2.11	62,122	43.1	12.5
Bear Valley	2,857,381	7,828	5	2.11	16,518	11.5	3.3
Inverness Park/PRE-1	10,035,824	27,495	19.1	2.11	58,015	40.3	11.7
PRE-2	1,147,432	3,144	2.2	2.11	6,633	4.6	1.3
PRE-3	2,362,184	6,472	4.5	2.11	13,655	9.5	2.8
PRE-4	3,358,520	9,201	6.4	2.11	19,415	13.5	3.9
Total	85,699,127	234,792	163	2.11	495,411	344.0	100.0

Notes:

Sub area production was obtained by pump records (PRS, Olema, Bear Valley and IP).

PRE breakdown using billing data for individual PRE zones

R:\Folders by Job No\8000 jobs\8600s\8687 (West Marin)\8687.01 WM Master Plan Update 2013_14\Tables\[Tables Section 4 WM MP.xlsx]Table 4-1

because it is lower than the fill elevation of Inverness Park Tank. Paradise Ranch Estates PRE-2, PRE-3 and PRE-4 pressure zones are each being fed by a booster pump station from the lower pressure zone.

4.4.1 Inverness Park and PRE

For FY2013, Inverness Park and PRE service zone accounts for approximately 19.7 percent of the total system demand. Of this demand, approximately 8.2 percent is for PRE-2, 3, and 4 subzones and 11.5% for Inverness Park service zone.

4.4.2 Olema

Olema Service Zone accounts for approximately 12.5 percent of the total system demand.

4.4.3 Bear Valley

Bear Valley Service Zone demand accounts for only 3.3 percent of the total system demand.

4.4.4 Point Reyes Station

Point Reyes Station Service Zone accounted for 64.4 percent, the largest demand in the West Marin system.

4.5 BUILDOUT DEMAND PROJECTIONS

Previous water demand forecasts for North Marin Water District were prepared in 1992 based on the 1991 Countywide Plan. Demands and development projections were updated in the 2001 West Marin Long Range Plan based on a West Marin Storage Capacity Analysis by Soldati Engineering Services (July 2000). July 2000 study demand projections were based on 1991 Countywide Plan and draft County Community Plan. Demands and development projections in this Master Plan are based on 2001 PRS Community Plan and 2007 Countywide Plan update.

4.5.1 Water Demand Projection

The District continually monitors planned development within the distribution system and periodically updates projected buildout water demands. The last update was in November 2013 (Table 4-3).

This demand projection is still applicable since the growth projections in the 2001 Countywide Plan or the PRS Community Plan have not changed since then. The buildout demand projection is shown in Table 4-4. At buildout, there is a projected annual demand of 380 AF per year, or an average daily demand of 338,920 gpd. Utilizing the peaking factor of 2.11, the projected maximum day demand at buildout is 715,122 gpd.

4.5.2 Development Projection

Analysis of projected water demands is based on new development slated to be constructed within the District boundaries. The buildout water demand forecast provided herein is updated

TABLE 4-3

Forecast of Water Demands - Pt Reyes Water System

By: CD
 Orig: 2/28/1992 12:29
 Updated: 9/19/2011 0:00
 Last: 11/27/2013 0:00

c:\projects\pnm\2010\Demand\new.xls
 References:
 I:\files\shane\w\use\DW\ Wm Stat Report 2010 Backup.xls
 I:\files\shane\w\production\point\reyes\Point Reyes Water Production.xls

Basic Breakdown in Water Use in 2010 was (DLB spreadsheet - wtr use\DW\ Wm Stat Report 2010 Backup.xls):

	All	AFA	Accounts
Residential	65.37%	155	722
Commercial	16.36%	38.8	68
Agriculture	5.36%	12.7	9
Government	12.91%	30.6	16
All	100%	237.1	815

Household population density of area is 2.48 in Year 2000 according to Marin Countywide Plan Figure 3-57 and is expected to be 2.33 at Theoretical Buildout.
 Therefore each person explains 26% of annual residential use per DU.

Pt Reyes Water System Statistics As of June 30, 2011:

Station	Olema	PRE	Inv Park	O'side/O All
System Capacity:				
Finished Water Storage, gal.	580,000	150,000	138,000	166,500
Filter Plant, gpm	700			
Well #1 & Pump, operating alone	360			
Well #2 & Pump, operating alone	200			
Well #1 & #2 Operating in Tandem	530			<-limiting
Connections:				
Active	769			ref 12/10 Monthly Rpt
Inactive	46			
Total	815			
DU's:				
Active	802			ref 12/10 Monthly Rpt
Inactive	46			
Correction for Coast Guard(1)	36			
Total	884			
Sales:				
Avg Ann 2002 - 2011 (Acre Feet)	272			
Avg Pk Mo 2002 - 2011 (Acre Feet)	33			
In FY 2010/11:				
afa (w/o unaccounted for)	222			
afa/active acct	0.29			
afa (w unaccounted for)	227			
mgd Pk Mo	0.35			
gpd/active acct	461			
FY 2002-2011 avg:				
1000 Gal/SF DU or EDU	82			
afa/SF DU or EDU	0.19			
Equivalent SF Units(2):	1179			
Storage per EDU:	877			
Production:				
Unaccounted For Water as % of Sales (2002-2011 avg)	18%			
Avg Annual, Acre Feet (2002-2011 avg)	302			
Avg day, cfs (2002-2011 avg)	0.42			
Avg day, gpm (2002-2011 avg)	187			
Avg day of Pk Mo, cfs (2002-2011 avg)	0.54			
Avg day of Pk Mo, gpm (2002-2011 avg)	241			
Avg day of Pk Week, cfs (2002-2011 avg)	0.72			
Avg day of Pk Week, gpm (2002-2011 avg)	323			
Pk Mo to Avg Mo Ratio	1.3			
Pk Week to Pk Mo Ratio	1.3			

Predicted Ultimate Demand:

Assumptions:

- Residential will grow per County's prediction & growth will be SF type DU's.
- Agriculture will decrease as result of NPS purchase of Giacomin Ranch
- Commercial and Gov't will grow and maintain their same relative relationship or share of residential, i.e: 45%
- Unaccounted For Water will ultimately be: 10%
- Pk Mo to Avg Mo ratio remains at: 1.3
- Pk Week Mo to Pk Mo ratio remains at: 1.3
- Additional Water Conservation achieved between now and buildout is limited to residential fraction and will amount to: 10%
- Household Density ultimately increases from current 2.48 to: 2.3 Associated increase in demand is: 0%

	PR Stat	Olema	PRE	Inv Park	All
Existing Base Demand (Avg 2002-2011):					
afa					272
residential portion, afa					178
New Base Demand:					
New Residential, DU's	243	9	60	33	345
Demand, afa/DU					0.19
Demand, afa					65
New Commercial & Gov't, afa					29
Less Agricultural (Giacomin Ranch, Already reflected in existing base demand)					0
Existing + New Base Demand, afa:					342
Ultimate Demand**:					
Annual, afa:					376
Peak Mo, cfs:					0.67
Peak Week, cfs:					0.90
Peak Week, gpm:					403

Comparison of Production vs Sales:

Year	Prod (FYR)	Sales (FYR)	Diff, %	Sales x 1.2 (FYR)
1972	147			
1973	133			
1974	131			
1975	183			
1976	186			
1977	171			
1978	162			
1979	212			
1980	190			
1981	226	184	23%	221
1982	250	200	25%	240
1983	256	205	25%	246
1984	261	213	23%	256
1985	277	216	28%	259
1986	300	226	33%	271
1987	334	243	37%	292
1988	350	245	43%	294
1989	336	242	39%	290
1990	287	247	16%	296
1991	339	263	29%	316
1992	324	251	29%	301
1993	290	260	12%	312
1994	293	270	9%	324
1995	279	262	6%	314
1996	304	283	7%	340
1997	337	303	11%	364
1998	320	289	11%	347
1999	382	294	30%	353
2000	386	305	27%	366
2001	372	325	14%	390
2002	368	308	19%	370
2003	332	301	10%	361
2004	363	294	23%	353
2005	336	304	11%	365
2006	324	255	27%	306
2007	315	276	14%	331
2008	271	267	1%	320
2009	274	258	6%	310
2010	218	233	-6%	280
2011	222	227	-2%	272
@avg		307		260
@avg 2002-2011		302		272

County's Estimate of Growth contained in 2001 PRS Community Plan & Countywide Plan Update:

	Existing (3)	Potential (buildout,4)	Increase DU's	Increase %
Existing (3)	445	44	154	158
Potential (buildout,4)	688	53	214	191
Increase DU's	243	9	60	33
Increase %	55%	21%	39%	21%

** Includes Unaccounted For Water & adjustments for increased household density and water conservation.

Footnotes:
 (1) Included in "Gov't" in NMWD records.
 Note: There are 36 sf USCG apts and 18 bachelor units currently. Latter are bedroom w. sink. Share bathrooms. Also mess hall.
 (2) Based on annual use of typical SF DU = 0.28 afa.
 (3) "Existing" includes 409 Point Reyes Units (from DLB's spreadsheet:wm cust by rate code 063006.xls) and 36 gov't du Olema, PRE, Inv Park/BV and O'side/Other also from DLB spreadsheet.
 (4) "Potential" from 2001 PRS Community Plan and 21% growth in Olema and Inv Park/BV. For PRE NMWD estimate as already subdivided is used.

Linear Forecast of Demand:

Year	Prod	Sales
1972	147	
1973	133	
1974	131	
1975	183	
1976	186	
1977	171	
1978	162	
1979	212	
1980	190	
1981	226	
1982	250	
1983	256	
1984	261	
1985	277	
1986	300	
1987	334	
1988	350	
1989	336	
1990	287	
1991	339	
1992	324	
1993	290	
1994	293	
1995	279	
1996	304	
1997	337	
1998	320	
1999	382	
2000	386	
2001	372	
2002	368	
2003	332	
2004	363	
2005	336	
2006	324	
2007	315	
2008	271	
2009	274	
2010	218	
2011	222	
2012		230
2013		238
2014		247
2015		255
2016		263
2017		271
2018		279
2019		288
2020		296
2021		304
2022		312
2023		321
2024		329
2025		337
2026		345
2027		353
2028		362
2029		370
2030		378

annual increment 8.2
 DU's/yr 14

1. Up until 1992 unaccounted for water was thought to be 20%. In 1993 the treatment plant production meter was recalibrated. Unaccounted for water is now estimated at 18% with ultimate at 10%.

Table 4-4
Point Reyes Water System - Projected Buildout Water Demands by Service Area

Service Area	Current Annual Demand gal	Current Demand afa	At Buildout afa	Buildout Demand	Buildout Ave. day	Buildout Max Day
				mg	gpd	gpd
Point Reyes Station	55,191,519	169	263	85.6	234,391	494,565
Olema	10,746,267	33	40	13.0	35,627	75,173
Bear Valley	2,857,381	9	11	3.5	9,473	19,988
Inverness/ PRE-1	10,035,824	31	37	12.1	33,272	70,203
PRE-2	1,147,432	4	5	1.6	4,370	9,221
PRE-3	2,362,184	7	10	3.3	8,996	18,982
PRE-4	3,358,520	10	14	4.7	12,791	26,989
Total	85,699,127	263	380	123.7	338,920	715,122

Notes:

- (1). Current demands are from the pump records for FY 2013 for Pt. Reyes Station, Olema, Bear Valley, Inverness Park/all PRE
- (2). The split between PRE zones are based on billing records.
- (3). Build out demand was calculated by utilizing percent increase of DUs listed in Table 4-3 (Forecast of Water Demands-Pt Reyes Water System) last updated 11/27/2013 by Chris DeGabriele. The percent increases are- PRS 55%, Olema, Bear Valley, IP/PRE-1, 21%, other PRE zones 39%
- (4). Average to max. day factor is 2.11 (See Table 4-1).

R:\Folders by Job No\8000 jobs\8600s\8687 (West Marin)\8687.01 WM Master Plan Update 2013_14\Tables\[Tables Section 4 WM MP.xlsx]Table 4-1

with the county's estimate of growth contained in 2001 PRS Community Plan and Countywide Plan Update. These have not changed since 2001.

The water demand for potential buildout is projected by Point Reyes Station, Olema, PRE and Inverness Park and Bear Valley zones. The projected buildout development demand is shown in Table 4-3. The potential increase in Dwelling Units (DUs) is 243 in Point Reyes Station, 9 in Olema, 60 in PRE and 33 in Inverness Park and Bear Valley. The total increase in residential DUs is 42%. The commercial and governmental sector growth is assumed to be approximately equivalent to residential growth (45%).

The annual demand for the projected residential units is converted to annual acre-feet (AF) with the conversion factor of 0.19 AF per DU equaling 65 AF. The commercial and government component is 29 AF. Agricultural sector is assumed to decrease as a result of National Park Service (NPS) purchase of Giacomini Ranch. Existing base demand is 272 AF. This results in a total buildout demand of 376 AF (Table 4-4 uses 380 AF). The buildout projection used in the 2001 West Marin Long Range Plan was 483 AF. Although the present existing demand has increased slightly due to the persons per household has increased slightly, the decrease in buildout is largely due to the decrease in the buildout projection. The additional buildout demand projection has decreased from 75% of current demand in the 2000 buildout to 42% of current demand in 2013.

4.5.3 Projected Water Demands

Overall, approximately 55% of the new demand will occur in Point Reyes Station, 21% in Olema, 39% in PRE and 21% in Inverness Park/ Bear Valley zones.

Maximum day demands will be utilized for other tasks in this Master Plan, including the storage and pumping capacity evaluation presented in Section 5.

**SECTION 5
STORAGE AND PUMPING
CAPACITY EVALUATION**

SECTION 5

STORAGE AND PUMPING CAPACITY EVALUATION

5.1 INTRODUCTION

The storage and pumping capacity evaluation of the service areas and pump stations in the West Marin System is presented in Section 5. The analysis is based on FY 2013 and projected buildout (FY 2035) water demands presented in Section 4. The existing storage capacity is compared to storage capacity requirements based on District West Marin storage criteria for each service area to determine storage capacity adequacy. Similarly, the existing firm pumping capacity is compared to pumping capacity requirements based on District pumping criteria for the major booster pump stations to determine pumping capacity adequacy.

5.2 BACKGROUND/PREVIOUS STUDIES

In July 2000, Soldati Engineering Services conducted a Storage and Pumping Capacity analysis which was used as the basis of storage and pumping improvements recommended in the 2001 West Marin Long Range Plan. The 2000 storage study included analysis for two conditions; then current (FY1997/98) and the estimated buildout (2035). Service areas found to be deficient in storage and pumping capacity under both then current (FY 1997/98) and buildout demand conditions were identified. These included Olema, Bear Valley and PRE-tanks.

The 2000 study states that historically, the District had used two days of maximum demand (one maximum day for operational needs and one maximum day for fire storage) as the storage capacity goal. Emergency storage was included in the fire protection storage capacity of one maximum day. Typically the storage capacity goal is the summation of operational storage (25% maximum day demand), emergency storage (100% of maximum day demand), and fire storage. Since the West Marin service areas are relatively small and the fire component is such a large component of the total storage capacity required, the 2000 study concluded that it is appropriate that the greater of the fire and emergency component be used instead of both. This will be referred to as the combined storage capacity goal.

Since the 2001 Long Range Plan, all storage deficiencies identified in that plan for the buildout condition (for the modified storage capacity goal) have been addressed with the exception of the Bear Valley / Silver Hills area storage capacity. The PRE service areas are able to use a cascading system for providing emergency / fire storage using the combined storage of these areas using the available cascading system by pumping from lower zones to the higher zones (or by gravity, bypassing the pumping system in case of an emergency condition in the lower elevation zones).

The 2001 Long Range Plan recommended increasing Balboa (Inverness Park) pump capacity from 55 gpm to 150 gpm and installing stand by pumps and controls for all three PRE pump stations. These improvements have been performed since 2001.

With the updated water demand projections now presented in Section 4 of this 2014 Master Plan, it is necessary to update the storage and pumping capacity evaluations for all service areas within the West Marin Water System.

5.3 EVALUATION METHODOLOGY

The pertinent storage capacity evaluation criteria and pumping capacity evaluation criteria are presented in Section 2. The major elements of the approach are summarized herein.

5.3.1 Storage Capacity Evaluation

The storage capacity evaluation is based on determining three storage volume components as presented in Section 2:

- Operational storage
- Fire storage
- Emergency storage

The sum of these three components is the typical total storage capacity for the specific pressure zone. However, in the 2001 West Marin Long Range Plan, the total storage was calculated as the sum of the operational storage (25% of MDD) and the greater of the emergency storage (100% MDD) or the fire storage volume. The calculations for both the typical storage (sum of operational, fire and emergency storage) and the modified criterion are performed. Similar to the 2001 Long Range Plan, the modified criterion (combining fire and emergency storage) is used as the storage capacity goal for the current Master Plan. The storage capacity goal is compared to the existing storage capacity to determine if a surplus or deficit exists within the zone.

5.3.2 Pumping Capacity Evaluation

Providing adequate storage capacity is only one distribution system element that beneficially affects system operation. Adequate pumping capacity must be provided to enable the storage capacity to recover depleted volume in a reasonable time period. Undersized pumps may reduce the effectiveness of storage capacity. Therefore, it is necessary to evaluate the pumping capacity requirements at each booster pump station.

The pumping evaluation in this study consists of comparing the pumping requirement (calculated as maximum day demand pumped over 16 hours) to the firm capacity of the station and determining the surplus or deficit. Firm capacity is defined as the station capacity with the largest pump out of service.

All of the District stations evaluated in this report have at least two pumps, except the Gallagher Well. Note that this analysis uses the rated pump capacity, as individual pump tests have not been performed recently, and actual pump flow information is not available in some instances. The pump capacity of Coast Guard Well No. 2 is 250 gpm when Well No. 4 is off line and Well No. 4 capacity is 300 gpm when Well No. 2 is off line. However, when both pumps are simultaneously in operation, the capacity reduces to 420 gpm. A recent well pump analysis was prepared and concluded that well pump No. 2 needs repair/replacement. Once this deficiency is corrected the combined pumping capacity should increase from 420 gpm to 580 gpm. The total Coast Guard Wells pumping capacity was listed as 550 gpm in the 2001 Long Range Plan.

In general any individual pump or pumps are not operating efficiently, they should be checked and appropriate actions taken. A full evaluation of each pumping station is beyond the scope of this study. It is recommended that the District conduct pump tests and undertake an evaluation of the pumping capacity at each pumping station.

Many pump stations are required to pass water through to a higher zone than the one which the pump station is serving. The total flow that is required to be pumped through the station for both its zone and upper zones is included as appropriate when determining the total pumping capacity requirement.

5.4 PRESSURE ZONE WATER DEMANDS

The storage and pumping evaluation utilizes FY 2013 water demand and projected buildout (FY 2035) water demand. Specifically, operational and emergency storage criteria, as well as the pumping capacity criteria, are based on maximum day demand for each pressure zone, as shown in Table 4-4. Demands were obtained from the pumping records and when pumping records are not available, from billing consumption records (e.g., PRE) which are coded by service area. Billing records and pump records for PRE- 2 and PRE-3 service areas could not be reconciled. It seemed that the billing records were consistent with the use shown in the 2001 Long Range Plan. Therefore, the billing records are used in this Master Plan for the PRE sub zone demands.

In theory, water pumped into the pressure zone should equal the consumption for each zone plus a percentage for lost (un-accounted) water. Comparison of production to consumption could indicate another: (1) lost water; (2) a problem in the method of determining consumption data; (3) the obtaining and recording of production data; or (4) in the actual performance of the pumps.

5.5 STORAGE CAPACITY EVALUATION

The storage capacity requirements for each pressure zone for FY 2013 and buildout (FY 2035) water demands are lower than listed in the 2000 storage capacity study and 2001 Long Range Plan buildout forecast. This is due to the FY 2013 (current) demand being lower than the FY 1999 (then current) demand and the growth and potential buildout forecast is lower than that estimated in the 2001.

All District tanks are designed in cooperation with the MCFD. A breakdown of the Fire Flow and Fire Storage Volume Goals is presented in Section 2, Table 2-2.

5.5.1 FY 2013 Water Demands

Storage capacity requirements by pressure zone for FY 2013 water demand are shown in Table 5-1 for the selected criterion (combined fire/emergency). Pt Reyes Station, Olema and Inverness Park/PRE-1 have surplus storage capacity under current water demand. Note that, although individual PRE service zones show deficits in storage, because all PRE tanks are connected (a cascading system) has a combined storage of 113,000 gallons (excluding PRE-1), therefore the deficit is about 12,000 gallons. Bear Valley service zone has a deficit of 94,000 gallons in storage capacity.

The Point Reyes Station, Olema and Inverness Park/PRE-1 service zones have a surplus of approximately 182,000 gallons, 15,000 gallons and 27,000 gallons respectively.

5.5.2 Buildout Water Demands

Storage capacity requirements by service area at buildout in Year 2035 are shown in Table 5-2 for the combined fire and emergency storage criterion.

Table 5-1
West Marin Storage Capacity Requirements - combined fire/emergency storage
FY 2013 Water Demands

Tank/Zone	Tank Capacity (gal)	Estimated Max Day Demand (gal/day) (1)	Operational Storage (gal) (2)	Fire Storage (gal)	Emergency Storage (gal)	> of Fire / Emergency Storage (gal)	Total Storage Required (gal) (3)	Additional Storage Required (gal)
Point Reyes Station	580,000	319,052	79,763	240,000	319,052	319,052	398,815	-181,185
Olema	150,000	62,122	15,531	120,000	62,122	120,000	135,531	-14,469
Bear Valley	30,000	16,518	4,130	120,000	16,518	120,000	124,130	94,130
Inverness Park / PRE-1	161,500	58,015	14,504	120,000	58,015	120,000	134,504	-26,996
PRE-2	25,000	6,633	1,658	120,000	6,633	120,000	121,658	96,658
PRE-3	38,000	13,655	3,414	120,000	13,655	120,000	123,414	85,414
PRE-4	50,000	19,415	4,854	120,000	19,415	120,000	124,854	74,854
Total	1,034,500	495,411	123,853			1,039,052	1,162,905	128,405

Notes:

- (1) From Table 4-2
- (2) 25% of maximum day demand
- (3) Total of operational and greater of fire and emergency storage

R:\Folders by Job No\8000 jobs\8600s\8687 (West Marin)\8687.01 WM Master Plan Update 2013_14\Tables\[Tables Section 5 WM MP.xlsx]Table 5-6

Table 5-2
West Marin Storage Capacity Requirements - combined fire/emergency storage
Projected Buildout Demands

Tank/Zone	Tank Capacity (gal)	Estimated Max Day Demand (gal/day) (1)	Operational Storage (gal) (2)	Fire Storage (gal)	Emergency Storage (gal)	> of Fire / Emergency Storage (gal)	Total Storage Required (gal) (3)	Additional Storage Required (gal)
Point Reyes Station	580,000	494,565	123,641	240,000	494,565	494,565	618,207	38,207
Olema	150,000	75,173	18,793	120,000	75,173	120,000	138,793	-11,207
Bear Valley	30,000	19,988	4,997	120,000	19,988	120,000	124,997	94,997
Inverness Park/PRE-1	161,500	70,203	17,551	120,000	70,203	120,000	137,551	-23,949
PRE-2	25,000	9,221	2,305	120,000	9,221	120,000	122,305	97,305
PRE-3	38,000	18,982	4,746	120,000	18,982	120,000	124,746	86,746
PRE-4	50,000	26,989	6,747	120,000	26,989	120,000	126,747	76,747
Total	1,034,500	715,122	178,780			1,214,565	1,393,346	358,846

Notes:

- (1) From Table 4-4
- (2) 25% of maximum day demand
- (3) Total of operational and greater of fire and emergency storage

R:\Folders by Job No\8000 jobs\8600s\8687 (West Marin)\8687.01 WM Master Plan Update 2013_14\Tables\Tables Section 5 WM MP.xlsx\Table 5-2

Pt Reyes Station changes from a surplus storage to a minor 38,000 gallon deficit storage at buildout. Pt Reyes Station storage deficit calculated at buildout is primarily due to a higher multiplication factor utilized in this report for converting average day demand to maximum day demand (2.11 in this report vs. 1.76 utilized in 2001 Long Range Plan). Olema and Inverness Park/PRE-1 continue to exhibit surplus storage capacity even at buildout (11,000 gallons and 24,000 gallons, respectively). Although individual PRE service zones show deficits in storage, when connected via the cascading system it has 113,000 gallons of storage, and therefore has a minor 12,000 gallons deficit at buildout. Bear Valley service zone has a slight increase in deficit with 95,000 gallon deficit at buildout.

Existing storage volumes and current (2013) and buildout storage volumes are compared in Table 5-3.

5.5.3 Historical Comparison

At Pt. Reyes Station and Olema service zones, the 2001 Long Range Plan identified storage deficits at buildout have been rectified since that time. The current (2014 Master Plan) update shows 38,000 gallon deficit at Pt. Reyes Station and 11,000 gallon surplus at Olema. Bear Valley service area continues to have a storage deficit of 95,000 gallons and combined PRE (excluding PRE-1) has a deficit of approximately 12,000 gallons. Pt Reyes Station

5.6 PUMPING CAPACITY EVALUATION

The pumping capacity requirements for each pressure zone for FY2013 and buildout (FY2035) water demands are shown below. Specific recommendations to address pumping capacity needs are presented later in this section.

5.6.1 FY 2013 Water Demands

Pumping capacity requirements for each pump station under current water demands are shown in Table 5-4. The annual pump demand is the actual volume of water pumped by each pump station in FY2013. Utilizing the average day/maximum day peaking factor specific to each pressure zone (presented in Table 4-2), a maximum day demand in gallons per day for each pump station was determined. The maximum day pumping requirement represents the gallons per minute pumping capacity needed by each pump station to pump the maximum day demand over 16 hours, per District criterion.

5.6.2 Buildout Water Demands

Pumping capacity requirement by pump station at buildout in FY2035 is shown in Table 5-5. Coast Guard well pumps have a firm capacity deficit of 495 gpm. Other pump stations have small surplus capacities except PRE-1 and PRE-2 pump stations. The deficit at these two pump stations are not very significant at 3 gpm each and can be neglected due to the uncertainty in build out demand.

5.6.3 Historical Comparison

A comparison of the pumping capacity deficit from the last study (in 2000) and present (2013) at buildout (FY2035) is show in Table 5-6. It should be noted that water use demands in FY2013

Table 5-3
West Marin Storage Capacity
Existing Volumes and Capacity Goals

Tank/Zone	Existing Tank Capacity (gal)	Current Requirement (gal) (1)	Buildout Requirement (gal) (2)
Point Reyes Station			
Point Reyes -1	180,000		
Point Reyes -2	100,000		
Point Reyes -3	300,000		
Totals	580,000	398,815	618,207
Olema			
Olema -1	150,000		
Totals	150,000	135,531	138,793
Bear Valley			
Bear Valley -1	10,000		
Bear Valley -2	10,000		
Bear Valley -3	10,000		
Totals	30,000	124,130	124,997
Inverness Park/Paradise Ranch Estates 1			
Inverness Park -1	36,500		
Inverness Park -2	100,000		
PRE -1	25,000		
Totals	161,500	134,504	137,551
Paradise Ranch Estates -2			
PRE-2	25,000		
Totals	25,000	121,658	122,305
Paradise Ranch Estates -3			
PRE-3	38,000		
Totals	38,000	123,414	124,746
Paradise Ranch Estates -4			
PRE-4	50,000		
Totals	50,000	124,854	126,747

Notes:

- (1) From Table 5-1
- (2) From Table 5-2

Table 5-4
West Marin Pumping Capacity Requirements
FY 2013 Water Demands

Pump Station	Tank(s)	Zone Max Day Demand (gal/day) (1)	Transfer to other Zones (gal) (2)	Total Pumping Flow (gal/day)	Pumping Requirement (3) gpm	Pump Firm Capacity (gpm) (4)	Additional Capacity Required (gpm) (5)
Coast Guard Wells	Point Reyes Station	319,052	176,359	495,411	516	420	96
Olema	Olema	62,122	0	62,122	65	94	-29
Bear Valley	Bear Valley	16,518	0	16,518	17	35	-18
Inverness Park	Inverness Park / PRE-1	58,015	39,703	97,719	102	155	-53
PRE-1	PRE-2	6,633	33,070	39,703	41	54	-13
PRE-2	PRE-3	13,655	19,415	33,070	34	45	-11
PRE-3	PRE-4	19,415	0	19,415	20	32	-12

Notes:

- (1) From Table 4-2
- (2) Includes demands for upper zones that are pumped through station
- (3) Total Pumping Flow pumped over 16 hours per day per District criterion
- (4) Pump Station capacity with largest pump out of service (Added 120 gpm expected from alternate source at Gallagher well to Coast Guard capacity)
- (5) Additional capacity needed to meet maximum day demand criteria.

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Table 5-5
West Marin Pumping Capacity Requirements
Projected Buildout Demands

Pump Station	Tank(s)	Zone Max Day Demand (gal/day) (1)	Transfer to other Zones (gal) (2)	Total Pumping Flow (gal/day)	Pumping Requirement (3) gpm	Pump Firm Capacity (gpm) (4)	Additional Capacity Required (gpm) (5)
Coast Guard Wells	Point Reyes Station	494,565	220,556	715,121	745	420	325
Olema	Olema	75,173	0	75,173	78	94	-16
Bear Valley	Bear Valley	19,988	0	19,988	21	35	-14
Inverness Park	Inverness Park / PRE-1	70,203	55,192	125,395	131	155	-24
PRE-1	PRE-2	9,221	45,971	55,192	57	54	3
PRE-2	PRE-3	18,982	26,989	45,971	48	45	3
PRE-3	PRE-4	26,989	0	26,989	28	32	-4

Notes:

- (1) From Table 4-3
- (2) Includes demands for upper zones that are pumped through station
- (3) Total Pumping Flow pumped over 16 hours per day per District criterion
- (4) Pump Station capacity with largest pump out of service (Added 120 gpm expected from alternate source at Gallagher well to Coast Guard capacity)
- (5) Additional capacity needed to meet maximum day demand criteria.

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Table 5-6
West Marin Pumping Capacity Goals 2000 and 2014
Projected Buildout Demands

Pump Station	Tank(s)	2000 Goal gpm (1)	Additional Capacity Required in 2000 report (gpm) (2)	2013 Goal gpm (3)	Additional Capacity Required (present study) (gpm) (4)
Coast Guard Wells	Pt Reyes Station	850	550	745	325**
Olema	Olema	130	36	78	0
Bear Valley	Bear Valley	33	33	21	0
Inverness Park	Inverness Park / PRE-1	204	149	131	0
PRE-1	PRE-2	75	75	57	3
PRE-2	PRE-3	68	68	48	3
PRE-3	PRE-4	48	48	28	0

Notes:

(1) From Table 7 - West Marin Storage Capacity Analysis - Soldati Engineering Services (July 7, 2000)

(2) From Table 7 - West Marin Storage Capacity Analysis - Soldati Engineering Services (July 7, 2000)

(3) From Table 5-5 (this report)

(4) From Table 5-5 using 0 for additional capacity required when there is surplus capacity

At Coast Guard Wells, 120 gpm from Gallagher well (alternate source) was added to reduce the deficit.

** More wells are proposed at Gallagher Ranch

R:\Folders by Job No\8000 jobs\8600s\8687 (West Marin)\8687.01 WM Master Plan Update 2013_14\Tables\[Tables Section 5 WM MP.xlsx]Table 5-6

were approximately 12% lower system-wide than in FY 1997-98. A reduction in annual demand results in lower max day pumping demands at any given pump station.

5.7 CONCLUSIONS AND RECOMMENDATIONS

The recommended improvements to address current and future storage and pumping capacity deficiencies are summarized below. Specific projects are listed in Sections 9 and 10.

5.7.1 Storage Capacity Improvements

Specific improvements to address pressure zones with inadequate storage capacity are presented below. Other pressure zones not specifically listed require no improvements.

5.7.1.1 Point Reyes Tanks

There is a deficit of 38,200 gallons at buildout. This can be addressed in the future when time comes for replacing one of the tanks.

5.7.1.2 Bear Valley Tanks

There is a storage deficit of 95,000 gallons at buildout. Adding a new 65,000 gallon tank at the present tank location and a 30,000 gallon tank at Silver Hills Road is appropriate.

5.7.1.3 PRE Tanks

There is a storage deficit of 12,000 gallons at buildout. Adding a new 80,000 gallon PRE-4 tank will rectify the storage deficit and will provide fire storage capacity for lower PRE zones via the cascading system.

5.7.2 Pumping Capacity Improvements

Specific improvements to address pump station capacity deficits are presented below. Other pump stations not specifically listed require no improvements.

5.7.2.1 Coast Guard Wells

Point Reyes Station has a pumping deficit of 445 gpm at buildout. Since Gallagher well will be adding 120 gpm flow, the deficit is reduced to 325 gpm. Since there is a future project to add well(s) at Gallagher Ranch site in the future, no changes other than repair/replacement of the pump at Coast Guard well #2 is proposed.

In 2001, the District initiated time-of-use pumping at both Coast Guard wells. The program has resulted in over 5% energy savings annually. The district will continue to work with PG&E and Marin Clean Energy to further optimize the program to reduce energy consumption and pumping cost.

SECTION 6
WATER QUALITY EVALUATION

SECTION 6

WATER QUALITY EVALUATION

6.1 INTRODUCTION

Ensuring water quality is one of the primary goals of the District. Policy supports this goal with Board and management commitment to meeting or exceeding all US Environmental Protection Agency (EPA) and California Department of Public Health (CDPH) regulatory requirements. Water quality is monitored by the Water Quality Division whose responsibility is to provide oversight to all District activities as they relate to water quality.

Section 6 presents information on the current water quality, and provides recommendations for operational modifications and capital improvements related to water quality in the West Marin Water System.

6.2 CURRENT WATER QUALITY

6.2.1 Source Water Quality

Source water for the West Marin system is supplied by two wells adjacent to Lagunitas Creek (Coast Guard wells). The wells have a maximum depth of around 60 feet. This water is low in naturally occurring organic compounds and requires minimal disinfection to maintain a disinfectant residual. The total DBP (disinfection byproducts) formation potential is normally moderate with concentrations of around 40 ug/L at the location with the highest water age or maximum residence time. During times of salinity intrusion the brominated constituents of DBPs can rise significantly resulting in a total THM concentration of up to 89 ug/L at maximum residence.

The primary contaminants in water from the Coast Guard Wells are iron and manganese. These are removed through oxidation and green sand filtration. The green sand must be chemically activated in order to remove iron and manganese filters, this chemically active state is maintained with potassium permanganate that is injected along with sodium hypochlorite (for disinfection) at the front of the chemical contact tank.

6.2.2 Existing Distribution System Water Quality

Water quality in the distribution system is generally excellent. Although iron and manganese are not generally detectable in finished water, sediment composed of these metals has accumulated from time to time in certain parts of the distribution system. These sediments can be stirred up by atypical water demand and cause dirty water complaints. Salinity intrusion can cause changes in taste, increased corrosion from copper pipes and metal fixtures, as well as an increase in the concentration of certain disinfection byproducts.

6.3 DRINKING WATER REGULATIONS AND NMWD MONITORING PROGRAMS

The District operates the West Marin Water System under an operating permit issued by the California Department of Public Health (CDPH). CDPH is responsible for enforcing both State and Federal (United States Environmental Protection Agency, USEPA) drinking water regulations as a "primacy" State. NMWD's operating permit requires compliance with all State

and Federal drinking water regulations and imposes several additional operating and monitoring conditions.

Discussion follows on the drinking water regulations and permit conditions that are most significant in regards to distribution system water quality. The purpose of the regulation, NMWD's response and review of issues for the West Marin customers is addressed for each.

- Coliform Rule
- Stage II Disinfection By-Product Rule (DBP II)
- Groundwater Rule
- Lead and Copper Rule
- Fluoridation Mandate
- Other regulations and permit conditions
- Other NMWD programs and emerging issues

6.3.1 Coliform Rule

- *Purpose of rule:*
Assure pathogenic microbial growth is not present in water supply.
- *Monitoring requirement:*
CDPH requires every separate hydraulic zone of water, as represented by a tank or pressure system, must be monitored monthly. A minimum number of samples are required per month based on population served.
- *NMWD response:*
Currently, 7 sample sites are identified in the NMWD Coliform Sampling Plan. CDPH regulations require 3 samples be collected each month. NMWD has structured a sampling program that provides for sampling 1 to 2 sites on four separate routes, each sampled every four weeks.
- *Issues:*
Historically the District relied on customer taps for sample sites. Finding representative sample sites among residential and business taps has been difficult at times. A standard sampling station design has been developed and 4 have been installed. Sample stations should be installed to replace tap sampling for the 3 remaining locations.

6.3.3 Disinfection By-Product Rules Stage II

- *Purpose of rule:*
Minimize health effects related to chemicals formed during the disinfection process.
- *Monitoring requirement:*
Distribution sampling is required in the two warmest quarters at two locations for total trihalomethanes (THMs) and haloacetic acids. Compliance is based on location running annual average. Locations are determined by conducting an Initial Distribution System Evaluation (IDSE) using a number of factors including results from increased system wide monitoring for one year, residence time, and population distribution.

- *NMWD response:*
DBP formation potential in water from the Coast Guard wells is relatively low. Samples taken at the distribution system location with the highest residence time (furthest from the source) rarely exceed 55 ug/L. Re-chlorination at PRE tank 1 raises the concentrations of DBPs along with boosting chlorine concentration. During periods when salinity intrusion at the Coast Guard well site raises the concentration of bromide in source water, the THMs concentration has risen to just below 90 ug/L.

Sprayer systems have been installed in Inverness Park Tanks and PRE tank 2 to volatilize and ventilate DBPs from the water in the tank to the atmosphere. They have been effective in reducing DBPs by up to half.

- *Issues:*
There is a conflict in simultaneous compliance with maintaining an adequate chlorine residual and keeping DBPs as low as possible. Other water utilities have converted to chloramines as the disinfectant to lower DBPs while maintaining an adequate residual in the distribution system. Conversion to chloramines by NMWD would require the addition of ammonia into the water supply and is not necessary under current standards.

The sprayer systems in Inverness Park Tanks and PRE tank 2 can also have the effect of lowering chlorine residuals. Monitoring the chlorine concentration and dose at the PRE Tank 1 booster station is necessary to ensure adequate residual.

6.3.4 Groundwater Rule

- *Purpose of rule:*
The purpose of the rule is to provide for increased protection against microbial pathogens in public water systems that use ground water sources. EPA is particularly concerned about ground water systems that are susceptible to fecal contamination since disease-causing pathogens may be found in fecal contamination
- *Monitoring requirement:*
The groundwater rule requires triggered source water monitoring for fecal coliforms and/or E coli if a routine sample for compliance with the Total Coliform Rule is positive for coliforms. An E coli positive in source water would require a system-wide Boil Water Order (BWO) and follow up monitoring. There is a waiver of the triggered source water monitoring and BWO requirement if the system maintains 4-log inactivation of viruses through treatment.
- *NMWD response:*
NMWD has applied for and received the 4-log waiver from requirements of the Groundwater Rule. 4-log inactivation is achieved by qualifying disinfection in the contact tank at the Point Reyes Treatment Plant (P RTP). The 4-log waiver is maintained by monthly reporting of the lowest daily contact time (CT) value.
- *Issues:*
4-log inactivation of viruses has not been difficult to maintain. Data collected in the Supervisory Control and Data Acquisition (SCADA) system is used to generate the monthly report. Failure to document 4-log at the time of a coliform positive in the distributions system would trigger the source water monitoring and reporting.

6.3.5 Lead & Copper Rule

- *Purpose of rule:*
Reduce corrosion of lead and copper in consumer plumbing.
- *Monitoring requirement:*
20 residences have been identified to test for lead and copper. Currently, NMWD is under a reduced monitoring program of 10 residences every three years.
- *NMWD Response:*
Samples tested as part of the lead and copper monitoring do not commonly contain lead at concentrations nearing the action level. Copper has been detected at levels above the action level in some samples
- *Issues:*
Salinity intrusion can make water more aggressive and could increase lead and copper values above the action level.
Some of the older valves in the distribution system, such as those associated with older fire service assemblies, may have lead weights. These valves are being removed from the system as repairs are identified. The Point Reyes distribution system has no lead service lines.

6.3.7 Other Regulations and Permit Conditions

In addition to the regulations discussed above, the California CDPH has regulations that focus on assuring that water systems are designed, constructed and operated in a manner compatible with public health goals. Cross connection control, State Waterworks Standards and Operator Certification stand out as regulations focused on maintaining water quality.

- Cross Connection Control
- State Waterworks Standards
- Operator Certification
- West Marin Permit Provisions

6.3.8 Cross-Connection Control

- *Relationship to Water Quality:*
Contamination of a treated water supply within the distribution system due to cross-connection/backflow conditions is a primary concern. California regulations require that all water suppliers maintain a cross-connection control program with specific required elements including annual testing of devices and certification of personnel.

North Marin has experienced cross-connection events in the distribution system. There have been instances where soda-dispensing systems (soft drinks) have allowed carbonation to backflow, causing copper leaching.

Other cross-connection events may not have been recognized and reported. Close compliance with the District program remains the strongest protection.

- *The North Marin Water District Program:*
The current NMWD cross-connection program is the responsibility of the Maintenance Division. The responsibility includes identification of hazards within the system, and assuring compliance with NMWD regulation 6 and Title 17, California Code of Regulations.

The NMWD program differs from other local water agencies in that District staff test backflow prevention devices. This has the advantage of assuring that tests have been properly performed and costs are reduced for the rate payers because employees trained and supervised by the District's certified cross-connection control technician are used. Management provides the staff resources and oversight to assure that the program is carried out and minimal delays occur between a test failure and repairs.

- *Issues:*
There have been several revisions to the California Code of Regulations, Title 17 governing selection and location of backflow preventers. A survey of the West Marin cross-connection control program has revealed under-utilization of backflow devices in some areas of the system. The District has planned for the capital and maintenance costs for upgrading services and updated District regulations and fee schedules to cover these required costs.

6.3.9 State Waterworks Standards

- *Relationship to Water Quality:*
California Department of Public Health sets regulations including design and construction standards to be used by water suppliers. These standards were recently revised. Specific design and construction criteria are identified to provide protection of public health.
- *Highlights of the Waterworks Standards as related to West Marin:*
 - Requires an amendment to the water permit if volume of water delivered increases by more than 10 percent.
 - A source capacity report is required of all systems.
 - All coatings, linings, gaskets or sealing materials, joint compounds or tank materials must be certified to meet ANSI/NSF Standard 61.
 - Details on standards for flushing valves and blow-offs, air release valves and isolation valves are identified.
 - Reservoirs are required to have separate inlet and outlet and sampling taps.
 - A Distribution System Operation Plan is required with updates every five years.
 - Mapping Standards are identified.
- *Issues:*
The most significant issue is the requirement for NSF Standard 61 certification for materials. Standard 61 addresses water quality contamination issues but does not address longevity or strength. Care must be taken in selecting appropriate materials.

Both District and contract work will be required to be in compliance with the new standards.

6.3.10 Operator Certification

- *Relationship to Water Quality:*
All states are required to develop operator certification programs to comply with regulations. California water treatment operators have been certified for many years. As more focus has recently arisen related to distribution system operation, a California program has been underway since 2004 to certify distribution operators. Certification is also required for cross-connection control device testers.
- *The North Marin Water District Program:*
The District is required to have distribution operator certification for all employees with duties that involve decisions in operation, maintenance or repair of distribution system facilities. All District treatment operators are certified. The District's cross connection control technician is certified by AWWA as a tester and assumes the role of certifying other District personnel hired to test NMWD devices.
- *Issues:*
The most significant impact of the new California certification rules is the requirement for continuing education units and the successful testing of all employees to receive certification.

6.4 OTHER NMWD PROGRAMS AND EMERGING ISSUES

Distribution water quality is maintained if policies and procedures are in place to assure that good planning, construction and maintenance practices are followed. Some of the programs developed by NMWD staff can be considered quasi-regulated because they are cited in the Point Reyes Operations Plan that is reviewed and approved by the Department of Health Services. Following is a review of:

- Tank inspections, operations and maintenance
- Valve Turning
- Flushing
- New construction approval process
- Water Quality Laboratory
- Source Controls and Treatment
- Emerging Issues

6.4.1 Tank Inspections, Operations and Maintenance

- *Relationship to Water Quality:*
Storage tanks are a location of high vulnerability. Storage of water, while providing fire protection and emergency supply, can cause the water to age and lose chlorine residual. Screens on vents and overflows must be properly maintained to prevent intrusion by birds, and animals.
- *The North Marin Water District program:*
The current NMWD tank inspection program is carried out by the Operations division with occasional assistance from the Maintenance division. The Maintenance division conducts annual inspections, typically performed by the Electrical/Mechanical staff. The Operations division inspects four tanks weekly for chlorine residuals and tank security issues. These are Olema Tank, Bear Valley Tanks, PRE Tank 1, and PRE Tank 4. A water quality-focused inspection of all tanks typically occurs once a year during the winter. Samples are collected by the distribution system operator for lab analysis,

including coliform growth and heterotrophic bacteria. Tank inspection observations are recorded in the database "Tank Cleaning Sch.xls" which is maintained by the Operations staff. Tank Inspection forms, typically filled out during tank cleanings, are included in the individual tank binders located in the Engineering department.

Reduced chlorine residuals have caused a tank chlorine augmentation program to be developed. Chlorine dispersion tubes have been installed in Olema Tank and PRE Tank 4. A regular program is conducted by the distribution operator to monitor all of the tanks and add chlorine tablets as necessary. Records are maintained on this activity and correlation with lab sampling within the zone is reviewed by the Water Quality division. Significant improvement in maintaining a chlorine residual and a marked decrease in the number of coliform positive samples in the distribution system has been observed as a result of these actions

The pump operational set points at the storage tanks and system dynamics have a great influence on water age.

- *Issues:*
Tank inspections must be scheduled and maintenance prioritized so water quality problems are quickly remedied.

Overflow drains may not be located on facility drawings.

Augmentation of tanks with chlorine tablets is time-consuming. If it is determined that ongoing chlorine augmentation is advantageous, alternatives to the program will be investigated.

A system to chlorinate the larger tanks under emergency conditions is needed.

Separate tank inlet and outlet pipelines have been designed for some NMWD tanks. Their performance has been positive in de-stratifying tank water and maintaining adequate chlorine residuals throughout the water column. Proposed Water Works Standards will require separate inlet and outlet pipelines.

6.4.2 Valve Turning Program

- *Relation to Water Quality:*
Turning all valves provides assurance that valves are functioning and can be used to valve off main breaks or contamination events in a timely manner. It also provides an opportunity for staff to gain knowledge of valve locations and assure they haven't been buried by new paving and are fully operational.
- *The North Marin Water District program:*
NMWD has a good program that provides for turning all distribution and transmission system valves each year by the Maintenance Division.
- *Issues:*
A valve replacement program with identified goals should be considered. Fewer available staff has allowed for this program to fall behind.

6.4.3 Flushing

- *Relation to Water Quality:*
Flushing has long been identified as one of the most effective maintenance practices for improving water quality by removing sediments, corrosion by-product biofilms and introducing higher chlorine residual to stagnant dead ends.
- *The North Marin Water District program:*
North Marin initiated an annual, system-wide flushing program over 30 years ago. Budget constraints caused the program to be abbreviated in the '90s. Currently, flushing is carried out by Maintenance, Construction, and Operations personnel, coordinated by the Treatment and Distribution Supervisor with flushing routes assigned to several flushing teams. Flushing is generally conducted annually.
- *Issues:*
Flushing of dead ends and between pressure zones is complicated by the lack of flushing blow-offs at zone valves. A program to install zone valve blow-offs has been initiated. Flushing zone-valve dead-ends without blow-offs requires that stagnant water from the higher zone be flushed to the lower zone which can jeopardize customer water quality, as well as the risks associated with introducing a higher pressure to an area.

Although the flushing program has been normally performed annually, cutting the program back due to water supply concerns has not resulted in an increase of colored water complaints.

Stormwater protection rules require dechlorination of all water discharged during flushing. The District has adopted a policy of dechlorinating at all flushing points; previously dechlorination took place only adjacent to locations that were perceived as being environmentally sensitive.

6.4.4 New Construction Approval Process

- *Relationship to Water Quality:*
New facilities are approved for service by procedures that allow for their disinfection and subsequent testing to show no contamination. The final approval depends on more than the disinfection process but starts with good design and construction practices.
- *The North Marin Water District Program:*
Design review procedures include review for water quality concerns. District procedures document the post-construction disinfection and approval process. The Operations division has procedures for liquid chlorine disinfection of mains. Protection of the sanitary condition of pipe in storage has been identified as a goal and is now practiced.
- *Issues:*
The electrical/mechanical crew has developed a procedure for the disinfection of pressure reducing stations and their bypass valves. This procedure should be documented.

Engineering should include a representative from the Water Quality division at pre-construction meetings on larger projects to review the approval process and discuss BMPs as relating to assuring water quality. Distribution of the appropriate standards

related to disinfection and main approval to the project construction superintendent could be included on the job check list.

Flushing velocities have been less than sufficient in many cases to clear lines. Tie-in to existing mains has been required in several cases prior to main approval in order to achieve flushing velocities. NMWD should consider providing temporary connection with backflow protection to mains.

Covered storage has been suggested to provide contamination protection for pipe and appurtenances in yard. In lieu of covered storage, end caps are used on stored pipe. End cap effectiveness requires prompt capping and contractor attention at job sites.

District experience with pipeline disinfection using liquid hypochlorite is positive. Training District personnel on main disinfection procedures has been done to enhance the ability to respond to emergencies. However, the District utilizes outside contractors for pipeline disinfection on large, planned projects.

6.4.5 Water Quality Laboratory

- *Relationship to Water Quality:*
The ability to consistently control and improve water quality is determined by the ability to quickly obtain data and detect trends. The ability to provide quantitative data that can be used to guide process control decisions allows for a higher quality product. It is the role of the laboratory to provide this data. An on-site laboratory equipped to perform tests on demand provides the timely detection that is crucial to good water quality control.
- *The North Marin Water District Program:*
The NMWD Water Quality laboratory is staffed and equipped to perform common regulatory tests and those tests that are routinely requested by staff or customers. The laboratory is certified under the California Environmental Laboratory Accreditation Program and staff are certified as Water Quality Analysts by the California-Nevada Section of the American Water Works Association. It has been the policy to equip the lab with the ability to perform those tests essential to monitoring constituents of concern, i.e., those that can be controlled by adjustment to either plant operations or distribution practices. Use of commercial laboratory services is limited to those tests of constituents that are required for regulatory purposes, primarily to show their absence, or to those tests which are not cost effective for the District to perform.
- *Issues:*
There is no commercial laboratory in Marin County that is certified to perform bacteriological tests on water. The NMWD laboratory has been asked by County Environmental Health if NMWD would be capable of accepting private well bacteriological tests of Non-District County residents. The NMWD laboratory has started to accept samples from Novato Sanitary District and Marin Municipal Water District. The lab should continue to market lab services to neighboring water and wastewater utilities to add revenue and reduce operational costs.

A Laboratory Information Management System (LIMS) was implemented in June 2007 and has been put into daily operation. This system allows for automated reporting from instruments and a streamlined, multistep process for validating results. All bench sheets and reports (including electronic reports to the state database) are generated from the LIMS.

Results of all testing are compiled and summarized in an Annual Water Quality Report. This report (identified as a Consumer Confidence Report as required by the US Safe Drinking Water Act) lists any detected contaminant or constituent with a primary standard as well as several constituents with secondary standards that may be of interest to consumers. The Annual Water Quality Report is sent to each customer in a special mailer and is posted on the District's website.

6.4.6 Source Controls and Treatment

- *Relationship to Water Quality:*
Good source water quality is typically directly related to treated water quality. Improving source water quality can improve treated water quality.
- *The North Marin Water District Program:*
A Sanitary Survey showed no major threats to source water.

6.5 WATER QUALITY GOALS

Based on the issues discussed and experienced the following goals are identified as appropriate to assure water quality in the West Marin Water System:

1. A minimum 0.20 chlorine residual maintained at all points in the distribution system.
2. Heterotrophic plate counts not exceeding 500/ml bacteria at all points in the distribution system.
3. No taste and odor complaints or detection.
4. Total Trihalomethanes reduced below 60 ug/L at all DBP sample sites; total haloacetic acids reduced below 40 ug/L at all sample sites.
5. Maintain Sodium concentration below 50 mg/L at all times.
6. Annual inspection and testing of all reservoirs for bacterial quality and sediments that would warrant disinfection and/or cleaning.
7. All reservoirs cleaned (or bypassed for cleaning based on data) every five years.
8. Annually, flush all mains and turn all valves.
9. Test backflow prevention devices annually and repair within 45 days of failure identification date.
10. Maintain lead and copper below action level at all consumer taps.
11. Respond to customer complaints within the workday.

6.6 RECOMMENDATIONS

The following are recommended actions towards achieving water quality goals.

6.6.1 Source Quality

1. When Gallagher well and pipeline is completed, develop a salinity avoidance strategy that takes advantage of this separate source of supply either wholly or by blending with the coast guard well supply.

6.6.2 Treatment

1. Continue permitting, design, and construction work to eliminate backwash discharge to land.

6.6.3 Distribution

1. Install additional DBP reduction sprayers at tank sites where they are found to be effective and as they are needed related to salinity intrusion.
2. Improve flushing by including Engineering in annual update of flushing routes adding new mains.
3. Continue to install flushing blow-offs at dead-end valves.
4. A valve replacement program with identified goals should be considered.
5. Review security issues and address vulnerabilities as appropriate. Consider SCADA-based security alarms and general SCADA security.
6. Consider electronic collection of cross connection control test results in the field that can be downloaded upon return to the office.
7. Continue to replace the older NMWD-design fire service double check detector assembly and rely on fire systems with approved single detector checks and rely on the alarm check in the fire system to provide redundancy. The older checks should be removed to eliminate head loss, lead components and liability.

6.6.4 Other Issues

1. Maintain laboratory service ability to meet customer priorities and provide feedback to operational issues. Utilize contract laboratory services to monitor regulated contaminants that are not a concern and testing and/or maintaining laboratory certification is not cost effective.
2. Integrate all District Information management systems including the development of a Laboratory Information Management System (LIMS). Information is critical to effective application of resources.
3. Provide laboratory services to County and other agencies.

SECTION 7
HYDRAULIC EVALUATION

SECTION 7

HYDRAULIC EVALUATION

7.1 INTRODUCTION

The hydraulic evaluation of the West Marin Water System is presented in Section 7. The 2001 West Marin Long Range plan did not include a hydraulic evaluation to identify hydraulic adequacy under several demand conditions, including a fire flow evaluation. Only limited hydraulic evaluation is performed under the present Master Plan however, some recommendations are discussed as appropriate to address distribution system hydraulic improvements. A future study is suggested to address an improved and calibrated hydraulic model.

7.2 HYDRAULIC MODELS

EPANET 2, public domain software developed by the US Environmental Protection Agency, is used for hydraulic flow modeling by NMWD staff. Over the years, simple hydraulic models have been developed to evaluate fire flow capacity for local developer projects in certain service zones using EPANET 2. These models are for Pt. Reyes, Bear Valley, Inverness Park and PRE service zones.

7.2.1 Modeling Criteria

Establishing hydraulic modeling criteria is important for development, calibration and use of the hydraulic network model, as well as interpreting the results. Key criteria utilized in development and use of the District's hydraulic models is as follows:

- All pipes 4 -inch diameter and larger are included in the model, with some key 2- inch diameter pipes that complete loops or are essential to water flow also included. Demands at the end of these pipelines are placed at the nearest node.
- Pipe lengths and nominal diameters were obtained from the District's facility maps maintained by the Engineering Department.
- The pipe roughness coefficient, Hazen-Williams "C" value, was assigned to each pipe segment based on pipe material and age.
- Water entering a modeled zone is represented by pumps utilizing pump curves provided by the District. Water leaving a modeled zone (such as at upper zone pump stations) is represented as a node with a demand indicating the number pumps operating as necessary.
- Tank dimensions and elevations were input for all storage facilities.
- Ground surface elevations were obtained from the District's facility maps, or Marin County orthophoto mapping in some cases.
- Water demands and flow rates are expressed in gallons per minute (gpm).

7.2.2 Water Demands

The model demands are based on average annual daily demands in the past 13 years as presented in Section 4. For model runs under conditions other than average day demands, a multiplier was used to determine those demands. Multipliers for maximum day and peak hour

demands vary with service (or pressure) zones, however, the billing data was not analyzed to determine individual service (or pressure) zone multipliers. Therefore, multipliers for the whole West Marin Distribution system were used for the individual zones.

7.3 DISTRIBUTION SYSTEM ANALYSIS

The hydraulic network models were utilized to evaluate the performance of the PRS and Bear Valley water distribution systems under current (FY 2013) and future buildout (FY 2035) water demands. The hydraulic model output results include flow, velocity and head loss for all pipe segments, and pressure and hydraulic gradient for all network nodes in the system. This information is compared to specific evaluation criteria to determine hydraulic adequacy. Solutions to correct identified deficiencies are then run with the model to determine their effectiveness. Limited modeling was performed in the Inverness Park-Paradise Ranch Estates zone and no modeling was performed in the Olema zone.

Model runs are steady-state runs, which represent a specific snapshot in time. The status of zone pumps, outflows from the zone, peaking factors, and pipelines and tanks that are in service or out of service is all input into the model as boundary conditions. The model output results indicate system operation at that particular point in time.

Extended-period or dynamic model runs were not performed during this analysis.

7.3.1 Evaluation Criteria

In order to effectively evaluate the model runs, the model output results were compared against established evaluation criteria. These criteria include: minimum and maximum pressure, maximum velocity, maximum head loss, residual pressure at fire nodes, and fire flow requirements. In addition, other system reliability criteria also govern the analysis. A detailed discussion of the development of these criteria is presented in Section 2, and the pertinent criteria are summarized below:

- Minimum normal pressure = 40 psi
- Minimum pressure under max day demand = 35 psi
- Minimum pressure under peak hour demand = 30 psi
- Maximum normal pressure = 80 psi
- Maximum pipeline velocity = 8 fps; 10 fps under fire demand conditions
- Maximum pipeline head loss = 10 feet per 1000 feet
- Minimum fire flow requirement = 2,000 gpm for Point Reyes Station and 1,000 gpm elsewhere (for 2 hours). Note this is the recommended fire flow by Marin County Fire Department and has increased over time (initially 500 gpm to 1,000 gpm for 15 minutes in rural areas) ⁽¹⁾.
- Residual pressure under fire flow = 20 psi

7.4 MODEL SIMULATION APPROACH

The service zone models were run separately under three basic steady-state demand conditions that stress the distribution system: 1) maximum day demand; 2) peak hour demand;

¹ Paradise Ranch Estates Water System Improvements EIR (NMWD, 1979)

and 3) maximum day demand plus fire flow. The modeled pressure, pipe head loss and velocity were compared with the evaluation criteria noted above. Deficiencies were noted and improvements recommended as necessary. These modeled demand scenarios were intended to stress the system with the highest expected flow rates throughout the system, with the intent that if the system functioned adequately under these stressed conditions, then it is anticipated that lower demands can be accommodated.

A review of all fire hydrant flow tests to determine low fire flow areas and hydraulic modeling to identify potential pipeline improvement and replacement projects to increase fire flows to these hydrants is beyond the scope of this master plan. The District can conduct a review of the fire hydrant flow tests and target specific areas for more detailed evaluation of fire protection capabilities.

7.5 PT REYES STATION (PRS) ZONE HYDRAULIC ANALYSIS

7.5.1 Assumptions

PRS model simulations are run under the following assumptions:

- The storage tanks are operated at a water level less than full that represents a typical level during maximum day demand.
- The maximum day to average day demand multiplier is 2.11 and the peak hour to average day demand multiplier is 4.0.
- Maximum fire flow rate is 2,000 gpm in Pt Reyes Station and 1,000 gpm in other areas.
- For FY 2013, the average day demand is 163 gpm; maximum day demand is 344 gpm; and peak hour demand is 652 gpm.
- For FY 2035, the average day demand is 235 gpm; maximum day demand is 496 gpm; and peak hour demand is 940 gpm.

**Table 7-1
PRS Zone Model Parameters**

<u>Model Run Scenario</u> Model Input Parameter	Maximum Day	Peak Hour	Maximum Day + Fire Flow
Multiplier – Existing (Buildout)	2.11	4.0	14.3
PRS Tank 1 Water Elevation (ft)	212.8	212.8	212.8
PRS Tank2 Water Elevation (ft)	212.8	212.8	212.8
PRS Tank 3 Water Elevation (ft)	212.8	212.8	212.8
Flow out to other zones (gpm)	120	228	2,120

7.5.2 General Modeling Information - PRS

The Coast Guard Wells pump water through the PRSTP to PRS Tanks and also to the distribution system simultaneously. In the present modeling, the Coast Guard Wells were not included. Instead, gravity flow from the PRS Tanks was used. The flow out of the system to other service zones was applied to the model node at the B Street and 1st Street intersection. The demands were randomly applied at different nodes of the model (not based on billing data).

7.5.3 Maximum Day Demand Scenario

The PRS model was run under current maximum day demand to ascertain potential existing system hydraulic adequacy. In this scenario, 344 gpm flows out of the PRS Tanks and into the distribution system and 120 gpm leaves to the other pressure zones. Under these conditions, except at 2 nodes on a 2-inch private line on Hwy 1 in the north east corner of the PRS service zone, there were no pressures less than 35 psi or pipelines with high head loss or velocity. These results indicate that there is ample pipe capacity to meet existing maximum day demand.

7.5.4 Peak Hour Demand Scenario

Similar results occur during peak hour demand scenarios. The primary impact is that more water must be delivered from the tanks to meet demands. There are no additional low pressure locations or pipelines with high head loss or velocity.

7.5.5 Maximum Day Demand + Fire Flow Scenario

The fire flow analysis was conducted utilizing one location to place the fire flow in the model. The fire flow of 2,000 gpm was applied at the western end of the PRS service zone at the intersection of 1st and B Street. Maximum day demand was also randomly distributed as mentioned earlier.

Although in the model simulations only tank storage is utilized, there is direct pumping from the Coast Guard wells that can supplement flow and pressure. This conservative approach will identify any hydraulic deficiencies to meet fire flows in the PRS zone.

The fire flow analysis consisted of applying fire flow and maximum day demand and determining if the 20 psi residual pressure criterion is met. A few areas showed less than 20 psi pressure (between and 10 and 20 psi). However, the velocity in these segments remains below the criteria for deficiency, and these pipeline segments are not candidates for replacement strictly for hydraulic benefit alone. It is not uncommon for many locations that are deficient at the higher fire flows to meet the requirements at the lower fire flows. These are the upper elevation areas on the 12-inch main on Shoreline Highway.

7.5.9 Buildout Demand Scenarios

Buildout demands were applied at the same locations as the present day simulations but used the 2035 multiplier to reach 940 gpm for peak hour demand. There were no additional deficiencies other than that previously described in the peak hour demand scenario.

7.6 BEAR VALLEY ZONE HYDRAULIC ANALYSIS

Limited modeling was performed. Fire flow criteria of 1,000 gpm in Bear Valley is approximately 50 times the pumping rate due to low residential demand in this pressure zone. Therefore, sizing pipes for fire flow goal of 1,000 gpm rate seems extreme and modeling was performed with 500 gpm flow. Marin County Fire Department has allowed minimum fire flow of 500 gpm for residential projects in this area. The modeling shows that 500 gpm flow rate creates negative pressure at a node 900 ft downstream of the tank where the 4-inch main branches into a 4-inch and a 6-inch loop at 370 ft elevation. If this 900 ft of pipe downstream from Bear Valley tanks is upsized to a 6-inch, the 500 gpm flow can be achieved with 36 psi residual pressure at that node meeting the minimum 20 psi pressure criteria and 1,000 gpm flow is achievable with 17 psi residual pressure at that node. If the 4-inch pipe is replaced with an 8-inch pipe, the 1,000 gpm flow could be achieved with a minimum residual pressure of 38 psi.

7.7 INVERNESS PARK - PARADISE RANCH ESTATES ZONE HYDRAULIC ANALYSIS

Limited model simulations were performed to check if 500 gpm fire flow can be obtained with the existing system. No pressure or velocity deficiencies were noted.

7.8 OLEMA ZONE HYDRAULIC ANALYSIS

Modeling was not performed for this zone. However, it is noted that the only supply line to Olema Tank is along Highway 1. Installing bypass connections along the existing 4-inch main or installing a second supply main from Bear Valley system along Bear Valley Road will improve reliability of service to the Olema service zone. Since current Bear Valley storage is limited, this proposed improvement would also require increasing Bear Valley Tank storage.

SECTION 8
ASSET MANAGEMENT

SECTION 8

ASSET MANAGEMENT

8.1 INTRODUCTION

The North Marin Water District (NMWD) West Marin Asset Management (WMAM) Program is a staff-driven program that has been developed following the Novato program. From this effort, staff recommended defining WMAM for NMWD as a long-range planning document that can be used to understand the following:

- The assets that NMWD owns, their current physical condition, and the services that they provide;
- The present and future demands on the NMWD assets that are critical for delivering the level of service to customers and the community;
- The current estimate of the short-term and long-term financial requirements (both capital and operational) necessary to maintain the assets and the services that they provide;
- The current and proposed policies, strategies, and programs that are necessary to meet the long-term provision of services;
- The business risk exposure associated with the potential failure of the assets to meet the expected levels of service;
- The linkages necessary between strategic business objectives and the service that the assets are delivering; and
- The organizational continuity that will span staffing changes and the transfer of asset management knowledge between successive generations of utility managers and staff.

[NOTE: This is NMWD's 1st draft of the WMAM Plan and as such, does not meet all of the long-range goals for a fully-developed WMAM Program.]

It is intended that the production of a 5-year WMAM Plan will be updated as part of the NMWD ongoing Master Plan process.

The District's WMAM Plan has a short-term focus (five years) within the WMAM Program of the longer-term period (100 years) covering the full life cycle of the assets. It is based on a set of systematic planning activities to assess asset performance and demands, improve reliability of asset performance, improve forecasts for both capital and operational budgets based on asset performance and reliability needs, identify and quantify business risks and trends, formulate and evaluate both capital and operational options for meeting service levels, and plan continuous improvements related to delivering the lowest life cycle cost service solutions.

WMAM Program Development & Planning is related to the assets that are currently owned and will be owned in the future, and how the business decisions related to these assets will affect its ability to sustain asset performance and consequently sustain provision of economical services to its customers. NMWD has traditionally performed many of these tasks across the organization; however, the results of this work have not been collated into a single, concise

document to allow the organization to clearly understand the overall business planning ramifications.

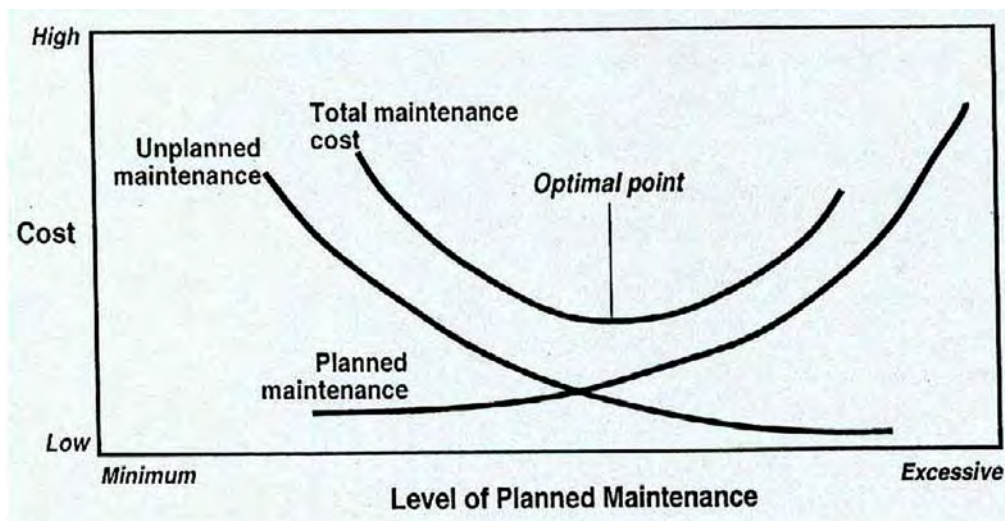
8.2 WMAM PROGRAM OBJECTIVES AND GOALS

The District's mission is to provide "... an adequate supply of safe, **reliable** and high quality water ... to our customers at **reasonable cost** ...". Accordingly, it is appropriate that the goals of the District's WMAM Plan are to: (1) improve water system reliability by reducing system failure rates; (2) minimize the time and money spent reacting to problems through proactive implementation of necessary WMAM projects; (3) forecast exhausted asset replacement costs; and (4) develop a practical replacement plan.

Without an effective WMAM Program, infrastructure reliability cannot be achieved in a cost-effective manner. As an example, consider the graphical illustration contrasting total repair and replacement (R&R) costs versus planned and unplanned R&R activities as shown in Figure 8-1. From this graph, it is apparent that there is an optimal point at which total R&R costs are lowest.

With the District approaching community build-out, more of the daily construction and maintenance activities have switched from new construction to R&R of aging infrastructure. In addition, a greater percentage of funds for these R&R projects will come from District operating revenues and not connection fees associated with new development.

Figure 8-1
Level of Planned Maintenance



Managing water facility infrastructure R&R projects has always been a part of the District's annual Capital Improvement Projects (CIP) budgeting process. However, in the past, many of the R&R projects have been developed based primarily on an intuitive process utilizing the knowledge of senior construction and maintenance staff. Since the District will be losing much of

this historical and institutional knowledge due to retirements, it is important that the program moves toward a fact-based WMAM plan rather than one that is intuitive-driven.

Over the next five years, District staff will focus on Asset Data Management, development of asset evaluation matrices and methods to be considered for asset condition and performance assessment.

8.3 CURRENT ASSETS

8.3.1 Asset Categories

The West Marin water system includes the following major components:

- 13 storage tanks
- 9 pump stations
- 27 miles of pipeline
- 168 fire hydrants
- 281 valves
- 776 active (820 total) service connections

8.3.2 8.3.2 Asset Value

Asset values for District infrastructures installed over time are shown in Fig. 8-2. The asset values were derived from original installation costs and are adjusted for inflation. Current infrastructure asset values are in excess of \$6.25 million. Most of the District's assets are associated with buried facilities (i.e., transmission and distribution pipelines and appurtenances). Accordingly, the following discussion will focus on NMWD's buried assets (so-called "horizontal" assets) so that the WMAM Plan is focused on the greatest need within the District. Expansion of the Plan to include above-ground ("vertical" assets) infrastructure such as storage tanks, treatment plants and pump stations will occur at a later date after more experience is gained with this step.

8.3.3 Recent Improvements

As part of ongoing WMAM and business planning processes with NMWD, the following efforts continue:

- Best appropriate practices for WMAM, as well as development of case studies that can be used to learn how to implement strategic WMAM tools; and
- Development of tools for decision analysis and implementation of asset management practices. This includes a cost tool and a refined gap tool that helps to compare NMWD WMAM practices to those of other utilities. These tools will allow NMWD to benchmark against other utilities.

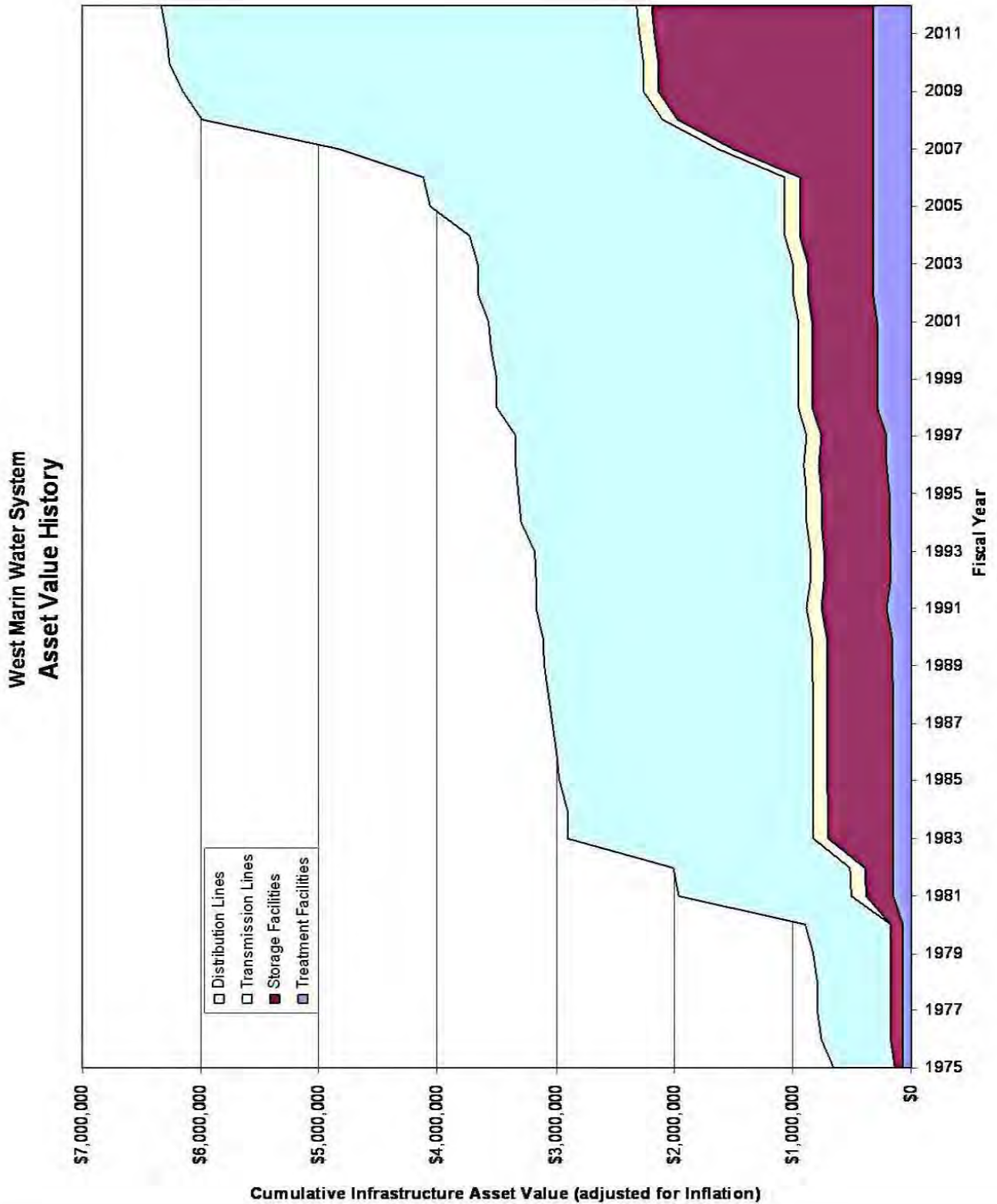
8.3.4 Levels of Service

NMWD will develop a summary of its present and future Levels of Service requirements and incorporate into asset matrices for the next Plan period.

8.3.5 Focus Area

Whether planned or unplanned, maintenance costs associated with District facilities have been trending higher as the District's assets have expanded and aged over time as shown in Figure 8-3, annual and 10-year running average expenditures (adjusted for inflation). For both FY12 and FY13, maintenance expenditures have exceeded \$70,000. When compared against the total FY 2013 Operating Expenses of \$545,482, maintenance costs account for about 13% of the total budget. A tabulation of total maintenance costs for the District's nine categories (from FY83/84 to FY12/13) is provided in Table 8-1. This tabulation, ranked from lowest to highest expenditures shows that maintenance of storage facilities, main lines and copper and PB (polybutylene) services consumed over 50% of the annual maintenance costs during this period. Note that the identified costs do not include major replacement projects that are typically budgeted as Capital Improvement Projects. Furthermore, some large repair projects are not included in the aforementioned costs since they too are budgeted as a Capital Improvement Project. Recent examples of this are a 2012 Point Reyes Well #3 Replacement at the Coast Guard site (\$263K), PB Service replacements (\$58K), PRE2 Tank Retaining Wall Repair (\$56K), and Viento Way main line costs (\$21K). These four projects alone are nearly 50% more than the expenditures shown for replacement of aging facilities. In FYs 14 & 15, NMWD has planned respective costs of \$235K and \$220K over this two-year period for more of this same type of aging facility replacement. These costs account for 25% of the total CIP budget and will continue to get higher, as a majority of the CIP budget for FY15 is the pipeline project from Gallagher Well site to the Pt. Reyes TP.

**Figure 8-2
Asset Value History**



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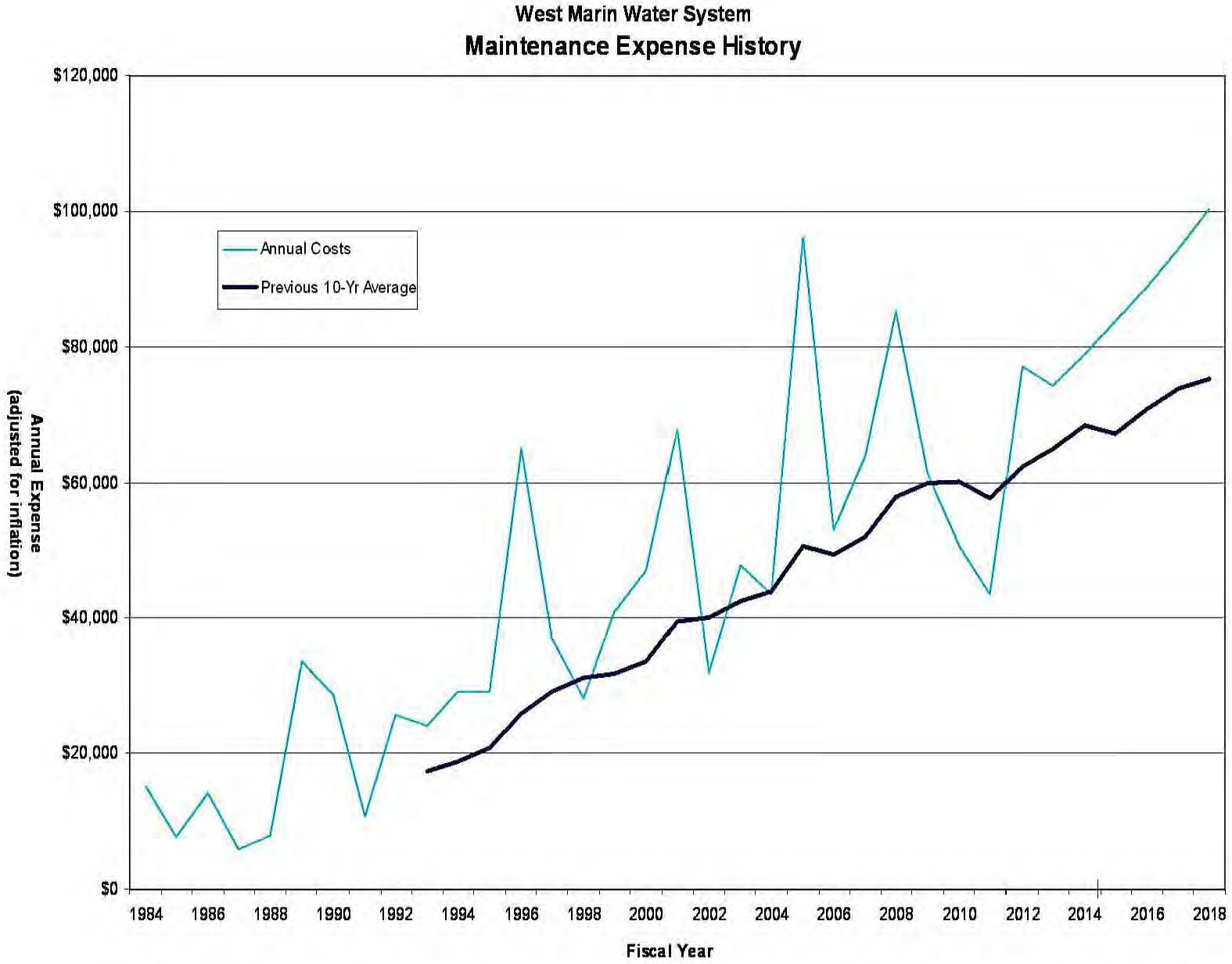


Figure 8-3
Maintenance Expense History

**Table 8-1
Total Annual Maintenance Costs (adjusted for inflation)
West Marin Service Area**

	Detector Check Assembly Maint	Maintenance of Copper Services	Maintenance of Hydrants	Backflow Prevention Program	Maintenance of Valves & Reliefs	Maintenance of Meters	Maintenance of PB Service Lines	Maintenance of Mains	Maintenance of Storage Facilities	Annual Costs
FY 2013	\$0	\$7,205	\$0	\$1,698	\$6,642	\$3,398	\$34,996	\$0	\$20,310	\$74,249
FY 2012	\$1,877	\$7,590	\$3,468	\$6,004	\$5,070	\$1,847	\$22,156	\$427	\$28,586	\$77,025
FY 2011	\$233	\$4,518	\$4,080	\$4,288	\$8,326	\$2,073	\$8,304	\$2,304	\$9,404	\$43,531
FY 2010	\$404	\$3,593	\$2,281	\$1,237	\$6,259	\$3,335	\$19,235	\$752	\$13,520	\$50,616
FY 2009	\$0	\$255	\$4,389	\$1,191	\$6,226	\$4,813	\$16,917	\$16,353	\$11,147	\$61,292
FY 2008	\$670	\$6,327	\$2,705	\$6,744	\$6,886	\$10,500	\$21,663	\$12,764	\$16,969	\$85,228
FY 2007	\$240	\$115	\$1,082	\$4,927	\$1,966	\$9,906	\$17,265	\$18,561	\$9,933	\$63,995
FY 2006	\$0	\$770	\$3,258	\$7,718	\$3,792	\$3,638	\$23,295	\$5,989	\$4,593	\$53,051
FY 2005	\$0	\$3,654	\$2,523	\$0	\$4,590	\$5,618	\$7,347	\$22,696	\$49,836	\$96,265
FY 2004	\$0	\$5,810	\$7,062	\$2,098	\$4,470	\$1,986	\$1,872	\$11,129	\$9,143	\$43,571
FY 2003	\$0	\$2,688	\$1,490	\$1,889	\$866	\$4,295	\$11,928	\$7,278	\$17,401	\$47,835
FY 2002	\$0	\$0	\$3,211	\$5,260	\$3,490	\$2,018	\$5,304	\$6,151	\$6,584	\$32,018
FY 2001	\$0	\$4,138	\$2,311	\$6,213	\$5,633	\$1,703	\$12,961	\$2,492	\$32,402	\$67,853
FY 2000	\$0	\$5,051	\$5,031	\$1,490	\$4,355	\$4,719	\$6,084	\$4,191	\$16,088	\$47,008
FY 1999	\$0	\$1,101	\$5,725	\$5,151	\$8,222	\$6,195	\$0	\$4,321	\$10,223	\$40,939
FY 1998	\$0	\$2,535	\$3,640	\$2,017	\$3,814	\$2,136	\$0	\$7,847	\$6,182	\$28,172
FY 1997	\$0	\$224	\$6,788	\$1,757	\$2,694	\$14,019	\$0	\$4,990	\$6,524	\$36,996
FY 1996	\$0	\$185	\$2,954	\$3,636	\$7,032	\$21,975	\$7,432	\$9,362	\$12,388	\$64,965
FY 1995	\$0	\$0	\$1,032	\$1,378	\$4,196	\$6,206	\$0	\$6,523	\$9,716	\$29,050
FY 1994	\$0	\$0	\$3,563	\$5,541	\$3,657	\$2,509	\$0	\$4,728	\$9,153	\$29,151
FY 1993	\$0	\$0	\$0	\$4,475	\$3,967	\$1,928	\$0	\$6,030	\$7,684	\$24,084
FY 1992	\$0	\$0	\$0	\$3,844	\$476	\$1,506	\$0	\$15,610	\$4,308	\$25,743
FY 1991	\$0	\$0	\$1,464	\$1,244	\$1,450	\$2,211	\$0	\$2,957	\$1,323	\$10,648
FY 1990	\$0	\$0	\$1,354	\$2,484	\$938	\$1,890	\$0	\$5,794	\$16,355	\$28,814
FY 1989	\$0	\$0	\$1,444	\$2,831	\$1,301	\$2,817	\$0	\$21,489	\$3,697	\$33,578
FY 1988	\$0	\$0	\$973	\$1,189	\$1,993	\$273	\$0	\$2,438	\$1,041	\$7,907
FY 1987	\$0	\$0	\$1,493	\$34	\$1,453	\$231	\$0	\$1,448	\$1,269	\$5,928
FY 1986	\$0	\$0	\$3,098	\$0	\$1,375	\$360	\$0	\$4,672	\$4,658	\$14,162
FY 1985	\$0	\$0	\$0	\$2,421	\$1,583	\$713	\$0	\$1,721	\$1,313	\$7,752
FY 1984	\$0	\$0	\$3,967	\$9	\$1,708	\$473	\$0	\$5,998	\$3,053	\$15,207
Category Total	\$3,423	\$48,555	\$80,388	\$87,070	\$107,790	\$121,892	\$181,762	\$217,015	\$324,490	\$1,246,633

(1) Does not include related project costs budgeted as a CIP.

8.4 ASSET CONDITION AND PERFORMANCE ASSESSMENT

The focus of this Plan is the development of a standardized Plan and assembly of current information. Assessment of overall condition, performance and remaining useful life for water facilities installed will be part of continuing AM efforts. The District collects a significant amount of information regarding maintenance costs and line breaks. The planning of repair and replacement projects has primarily been based on the intuitive knowledge base of senior staff. While this approach has its merits, it should not serve as the sole source of asset management planning. Historically, the District has been “data rich” but “knowledge poor” when it comes to reporting and analyzing much of this data. Efforts have been made and/or are in progress to help move the District from an intuitive based R&R decision process to a data-based R&R decision process. These improvements include:

- Expanded use of the District’s computerized maintenance management system (CMMS) – “MaintScape;”
- Improved tagging, filing, and diagnosis of worn facilities taken out of the ground when performing repairs;
- Improved proactive subsurface investigation program (i.e., soil sampling) to better quantify areas of poor infrastructure condition;
- Development of a GIS system that will allow expansion of the existing facility map database to serve as a key database repository for infrastructure information (in progress);
- Development of asset condition & evaluation matrices, based on the database connected to the GIS system (in progress);
- Better characterization of existing asset inventory (as contained herein); and
- Better exchange of information between NMWD departments as it relates to condition assessment/repair (as contained herein).

8.4.1 Condition/Performance

Historically, service lines have been the highest cost for maintenance activities, most of which have been unplanned due to the randomness of both PB & CU (copper) service line failures. Over the past 10 years, however, staff has focused more efforts to better understand the modes of service failures and have identified a few key aspects to help plan replacements and extend service life. For all new CU service installations, we are installing CP anodes as well as adding CP anodes to recent installations. Moving forward, specific testing methods will need to be developed to aid in condition assessments. Storage facilities’ costs have surpassed those for maintenance of pipeline mains.

8.4.2 Inventory of Assets

The average age and value of the assets which NMWD owns is increasing steadily over time, and the asset replacement obligation is rising. As a consequence, NMWD needs to plan for decreased capital expenditures for capacity expansion and increased renewal expenditures in the future relative to past expenditure levels. More focus is necessary to ensure that appropriate operation and maintenance strategies are being applied in consideration to the varying ages of assets being maintained.

As previously mentioned under the “Current Assets” section, NMWD’s assets can generally be categorized into two simple groups: those assets which are buried, or below ground (“horizontal” assets) and those which are above ground (“vertical” assets). Below-ground assets include transmission and distribution (T&D) pipelines and appurtenances (valves and regulators). Above-ground assets include storage tanks, pump stations, regulating stations, fire hydrants, treatment facilities, service connections (meters), and backflow prevention assemblies (BFPAs).

Figures 8-4 to 8-6 (based on currently-available data) represent the history and age profiles of the assets within these two groups (vertical and horizontal), with the exception of meters (see “Maintenance of Meters”) and BFPAs. The monitoring (testing) of BFPAs is done on an annual basis, and depending on the type of device, maintenance and/or repairs are the responsibility of both NMWD and the customer being served.

8.4.3 Asset Evaluation

The table below presents the current replacement and depreciated values of NMWD’s assets. The replacement value represents the cost in June 2014 dollars to completely rebuild all the assets to a new condition. The depreciated value is the replacement value (depreciated) of the assets based on their age, and limited Operations & Maintenance data, which is a prediction of their current condition. A formal current condition assessment has not been performed and will be part of the continued development of a full WMAM program.

Valuation	Transmission & Distribution	Storage Tanks	Treatment Plants	Total
Replacement Value (\$M)	\$9.5	\$3.1	\$0.8	\$13.4
Depreciated Value (\$M)	\$5.3	\$2.3	\$0.2	\$7.7

In time, the District WMAM Program will develop a schedule when these assets are due to be replaced.

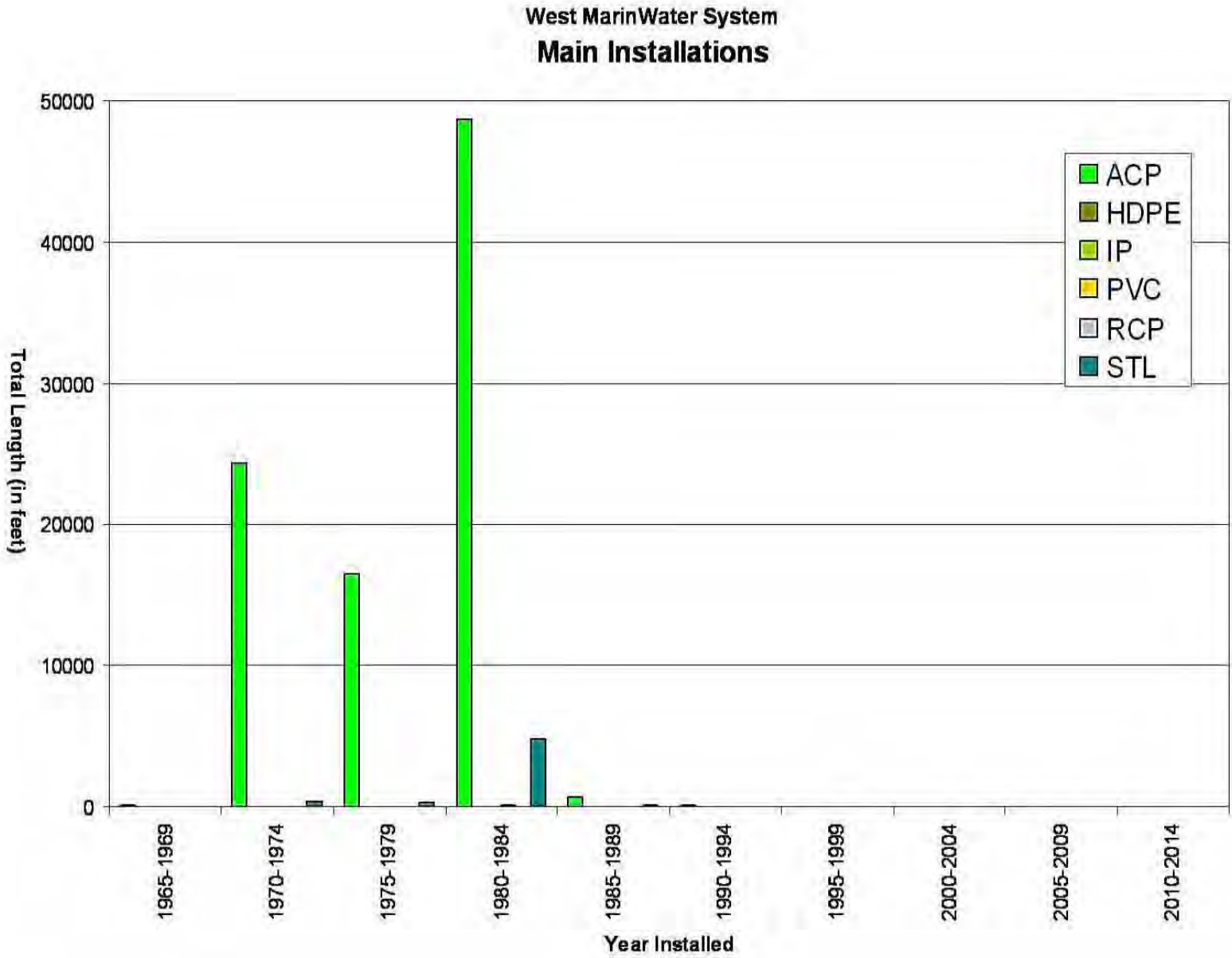


Figure 8-4
Main Installations

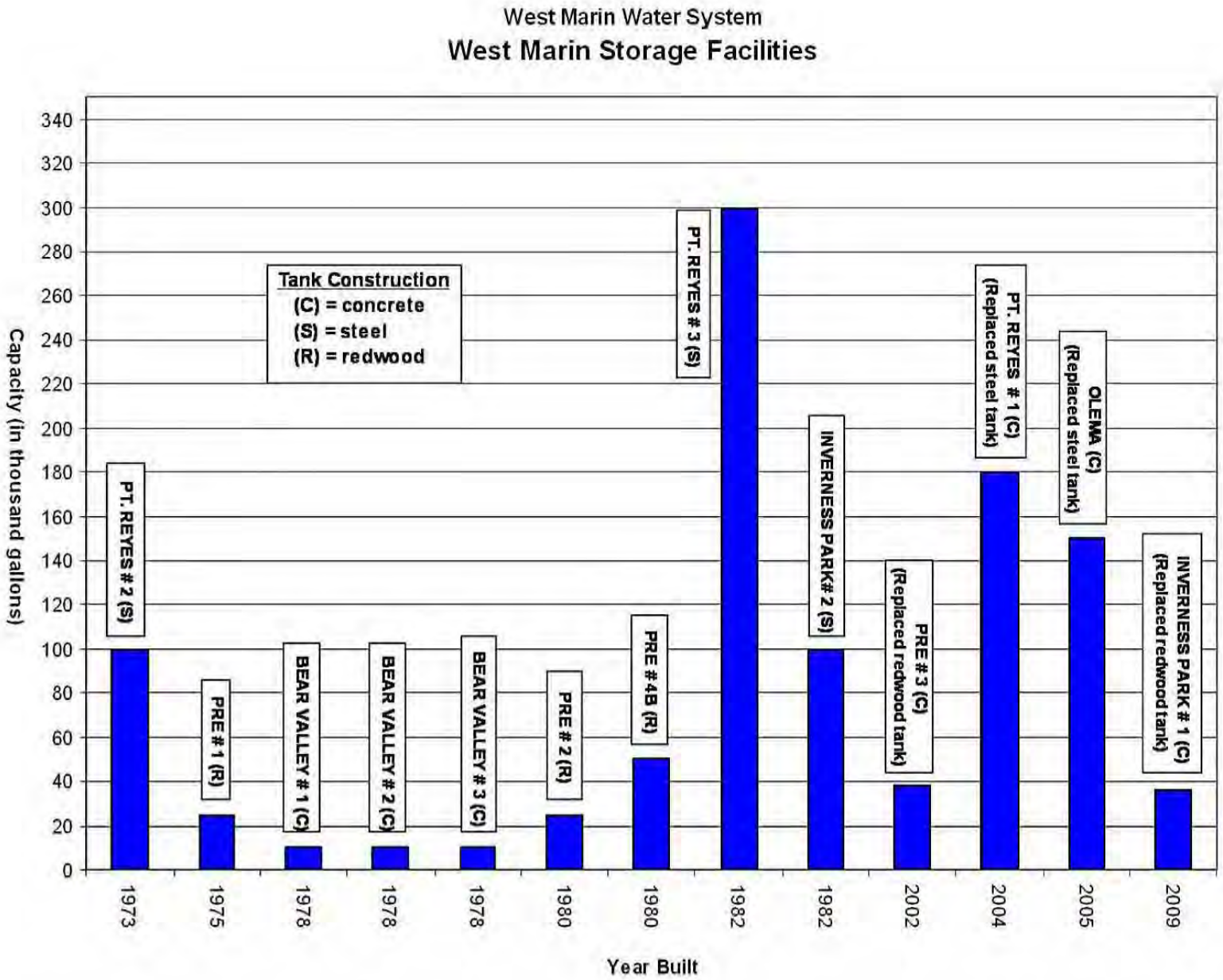
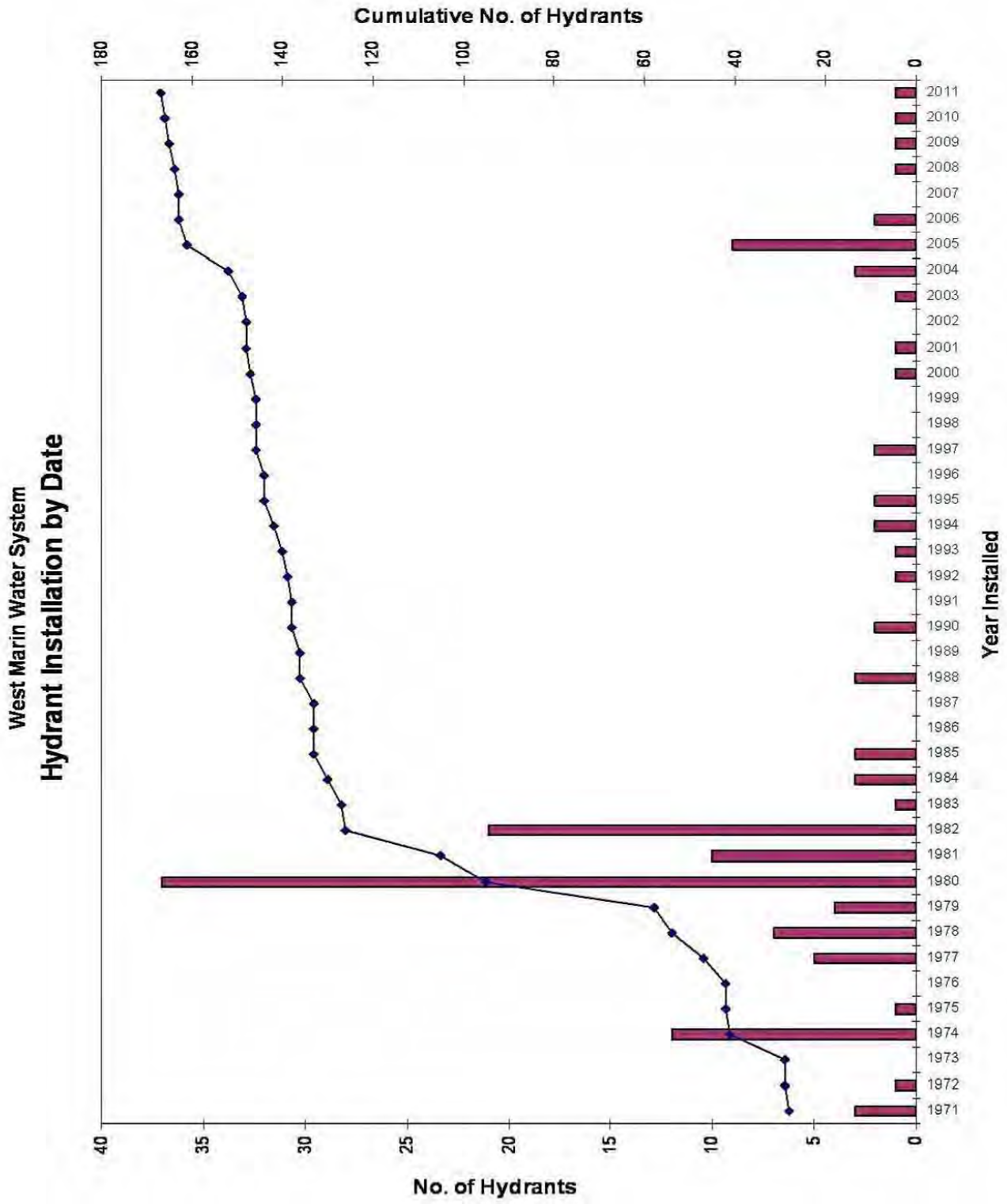


Figure 8-5
West Marin Storage Facilities

**Figure 8-6
Hydrant Installation by Date**



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8.5 WMAM PROGRAM SUMMARY

The District's WMAM program consists of four components: monitoring, managing, evaluating infrastructure condition, and replacement planning. A computerized maintenance management system (CMMS) is used to systematically gather (monitor) information about the current condition of facilities, most of which are below ground. Once collected, the software manages how the information is stored, organized and accessed. District staff then can utilize the CMMS program to evaluate the data to identify items in need of rehabilitation or replacement. In addition to the existing CMMS program, other miscellaneous databases are used as part of the infrastructure monitoring and evaluation process.

With the outline used in the Novato Master Plan, staff attempted to create an evaluation summary for the buried assets in West Marin. This data, shown in Figures 8.7 – 8.13, has been found to be inconsistent and lacking information needed to make reliable assessments. For instance, the Service Leak / Replacement History costs do not match the number of services identified as being replaced for both PB (polybutylene) and CU (copper) services. While this information is important to have in the graphical format, incomplete information can lead to inaccurate conclusions.

To improve the District's capabilities for identifying the most appropriate method for AM, we will work on these five focus areas:

- Improve Operational Cost Accounting
- Improve Repair and Replacement Tracking
- Storage, Main Line and Service Asset Matrices
- Facility Map and Data Coordination
- GIS of West Marin Service Area

West Marin Water System Service Lateral Leak and Replacement History

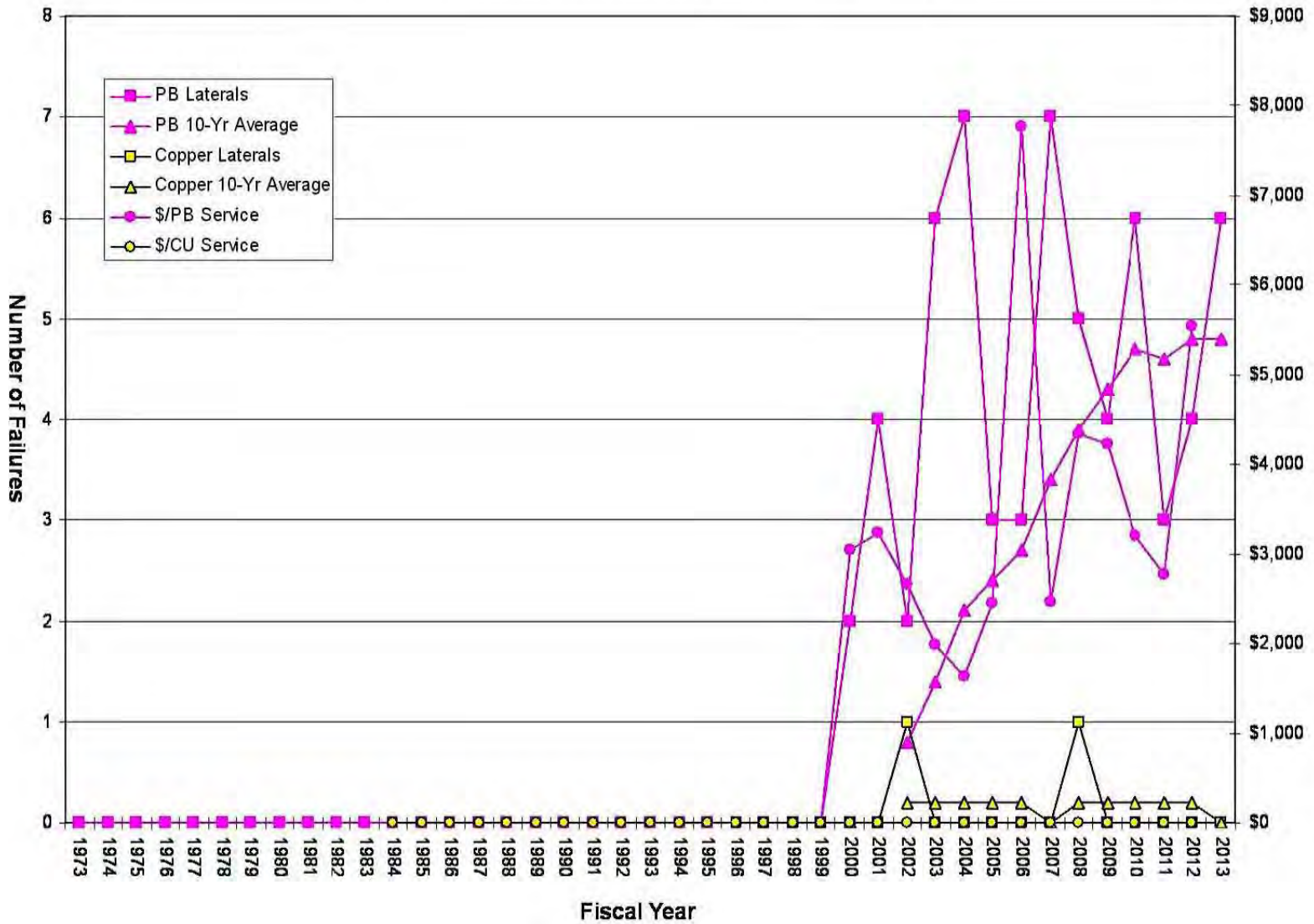


Figure 8-7
 Service Lateral Leak and Replacement History

West Marin System Annual Maintenance of Polybutylene Service Lines Cost History

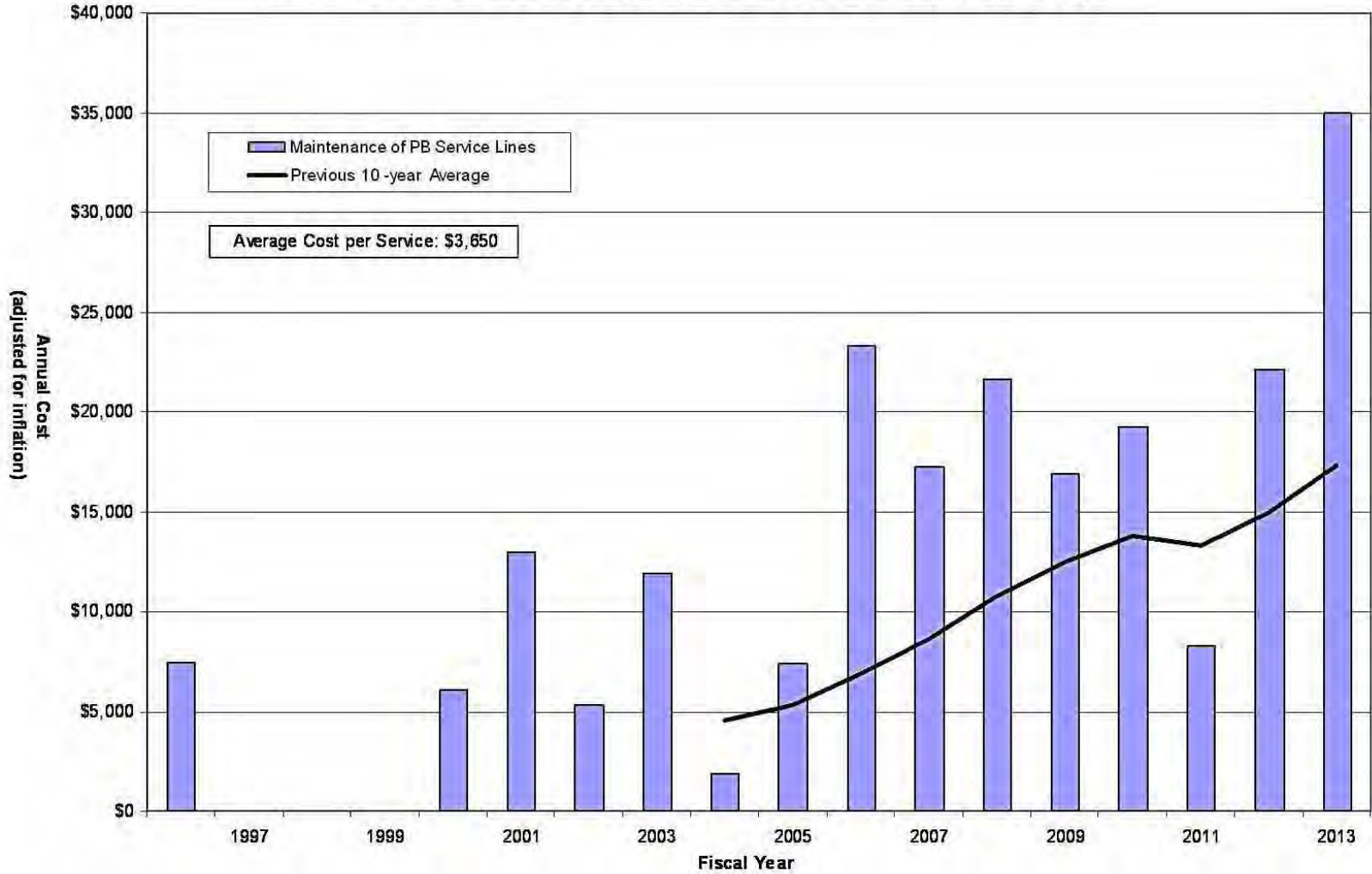


Figure 8-8
 Annual Maintenance of Polybutylene Service Lines Cost History

R:\Folders by Job No\8000 jobs\8600s\8687 (West Marin)\8687.01 WM Master Plan Update 2013_2014\Ch 8 Asset Mgmt\WM Total Annual Maint Cost for MP[PB].xls

West Marin System Annual Maintenance of Copper Services Lines Cost History

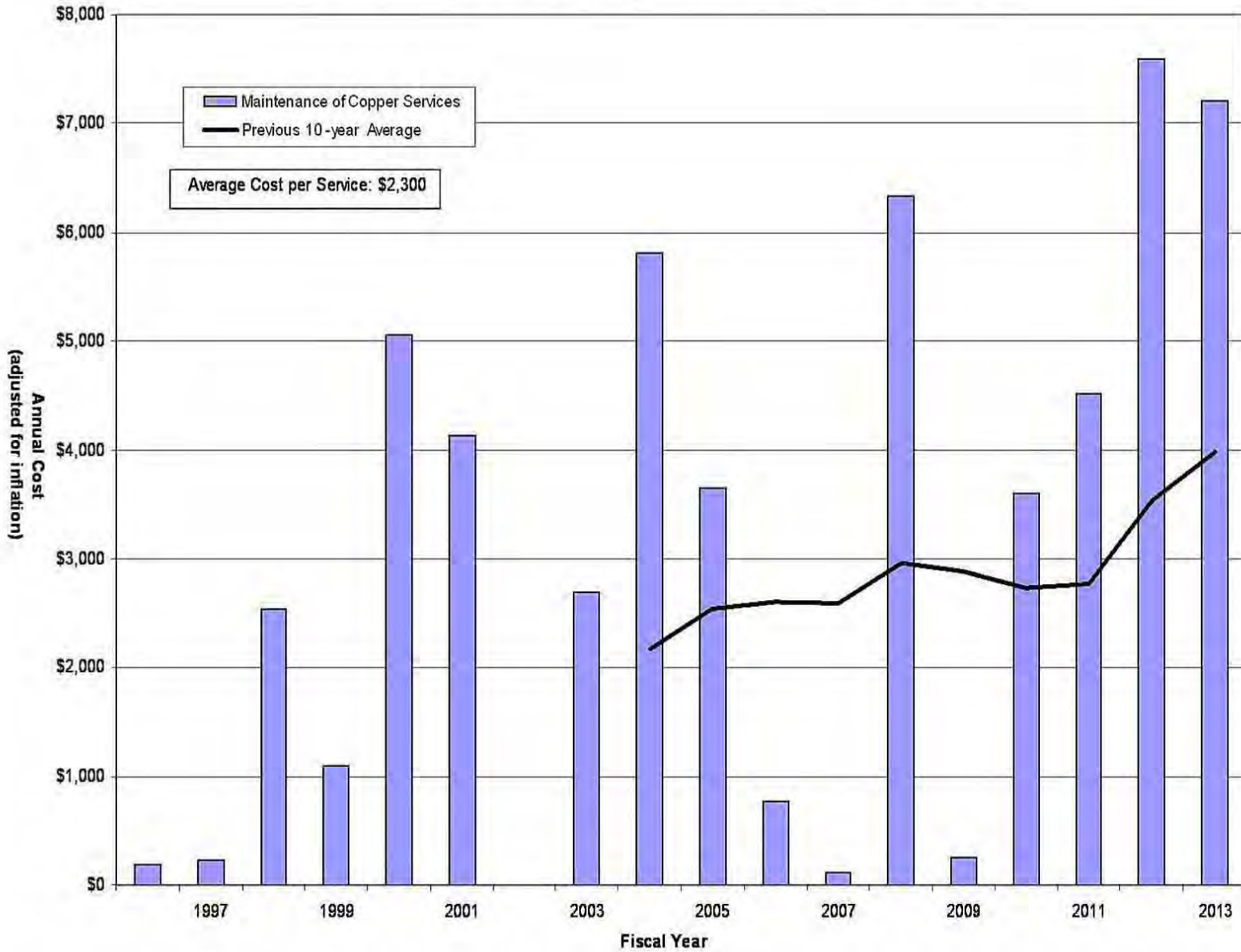


Figure 8-9
Annual Maintenance of Copper Service Lines Cost History

West Marin System Annual Maintenance of Meters Cost History

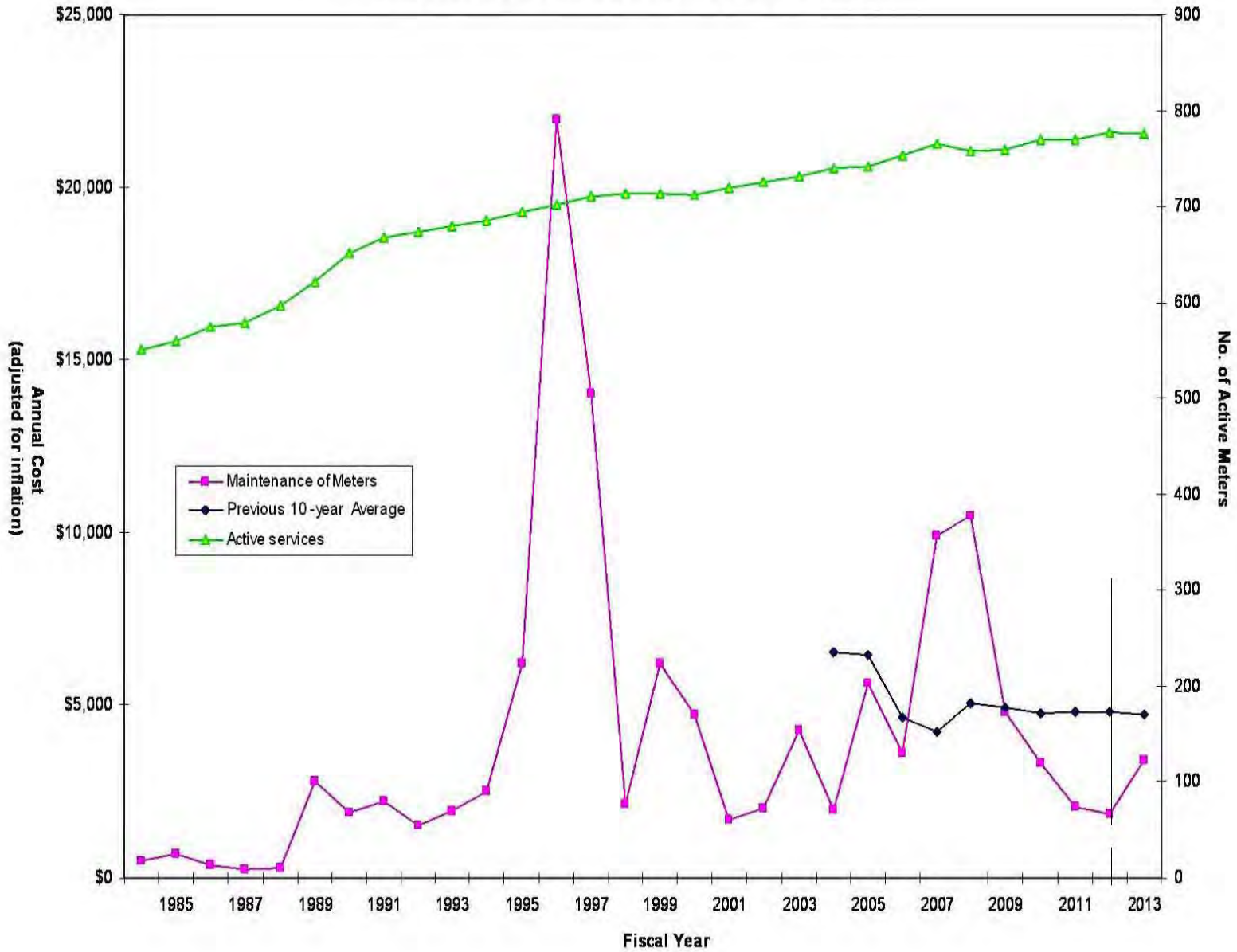


Figure 8-10
 Annual Maintenance of Meters Cost History

West Marin System Maintenance of Valves Cost History

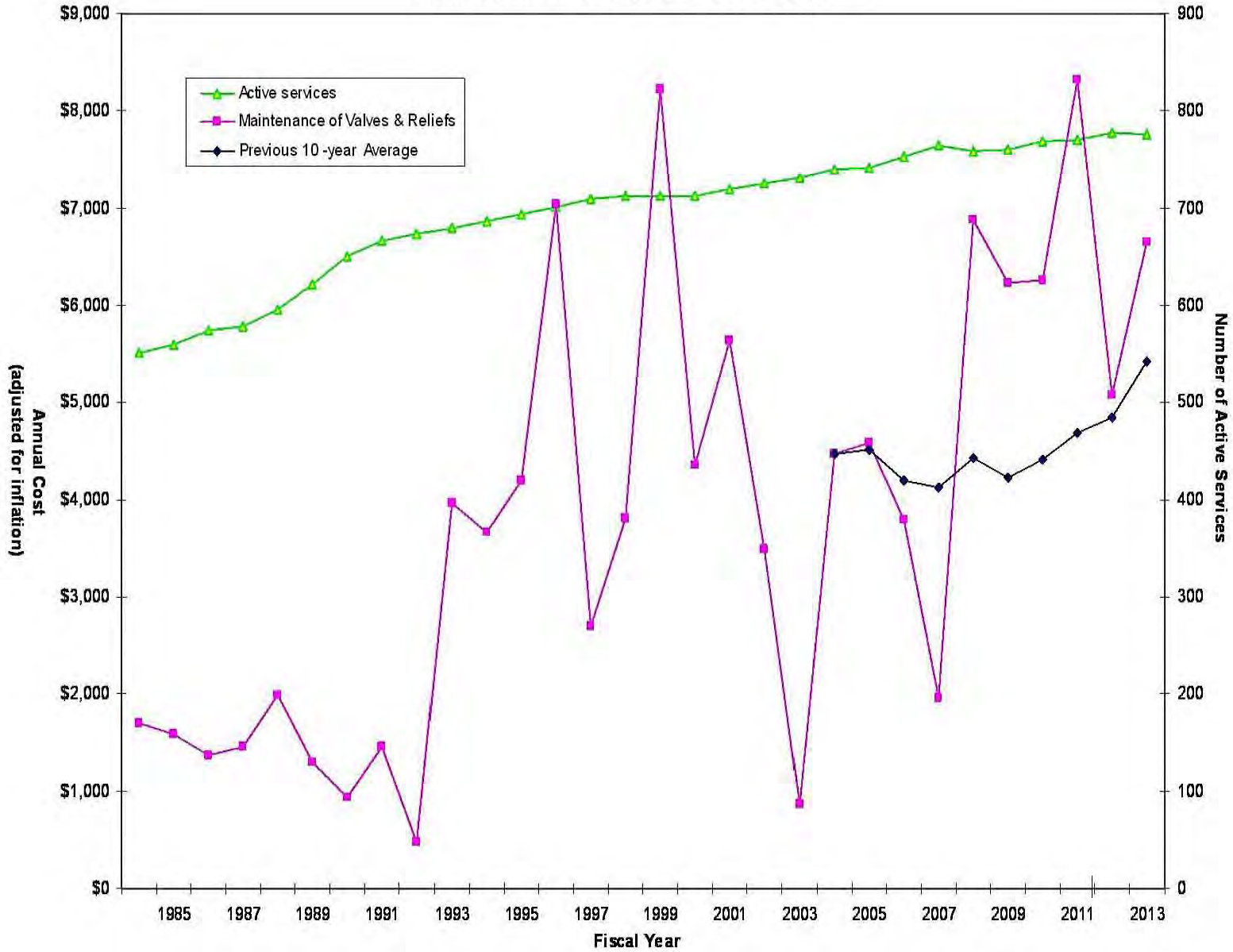


Figure 8-11
 Maintenance of Valves Cost History

West Marin System Maintenance of Mains Cost History

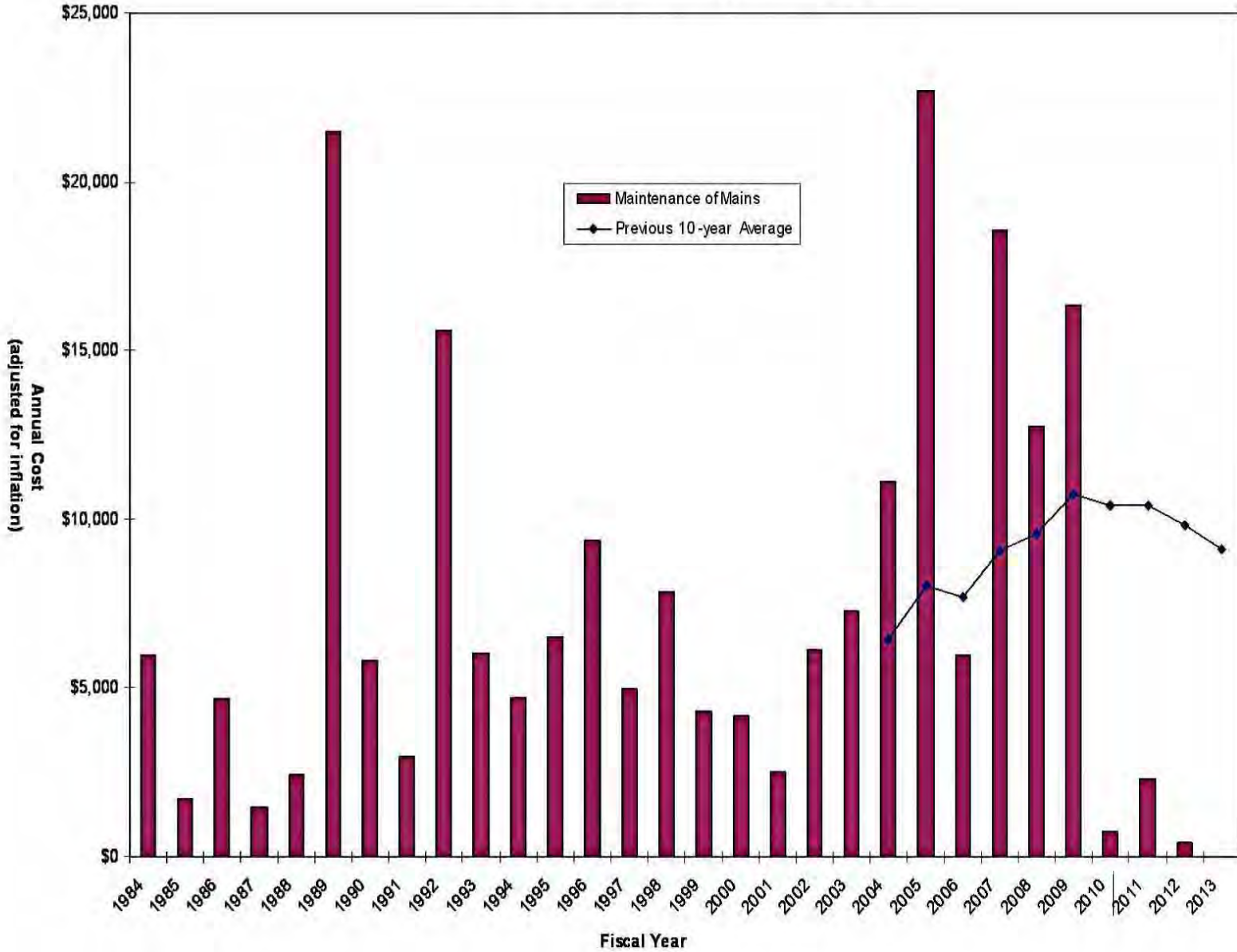


Figure 8-12
Maintenance of Mains Cost History

**SECTION 9
EVALUATION OF IMPROVEMENT
PROJECTS**

SECTION 9

EVALUATION OF IMPROVEMENT PROJECTS

9.1 INTRODUCTION

The capital improvement projects and other studies and investigations that have been identified through this study are summarized in Section 9. All of these projects discussed in this section are included in the Capital Improvement Program presented in Section 10. Cost estimates and project phasing are presented in Section 10.

9.2 PROJECT SUMMARIES

9.2.1 Project Categories

In order to coordinate with the District annual budgeting process, the projects listed herein will be separated by category as shown below:

- *Pipeline Replacements/Additions (CIP budget):*
Pipeline replacement projects and additional pipelines needed.
- *System Improvements (CIP budget):*
Improvement projects not specifically related to tanks, pump stations or pipelines.
- *Treatment Plant (CIP Budget)*
Projects that are related to the Point Reyes Water Treatment Plant.
- *Storage Tanks/Pump Stations (CIP budget):*
Projects that are related to the storage tanks and pump station facilities.
- *Preliminary Project Engineering and Studies (OPS budget):*
Engineering studies and investigations that are identified in the Master Plan and may lead to capital improvements at a later date.

Other categories also exist for which specific projects have been identified elsewhere and are not included in this Master Plan. These categories include:

- Water Conservation
- Liability/Safety Modifications

Projects have been identified through several processes, many of which are presented in this Master Plan. Each listed project references the process by which it was found and the Master Plan section where is discussed, using the following codes:

SP - Storage and Pumping Capacity Analysis (section 5)
WQ - Water Quality Evaluation (section 6)
HA - Hydraulic Analysis (section 7)
AM - Asset Management (section 8)
DP - District Planning
CC - County Coordination

9.2.2 Project Timing

Within the CIP list it is necessary to prioritize the projects over the 22-year period until buildout in year 2035. Projects are given a completion goal to identify the urgency with which each project is needed. Each 5-year incremental period (FY 2015, FY 2020, FY 2025, FY 2030, FY 2035) signifies that the project should be included in one or more of the annual budgets for that five year interval. It is expected that the projects within each interval be evaluated at each annual budgeting cycle to determine which year's budget to assign it. The District regularly updates its 2-year and 5-year CIP budget, and this regular review enables the projects to be developed as funds are more available and priorities change. Approval of this Master Plan does not constitute adoption or approval of individual projects. Each project will be considered for inclusion in specific annual budgets. Note that the FY 2015 interval includes only one year (FY 2015).

9.3 PIPELINE REPLACEMENTS/ADDITIONS

Projects within this category fall into two main areas: 1) replacement of existing pipelines; or 2) installation of new pipelines required to improve system operation. Pipeline replacement and pipeline addition improvement projects are shown in Table 9-1.

9.4 SYSTEM IMPROVEMENTS

System improvements include valving projects, installation, repair or replacement of appurtenances, and other non-pipeline, tank or pump station facilities, or those projects related to improving water quality. System improvement projects are shown in Table 9-2.

9.5 PRTP IMPROVEMENTS AND OTHER IMPROVEMENTS

The improvements to existing wells or installing new wells and improvements to the treatment plant are addressed in this section. System improvement projects are shown in Table 9-3.

9.6 STORAGE TANKS AND PUMP STATIONS

Storage tank and pump station projects include storage or pumping capacity additions, tank modifications and pump station modifications, based on the results of the storage and pumping capacity analysis summarized in Section 5, and asset management projects related to tanks and pump stations discussed in Section 8. Capital improvement projects at storage tanks and pump stations are shown in Table 9-4.

9.7 PRELIMINARY PROJECT ENGINEERING AND STUDIES

As a result of initial investigations and evaluations conducted in this Master Plan, several additional engineering studies are recommended to be included in the Studies budget (which were historically CIP projects, but are now funded by the West Marin Operations). These studies are beyond the scope of the master plan or cannot be completed within the time frame of the master plan. These studies may identify additional capital improvement projects that will need to be included in subsequent CIPs. These studies are identified in Table 9-5.

**Table 9-1
Pipeline Replacement and Addition Projects**

Pipeline Replacement Projects			
ID #	Project Name & Description	When	Category
1a-01	Replace Aging Galvanized Steel Pipe Replace 2,152 feet of galvanized steel (GS) pipe, with priority given to the oldest pipe. Replace 500 feet annually from 2020 until the program is completed in FY 2025. Locations tracked in the database " WMPipeCount.xls" which is maintained by the Engr Dept and shown in Appendix C-1.	<i>2025</i>	<i>AM</i>
1a-02	Replace 4" main on Bear Valley Road Replace and upsize 900 feet of 4" main on Bear Valley Road starting from the tank. In order to provide a minimum of 500 gpm fire flow, the main needs to be upsized to 6-inch or 8-inch to avoid negative pressure at the high point at the end of 900 ft.	<i>2015</i>	<i>HA</i>
1a-03	Replace All TW Plastic Pipe Replace and upsize 6,100 feet of Thin Wall (TW) 2-inch plastic pipe with priority given to the oldest pipe. Replace 1,000 ft biennially until the program is completed in FY 2027. Locations tracked in the database " WMPipeCount.xls" which is maintained by the Engr Dept and shown in Appendix C-1.	<i>ongoing</i>	<i>AM</i>
Pipeline Addition Projects			
ID #	Project Name & Description	When	Category
1c-01	Replace Polybutylene Service Lines Replace 48 PB services on Sir Francis Drake Blvd and Highway 1. Develop a data base that would eventually replace all PB services with copper in the other areas.	<i>ongoing</i>	<i>AM</i>
1d-01	Relocations to Synchronize with County Projects Relocation of existing District water facilities of County of Marin street improvement projects. Specific projects to be included in each annual CIP as appropriate.	<i>ongoing</i>	<i>CC</i>
1d-02	Install Gallagher Well Pipeline Install approximately 1 mile of 12-inch PVC pipe from Gallagher well to connect to the 6-inch main leading to PRTP near Downey well site	<i>2015</i>	

Table 9-2
System Improvement Projects

ID #	Project Name & Description	When	Category
2-01	Replace Untestable Detector Checks Replace 2 assemblies per year with District-standard assemblies. 6 untestable assemblies are listed in the database "DCVA_WM DB.exl" which is maintained by Maintenance Dept and is shown in Appendix C-5.	<i>ongoing</i>	<i>WQ/AM</i>
2-02	Install Flushing Taps at Dead-End Valves Review dead end valves that need flushing and develop a database. Install 4 taps at dead-end valves biennially	<i>ongoing</i>	<i>WQ</i>
2-03	Install Permanent Water Quality Sampling Stations Install sample stations at Red Barn (PRS, 510 Mesa Rd), 22 Portola (Inverness Park, PRE-1) and 95 Drakes View (PRE-2).	<i>2020</i>	<i>WQ</i>

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Table 9-3

Pt Reyes Treatment Plant Improvements and Other Improvements

ID #	Project Name & Description	When	Category
3-01	Replace Well #2 at Coast Guard Site Well #2 is nearing the end of its useful life and has decreased in production capacity over the years.	<i>2020</i>	<i>WQ/AM</i>
3-02	Install Gallagher Well #2 Existing Gallagher well #1 has only 120 gpm capacity. A second well is needed to meet the 300 gpm combined capacity at Gallagher wells to meet the buildout demand.	<i>2025</i>	<i>DP</i>
3-03	Pt Reyes Treatment Plant Solids Handling Tank Constructing a 100,000 gallon solids handling dual concrete tank.	<i>2020</i>	<i>SP</i>
3-04	Major PRTP Upgrade Construct a new Treatment Plant to replace the existing facility that has reached the end of its useful life	<i>2030</i>	<i>DP</i>
3-05	Abandon Downey Well The Downey well is no longer functional and needs to be properly sealed and abandoned per Marin County and State Standards.	<i>2020</i>	<i>DP</i>

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**Table 9-4
Storage Tank & Pump Station Projects**

ID #	Project Name & Description	When	Category
4-01	Add Storage Capacity at Bear Valley Tanks Construct 65,000 gallon tank and piping modifications (to address zone deficiency of 94,000 gal now and 95,000 gal at buildout).	2030	SP
4-02	Add Storage Capacity at Silver Hills (Bear Valley Area) Construct 30,000 gallon tank and piping modifications (to address zone deficiency of 94,000 gal now and 95,000 gal at buildout).	2025	SP
4-03	Inspect and assessment of Pt Reyes Tank #2 Pt. Reyes tank #2 was constructed in 1973 and need assessment of the condition of the tank	2020	SP
4-04	Replace 25,000 gallon PRE-1 Tank Replace PRE-1 Redwood Tank	2025	SP
4-05	Replace 25,000 gallon PRE-2 Tank Replace PRE-2 Redwood Tank	2025	SP
4-06	Replace PRE-4A Tank Replace 25,000 gallon PRE-4A with 80,000 gallon tank	2020	AM
4-07	Olema Pump Station Flood Protection and RTU Upgrade Modify existing structure to prevent flooding of facilities by Olema Creek and RTU upgrade	2015	AM
4-08	Recoat Pt Reyes Tank #3 Recoat Pt Reyes Tank #3 .	2020	AM
4-09	Emergency Generator Connections For PRE and Olema Pump Stations	2015	AM
4-10	Add Aeration at PRE-2 and Inverness Park Tanks Install aeration systems to help reduce THMs in PRE	2020	WQ
4-11	Install an RTU at PRE-4 Include with PRE Tank 4-B construction	2020	WQ

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**Table 9-5
Preliminary Project Engineering and Study Projects**

ID #	Project Name & Description	When	Category
S-01	Master Plan Update Update of 2014 Master Plan (every ten years)	<i>2025</i>	<i>DP</i>
S-02	Hydraulic Model Development Study of actual data to calibrate hydraulic model, then use model to predict low fire flow areas.	<i>2020</i>	<i>DP</i>
S-03	Prepare Electronic Facility Maps Convert West Marin Facility Maps to digital format .	<i>2020</i>	<i>DP</i>

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9.8 PT REYES WATER TREATMENT PLANT IMPROVEMENTS

In 2005, SPH Associates prepared the Point Reyes Water Treatment Plant Upgrade Study to identify feasible capital improvement project alternatives to meet both present and future requirements. The SPH study recommended construction of the following near term improvement projects: (1) Pressure Contact Tank, (2) Third Pressure Filter and (3) Backwash pumps. A pressurized contact tank was constructed in 2007 at a cost of approximately \$120,000. In addition, modifications made by NMWD operations staff to improve current backwash operations have negated the need for installation of backwash pumps at this time. Finally, due to reductions in overall peak system demands, the need for a third pressure filter can be delayed into the future. As a case in point, respective average day peak month demands in FY 2004 and FY 2005 were approximately 0.47 MGD and 0.54 MGD. Since the 2009 drought, West Marin Customers have reduced overall consumption by approximately 30 percent resulting in current average day peak month water demands less than 0.35 MGD.

The study does identify significant future long term plant upgrades to improve performance, address salinity intrusion and enhance reliability. The minimum cost for a major plant upgrade (in 2005 dollars) was projected by the SPH report to be \$2.8 M. This cost is significant and will need to be paid financed through a combination of grants and loans. This future project is projected to be required on or before 2030 at which time the original Treatment Plant (installed in 1975) will be over 50 years old.

Other necessary near term projects related to the PR Treatment Plant include: (1) a new Solids Handling Tank and (2) rehabilitation of Coast Guard Well No. 2. A new Solids Handling Tank is recommended to eliminate the off-site discharge of filter backwash water. Once constructed, this project would allow for storage of backwash water for re-treatment at the plant and settled solids would be off hauled to a remote location for treatment and disposal. The rehabilitation of Coast Guard Well No. 2 is a similar project to the recently completed Well No.4 installation to replace the old and failing Well No. 3. Although the condition of Well No. 2 (installed in 1973) is not as dire as was the case with Well No. 3, it is acknowledged that the well is over 40 years old and near the end of its useful life.

9.9 LIABILITY/SAFETY MODIFICATIONS

All of the District facilities (pumps, tanks, regulating stations, etc.) are designed to provide security against unlawful entry and/or operation. In recent years, District staff has increased security awareness and made improvements as necessary at its facilities. At the present time, security at tanks has been identified as a risk and a project to alarm access hatches to the SCADA System is planned.

Since the terrorist attacks in September 2001, water utilities have increased awareness of possible threats to the water systems. A vulnerability assessment is recommended for West Marin Water System to define projects for protecting water quality and tank overflow monitoring. Emergency disinfection plans are to be developed to address emergency situations.

9.10 FUTURE DEVELOPMENT

As discussed in Section 4, the average annual demand in the West Marin Water System is projected to increase by up to 43% at buildout in Year 2035. All of the projected new development known at this time will occur within the current existing pressure zones and service

areas. Therefore, it is not expected that new pressure zones will be required or that facilities will require extension beyond the current boundaries.

Each of the development projects that come up for review and approval in the future will be evaluated on a case-by-case basis for impacts to the existing water system. The District requires specific projects or system upgrades for domestic water service and fire protection to serve any new development and to bolster the distribution system in the vicinity of the new development. All new construction of water facilities will be governed by District Regulations.

SECTION 10
CAPITAL IMPROVEMENT PLAN

SECTION 10

CAPITAL IMPROVEMENT PLAN

10.1 INTRODUCTION

Section 10 presents the Capital Improvement Plan for water system projects that were identified through this master plan and described in Section 9. Total project costs are developed for each project. The projects are then scheduled for implementation within each five-year incremental period through buildout in year 2035.

10.2 CAPITAL IMPROVEMENT PROJECTS

The capital improvement projects developed through this master plan are presented in Section 9 and separated by classifications which are consistent with the District budget:

- Pipeline Replacement/Additions
- System Improvement Projects
- Point Reyes Treatment Plant Improvements and Other Improvements
- Storage Tank/Pump Station Projects
- Preliminary Project Engineering and Study

Those projects presented in Section 9 were identified by District staff as projects that would provide benefit to the West Marin Water System and should be included in the long-range Capital Improvement Plan for the District.

10.3 PROJECT COST ESTIMATES

Project cost estimates were developed for each capital improvement project described in Section 9. In addition, annual budgets are established for general projects that are not well-defined at the present time.

The following cost estimating criteria serves as the guideline for developing the cost estimates that will be used in the Capital Improvement Plan and as assistance in evaluating developer proposals. Total project cost estimates include the following:

- Baseline construction cost – a conceptual-level estimate of probable construction cost;
- Contingency – added to the construction cost to cover unknowns;
- Design/Construction Management/Administration – non-construction related costs;
- CEQA cost – to cover environmental review (if necessary); and
- Property acquisition – costs to cover easements and property purchases for facilities (if necessary).

Project cost estimates for all capital improvement projects identified in Section 9 are provided in Appendix D-1.

10.3.1 Baseline Construction Costs

Construction costs for new facilities are based on cost curves, engineering judgment, recent bid prices, historical trends and recent District experience, and are not based on detailed

engineering design and analysis. Therefore, conceptual-level construction cost estimates are considered to range from approximately -10% to +35% of the expected bid price.

The unit construction costs reflect an Engineering News Record (ENR) construction cost index for the San Francisco Bay Area of 10,894, which represents costs for the 1st quarter 2014. Costs are based on normal construction. Unusual construction must be addressed individually on a project-by-project basis. Contractor overhead and profit costs are included in the baseline construction costs.

10.3.2 Pipelines.

A majority of the projects are pipeline installation and replacement projects. Therefore, it is appropriate to develop unit prices for various pipe diameters constructed in pavement and in non-paved areas. The estimated unit cost of pipelines includes pipe material, trenching (at minimum cover), installation of the pipe, fittings, appurtenances, service connections, backfill, pavement restoration (as applicable), traffic control and testing. Pipeline costs are for PVC C-900 (Class DR14) pipe up to 12 inches in diameter. Pipeline unit prices are shown in Table 10-1.

**Table 10-1
Pipeline Unit Prices**

Pipe Diameter	PVC Pipe Unit Cost (\$/lf)		Steel Pipe Unit Cost (\$/lf)	
	In Paved Road ⁽¹⁾	In Unpaved Road	Paved Road	Unpaved Road
6	110	95	-	-
8	130	105	-	-
12	170	140	-	-

⁽¹⁾ Note: Unit cost for paved roads can increase by \$10 to \$15 per foot due to increased paving requirements. Application is on a case-by-case basis.

It should be noted that the unit pipeline costs in the 2014 Master Plan include all ancillary items, including line valves, air relief valves, and tie-ins. Previous Mater Plans utilized pipeline unit costs that represented solely pipeline installation costs.

10.3.3 Storage Tanks.

Based on the District's experience with water storage tank construction, tank construction costs cannot be easily developed with cost curves and unit prices. It is possible to determine the tank structure cost with unit prices. However, site limitations, excavation cost, access road cost and other site-specific conditions vary greatly between sites. Therefore, storage tank construction cost estimates will be determined on a project-by-project basis utilizing recent bid prices and conceptual level site-specific estimates of non-structure costs.

10.3.4 Pump Stations.

Pump stations and pumping capacity modifications are unique in nature and conceptual-level cost estimates will be provided on a project-by-project basis.

10.3.5 Construction Contingency

Since site-specific conditions are unknown for projects in the early planning stages in a master plan, a 30 percent construction contingency will be added to each project baseline construction cost to account for unforeseen events and unknown conditions.

10.3.6 Non-Construction Costs

At this preliminary stage of development, the final costs for administration, engineering, construction management are not known. Therefore, a cost equal to 25% of the sum of the baseline construction cost and the construction contingency is applied to the cost estimate to cover these items.

Some projects will require environmental review to comply with the California Environmental Quality Act (CEQA). For those projects that will likely require environmental review, a cost to cover this work is included. Some projects may require purchase of easements or right-of-way. If known during development of the master plan, additional costs are included for those projects.

10.4 CAPITAL IMPROVEMENT PLAN

Placement of projects within the CIP is based on a number of factors, including relative cost in relation to other required projects, timing of new demand, physical need for the project, and equitable distribution of funds for each interval.

In addition, the projects identified in this Master Plan are those associated with the distribution and transmission system. Other projects in the categories listed herein and in other categories as well may be identified by other means and included in the annual budgets as they are developed.

The Capital Improvement Plan is presented in Tables 10-2 through 10-6 in accordance with the appropriate budget categories. The Capital Improvement Plan summary separated by 5-year increments is shown in Table 10-7

**Table 10-2
Pipeline Replacements/Additions Projects
Capital Improvement Plan**

ID #	Project	Improvement Project Cost (\$)				
		FY 2014 to FY 2015	FY 2016 to FY 2020	FY 2021 to FY 2025	FY 2026 to FY 2030	FY 2031 to FY 2035
1a-01	Replace Aging Galvanized Steel Pipe			\$385,000		
1a-02	Replace 4" main on Bear Valley Road	\$191,000				
1a-03	Replace All TW Plastic Pipe		\$273,000	\$273,000	\$273,000	
1a-04	Ongoing Replacement Projects					\$250,000
1b-01	Gallagher Well Pipeline	\$1,486,000				
1c-01	Replace Polybutylene Service Lines		\$48,750	\$48,750	\$48,750	\$48,750
1d-01	Relocations to Synchronize with County Projects	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
	Totals	\$1,702,000	\$346,750	\$731,750	\$346,750	\$323,750

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**Table 10-3
System Improvement Projects
Capital Improvement Plan**

ID #	Project	Improvement Project Cost (\$)				
		FY 2014 to FY 2015	FY 2016 to FY 2020	FY 2021 to FY 2025	FY 2026 to FY 2030	FY 2031 to FY 2035
2-01	Replace Untestable Detector Checks		\$32,500	\$32,500	\$32,500	
2-02	Install Flushing Taps at Dead-End Valves		\$32,500	\$32,500		
2-03	Install Permanent Water Quality Sampling Stations		\$27,000			
2-04	To be determined (TBD)					\$100,000
		\$0	\$92,000	\$65,000	\$32,500	\$100,000

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**Table 10-4
Pt Reyes Treatment Plant and Supply Improvements
Capital Improvement Plan**

ID #	Project	Improvement Project Cost (\$)				
		FY 2014 to FY 2015	FY 2016 to FY 2020	FY 2021 to FY 2025	FY 2026 to FY 2030	FY 2031 to FY 2035
3-01	Replace Well #2 at Coast Guard Site		\$300,000			
3-02	Install Gallagher Well #2			\$300,000		
3-03	Pt Reyes Treatment Plant Solids Handling Tank		\$910,000			
3-04	Major PRTP Upgrade			\$2,800,000		
3-05	To Be Determined (TBD)				\$200,000	\$200,000
	Totals	\$0	\$1,210,000	\$3,100,000	\$200,000	\$200,000

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**Table 10-5
Storage Tank/Pump Station Projects
Capital Improvement Plan**

ID #	Project	Improvement Project Cost (\$)				
		FY 2014 to FY 2015	FY 2016 to FY 2020	FY 2021 to FY 2025	FY 2026 to FY 2030	FY 2031 to FY 2035
4-01	Add Storage Capacity at Bear Valley Tanks				\$530,000	
4-02	Add Storage Capacity at Silver Hills			\$245,000		
4-03	Inspect and assessment of Pt Reyes Tank #2				\$10,000	
4-04	Replace 25,000 gallon PRE-1 Tank				\$250,000	
4-05	Replace 25,000 gallon PRE-2 Tank				\$250,000	
4-06	Replace PRE-4A Tank		\$650,000			
4-07	Olema Pump Station Flood Protection and RTU Upgrade	\$100,000				
4-08	Recoat Pt Reyes Tank #3		\$255,000			
4-09	Emergency Generator Connections	\$15,000				
4-10	Add Aeration at PRE-2 and Inverness Park Tanks		\$10,000			
4-11	Install an RTU at PRE-4			\$20,000		
4-12	To be determined (TBD)					\$300,000
	Totals	\$115,000	\$915,000	\$265,000	\$1,040,000	\$300,000

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**Table 10-6
 Preliminary Project Engineering and Study Projects
 Capital Improvement Plan**

ID #	Project	Improvement Project Cost (\$)				
		FY 2014 to FY 2015	FY 2016 to FY 2020	FY 2021 to FY 2025	FY 2026 to FY 2030	FY 2031 to FY 2035
S-01	Master Plan Update			\$30,000		\$40,000
S-02	Hydraulic Model Development		\$25,000			
S-03	Prepare Electronic Facility Maps		\$30,000			
	Totals	\$0	\$55,000	\$30,000	\$0	\$40,000

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**Table 10-7
Capital Improvement Plan Summary⁽¹⁾**

Category		Improvement Project Cost (\$)					Totals
		FY 2014 to FY 2015	FY 2016 to FY 2020	FY 2021 to FY 2025	FY 2026 to FY 2030	FY 2031 to FY 2035	
1a	Main/Pipeline Replacements	\$191,000	\$273,000	\$658,000	\$273,000	\$250,000	\$1,645,000
1b	Pipeline Additions	\$1,486,000					\$1,486,000
1c	PB Service Line Replacements	\$0	\$48,750	\$48,750	\$48,750	\$48,750	\$195,000
1d	Relocations to Sync w/ County CIP & New Pipe	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$125,000
2	System Improvements	\$0	\$92,000	\$65,000	\$32,500	\$100,000	\$289,500
3	PRTP Improvements and Other Improvements	\$0	\$1,210,000	\$3,100,000	\$200,000	\$200,000	\$4,710,000
4	Storage Tanks/Pump Stations	\$115,000	\$915,000	\$265,000	\$1,040,000	\$300,000	\$2,635,000
Study	Preliminary Project Engineering and Studies	\$0	\$55,000	\$30,000	\$0	\$40,000	\$125,000
	Totals	\$1,817,000	\$2,618,750	\$4,191,750	\$1,619,250	\$963,750	\$11,210,500

(1) - Target is \$25,000/year or \$1.25 million/5 years

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APPENDICES

APPENDIX A-1



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April 1, 2014

Scott Alber,
Marin County Fire Marshal
P.O. Box 518
Woodacre, CA 94973

Re: West Marin Water System Fire Flow Goals
NMWD File 2 8687.01

Dear Mr. Alber:

This letter is regarding the 2014 West Marin Water System Master Plan Fire Flow Goals. Thank you in advance for your review and comment.

Attached is an expanded Fire Flow and Fire Storage Goals tabulation for your review. Storage capacity goals are the sum of operational and the greater of fire and emergency storage volumes. Operational storage equals 25% of maximum day demand and emergency storage equals 100% of maximum day demand. Fire flow goals are as shown in the tabulation for each pressure zone, and operational and emergency storage needs anticipated at present (2013) and at buildout (year 2035). The buildout storage goals have been derived from regional population and development projections (2001 PRS Community Plan and County wide Plan Update).

The outcome of this analysis is that each pressure zone falls into one of the following categories:

- Current storage capacity exceeds buildout storage needs.
(Olema and Inverness Park/PRE-1)
- Additional storage needed at buildout is minimal and the deficit is acceptable, no further action recommended.
(Pt. Reyes Station)
- Additional storage needed at buildout is in a small pressure zone where the existing system is limited and improvement costs are prohibitive. (these are PRE-2, -3 and -4). In this scenario, more storage will be added to the highest pressure zone (PRE-4) and by a cascading system, this storage will be available to the lower PRE zones (PRE-2 and 3).
- Additional storage needed at buildout is substantial and a project has been or will be added to the NMWD Capital Improvement Plan to address this deficiency.
(Bear Valley and PRE-4 tanks).

APPENDIX A-1

Mr. Scott Alber
April 1, 2014
Page 2 of 2

Please note that although the tank storage capacities are increased, the pipes are sized for a minimum 500 gpm flow in most areas. A pipe upsizing project is proposed for the Bear Valley Service area to accommodate the aforementioned minimum flow rate.

Please sign the acknowledgment below to confirm this approach is understood and is acceptable.

Sincerely,



Drew McIntyre
Chief Engineer

Attachment

DM:edb
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4-1-14.doc

The above is hereby acknowledged by

This the 15 day of APRIL 2014
By SCOTT D. ALBER Title FIRE MARSHAL
Scott Alber
Print or type name

Fire Flow and Fire Storage Volume Goals - West Marin (Current - 2013)

Tank/Zone	Tank Capacity (gal)	Estimated Max Day Demand (gal/day)	Area Type	Fire Flow Standard 2001 and 2014	Fire Storage (gal)	current (2013)			Total Storage Required (gal) (3)	Additional Storage Required (gal)
						Emergency Storage (gal)	Operational Storage (gal) (1)	> of Fire / Emergency Storage (gal) (2)		
Point Reyes Station	580,000	319,052	comm / residential	2000 gpm for 2 hrs	240,000	319,052	79,763	319,052	398,815	-181,185
Olema	150,000	62,122	WUI	1000 gpm for 2 hrs	120,000	62,122	15,531	120,000	135,531	-14,469
Bear Valley	30,000	16,518	WUI	1000 gpm for 2 hrs	120,000	16,518	4,130	120,000	124,130	94,130
Inverness Park/PRE-1	161,500	58,015	WUI	1000 gpm for 2 hrs	120,000	58,015	14,504	120,000	134,504	-26,996
PRE-2	25,000	6,633	WUI	1000 gpm for 2 hrs	120,000	6,633	1,658	120,000	121,658	96,658
PRE-3	38,000	13,655	WUI	1000 gpm for 2 hrs	120,000	13,655	3,414	120,000	123,414	85,414
PRE-4	50,000	19,415	WUI	1000 gpm for 2 hrs	120,000	19,415	4,854	120,000	124,854	74,854
Total	1,034,500	495,411					123,853	1,039,052	1,162,905	128,405

Fire Flow and Fire Storage Volume Goals - West Marin (At Buildout)

Tank/Zone	Tank Capacity (gal)	Estimated Max Day Demand (gal/day)	Area Type	Fire Flow Standard 2001 and 2014	Fire Storage (gal)	At Buildout FY 2035			Total Storage Required (gal) (3)	Additional Storage Required (gal)
						Emergency Storage (gal)	Operational Storage (gal) (1)	> of Fire / Emergency Storage (gal) (2)		
Point Reyes Station	580,000	494,565	comm / residential	2000 gpm for 2 hrs	240,000	494,565	123,641	494,565	618,207	38,207
Olema	150,000	75,173	WUI	1000 gpm for 2 hrs	120,000	75,173	18,793	120,000	138,793	-11,207
Bear Valley	30,000	19,988	WUI	1000 gpm for 2 hrs	120,000	19,988	4,997	120,000	124,997	94,997
Inverness Park/PRE-1	161,500	70,203	WUI	1000 gpm for 2 hrs	120,000	70,203	17,551	120,000	137,551	-23,949
PRE-2	25,000	9,221	WUI	1000 gpm for 2 hrs	120,000	9,221	2,305	120,000	122,305	97,305
PRE-3	38,000	18,982	WUI	1000 gpm for 2 hrs	120,000	18,982	4,746	120,000	124,746	86,746
PRE-4	50,000	26,989	WUI	1000 gpm for 2 hrs	120,000	26,989	6,747	120,000	126,747	76,747
Total	1,034,500	715,122					178,780	1,214,565	1,393,346	358,846

Notes:

(1) 25% of maximum day demand

(2) Due to small systems greater of fire and emergency storage is used

(3) Sum of Operational Storage and greater of Fire/Emergency Storage

Project needed to add storage deficiency with PRE-4 addition of 80K gallon tank and the cascading system from higher PRE zone(s), no increase in storage required

APPENDIX D-1

Expanded CIP Table													
By:	Carmela Chandrasekera												
Date:	2/20/2014												
Category	ID#	Project Name	Description	Project Summary	Recommended by	Unit	Qty	Unit Price	Baseline Construction Cost	Contingency	Admin/Design/CMS	Total Project Cost	Notes
	1a-01	Replace Aging Galvanized Steel Pipe	Replace 2,152 feet of galvanized steel (GS) pipe, with priority given to the oldest pipe. Replace 500 feet annually from 2020 until the program is completed in FY 2025. Locations tracked in the database "WMPipeCount.xls" which is maintained by the Engr Dept and shown in Appendix C-1.			ft	2,152	110	\$236,720	\$71,016	\$76,934	\$384,670	cost based on unit price for 6" T-10.1
	1a-02	Replace 4" main on Bear Valley Road	Replace and upsize 900 feet of 4" main on Bear Valley Road starting from the tank. In order to provide a minimum of 500 gpm fire flow, the main needs to be upsized to 6-inch or 8-inch to avoid negative pressure at the high point at the end of 900 ft.			ft	900	130	\$117,000	\$35,100	\$38,025	\$190,125	cost based on unit price for 8" T-10.1
	1a-03	Replace All TW Plastic Pipe	Replace and upsize 6,100 feet of Thin Wall (TW) 2-inch plastic pipe with priority given to the oldest pipe. Replace 1,000 ft biennially until the program is completed in FY 2027. Locations tracked in the database "WMPipeCount.xls" which is maintained by the Engr Dept and shown in Appendix C-1.			ft	6,100	110	\$671,000	\$201,300	\$218,075	\$1,090,375	baseline cost based on unit price for 6" T-10.1
	1c-01	Replace Polybutylene Service Lines	Replace 48 PB services on Sir Francis Drake Blvd and Highway 1. Develop a data base that would eventually replace all PB services with copper in the other areas.			ea	48	2500	\$120,000	\$36,000	\$39,000	\$195,000	estimated repl. 2 services/crew day
	1d-01	Relocations to Synchronize with County Projects	Relocation of existing District water facilities of County of Marin street improvement projects. Specific projects to be included in each annual CIP as appropriate.									\$25,000	
	1d-02	Gallagher Well Pipeline Project	Install approximately 1 mile of 12" pipeline from Gallagher well to connect to the 6" main leading to PRTP near Downey well site									\$1,400,000	Project Summary
	2-01	Replace Untestable Detector Checks	Replace 2 assemblies per year with District-standard assemblies. 6 untestable assemblies and are listed in the database "DCVA_WM DB.exl" which is maintained by Maintenance Dept and is shown in Appendix C-5.			ea	2	10000	\$20,000	\$6,000	\$6,500	\$32,500	~\$14,000/replacement Novato project (J-1.7007.07)
	2-02	Install Flushing Taps at Dead-End Valves	Review dead end valves that need flushing and develop a database. Install 4 taps at dead-end valves biennially			ea	4	5000	\$20,000	\$6,000	\$6,500	\$32,500	Novato project J-1.8677.18 ~ total \$5,700/location
	2-03	Install Permanent Water Quality Sampling Stations	Install sample stations at Red Barn (PRS, 510 Mesa Rd), 22 Portola (Inverness Park, PRE-1) and 95 Drakes View (PRE-2).			ea	3	5500	\$16,500	\$4,950	\$5,363	\$26,813	total \$5,065/location in Novato project 1.8650.19
	2-04	TBD										\$100,000	
	3-01	Replace Well #2 at Coast Guard Site	Well #2 is nearing the end of its useful life and has decreased in production capacity over the years.			ea	1	185000	\$185,000	\$55,500	\$60,125	\$300,625	Well No. 2 repl. Cost was \$270k in 2013

Category	ID#	Project Name	Description	Project Summary	Recommended by	Unit	Qty	Unit Price	Baseline Construction Cost	Contingency	Admin/Design/CMS	Total Project Cost	Notes
	3-02	Install Gallagher Well #2	second well is needed to meet the 300 gpm combined capacity at Gallagher wells to meet the buildout demand.			ea	1	185000	\$185,000	\$55,500	\$60,125	\$300,625	Well No. 2 repl. Cost was \$270k in 2013
	3-03	Pt Reyes Treatment Plant Solids Handling Tank	Construction of a backwash waste water treatment system to eliminate discharge of untreated backwash water and reclamation of clarified backwash water for recycling.	yes	DJ	ea	1	560000	\$560,000	\$168,000	\$182,000	\$910,000	from Project summary
	3-04	Major PRTP Upgrade	Construct a new Treatment Plant to replace the existing facility that has reached the end of its useful life			ea	1	2500000	\$2,500,000	\$750,000	\$812,500	\$4,062,500	July 2005 \$1.9M const cost adjusted to 2014 (31.8% increase)
	3-05	Abandon Downey Well	The Downey well is no longer functional and needs to be properly sealed and abandoned per Marin County and State Standards.									\$100,000	Estimate from Nor-Cal wells
	4-01	Add Storage Capacity at Bear Valley Tanks	Construct 65,000 gallon tank and piping modifications (to address zone deficiency of 94,000 gal now and 95,000 gal at buildout).			ea	1	325000	\$325,000	\$97,500	\$105,625	\$528,125	unit price \$5/gal (see App D-2)
	4-02	Add Storage Capacity at Silver Hills (Bear Valley Area)	Construct 30,000 gallon tank and piping modifications (to address zone deficiency of 94,000 gal now and 95,000 gal at buildout).			ea	1	150000	\$150,000	\$45,000	\$48,750	\$243,750	unit price \$5/gal (see App D-2)
	4-03	Inspect and assessment of Pt Reyes Tank #2	Pt. Reyes tank #2 was constructed in 1973 and need assessment of the condition of the tank									\$10,000	assessment by consultant
	4-04	Replace 25,000 gallon PRE-1 Tank	Replace PRE-1 Redwood Tank			ea	1	125000	\$125,000	\$37,500	\$40,625	\$203,125	unit price \$5/gal (see App D-2)
	4-05	Replace 25,000 gallon PRE-2 Tank	Replace PRE-2 Redwood Tank			ea	1	125000	\$125,000	\$37,500	\$40,625	\$203,125	unit price \$5/gal
	4-06	Replace PRE-4A Tank	Replace 25,000 gallon PRE-4A with 80,000 gallon tank			ea	1	400000	\$400,000	\$120,000	\$130,000	\$650,000	unit price \$5/gal (see App D-2)
	4-07	Olema Pump Station Flood Protection and RTU Upgrade	Modify existing structure to prevent flooding of facilities by Olema Creek and RTU upgrade	yes	DJ							\$100,000	from Project summary
	4-08	Recoat Pt Reyes Tank #3	Recoat Pt Reyes Tank #3.			sq ft	13,000	12	\$156,000	\$46,800	\$50,700	\$253,500	unit price \$12/sq ft- estimates from tank coating contractor (Blastco) & MMWD
	4-09	Emergency Generator Connections	For PRE and Olema Pump Stations									\$15,000	
3-02	4-10	Add Aeration at PRE-2 and Inverness Park Tanks	Install aeration systems to help reduce THMs in PRE									\$10,000	
3-03	4-11	Install an RTU at PRE-4	Include with PRE Tank 4-B construction									\$20,000	
	S-01	Master Plan Update	Update of 2014 Master Plan (every ten years)									\$30,000	
	S-02	Hydraulic Model Development	Study of actual data to calibrate hydraulic model, then use model to predict low fire flow areas.									\$25,000	
3-04	S-03	Prepare Electronic Facility Maps	Convert West Marin Facility Maps to digital format .			days	23	1000	\$23,000	\$6,900		\$30,000	time estimate by AutoCAD Draftsman (AC)

APPENDIX D-2

Tank Construction and re-coating costs
 Prepared By: Carmela Chandrasekera
 Date: Jun-14

Construction Projects (total project cost)
 NMWD

Year	Job No.	Tank	Description	Tank Material	Size (gal)	Cost*	cost/gallon
2002-2003	2.6259	PRS Tank 1	Replace	Concrete	100,000	\$399,707	\$4.00
2002-2003	2.6262	PRE #3	Replace	Concrete	38,000	\$91,821	\$2.42
2007-2008	1.6233.00	Palmer Tank	Replace	welded steel	3,000,000	\$2,934,745	\$0.98
2007-2008	2.6253.21	IP Tank	Replace	Concrete	30,000	\$164,300	\$5.48
2008-2009	1.6235.00	Crest Tank	New+ re-coat exterior of ex.	welded steel	500,000	\$969,875	\$1.94
2011-2012	5.6055.14	Plum Tank	Re-hab	Steel	500,000	612866	\$1.23
AVERAGE							\$2.67

MMWD (Tank Construction cost only) Total const. \$ Tank \$/gal

Year	Tank	Description	Tank Material	Size (gal)	Cost*	cost/gallon	Eng. Est
2005	Fairfax Manor First		Bolted Steel	20,000	\$327,000	\$16.35	\$2.15
2007	Sequoia 2		Bolted Steel	51,000	\$299,718	\$5.88	\$2.13
2005	Monte Mar Vista		Bolted Steel	60,000	\$249,202	\$4.15	\$0.98
2006	Fair Hills Tank		Bolted Steel	60,000	277,888	\$4.63	\$1.42
2007	Tam woods Top		Bolted Steel	80,000	\$369,581	\$4.62	\$1.63
2006	Kent		Bolted Steel	100,000	\$452,500	\$4.53	\$1.40
1998	Wilson Way Tank		welded steel	100,000	\$493,147	\$4.93	\$1.80
2008	Summit Lower Tank		welded steel	100,000	\$676,347	\$6.76	\$3.38
2008	Oak Manor First Lift		welded steel	100,000	\$578,322	\$5.78	\$2.80
2008	Beacon Hill		welded steel	100,000	\$677,060	\$6.77	\$2.86
2009	Slide Gulch		welded steel	100,000	\$670,000	\$6.70	\$3.70 Eng. Est
2007	Sequoia 1		Bolted Steel	114,000	\$340,908	\$2.99	\$1.05
2005	Scott Tanks		Bolted Steel	120,000	\$444,955	\$3.71	\$1.12
2009	Cascade		Bolted Steel	120,000	\$349,044	\$2.91	\$1.37
2008	Friar Tuck Lane Tank		welded steel	125,000	\$642,075	\$5.14	\$2.87
2002	Corte Madera Top		Bolted Steel	132,000	\$235,200	\$1.78	\$0.59
2005	Bay Rd		Bolted Steel	132,000	\$388,000	\$2.94	\$0.72
2006	Marin City Tank		welded steel	200,000	\$813,860	\$4.07	\$1.59
2004	Oak Woodland		welded teel	230,000	\$840,440	\$3.65	\$1.50
2009	Sugar Loaf Tank		welded steel	254000	\$1,155,000	\$4.55	\$2.76 Eng. Est
2006	Santa Venetia		welded steel	310,000	\$844,450	\$2.72	\$1.73
2007	Mt Tiburon Tank		welded teel	590,000	\$830,000	\$1.41	\$0.78
2002	Spring Lane		welded steel	1,500,000	\$1,011,725	\$0.67	\$0.31
AVERAGE						\$4.68	\$1.77

MMWD Average Costs Based on Tank Type and Size

Total cost WELDED	Total cost BOLTED	tank only WELDED	tank only BOLTED	total cost size <100k gal	total cost size >=100k gal	tank only size <100k gal	tank only size >=100k gal
\$4.43	\$4.95	\$2.17	\$1.32	\$6.46	\$3.05	\$2.20	\$1.37

NMWD Re-coat Projects

Year	Job No.	Tank	Description	Material	Size (gal)	Cost*	cost/gallon
2003-2004	1.6200.20	Air Base Tank	Re-coat	welded steel	1,000,000	\$242,689	\$0.24
2008-2009	1.6219.20	Ponti Tank	Re-coat	welded steel	500,000	\$314,587	\$0.63
2011-2012	1.6206.22	Crest Tank 1 -interior	Re-coat	welded steel	500,000	\$176,487	\$0.35
AVERAGE							\$0.41

Notes:

* Cost from NMWD Job transaction detail records - includes all project costs including design and management
 MMWD costs do not include design and other costs (construction costs only)

R:\Folders by Job No\8000 jobs\8600s\8687 (West Marin)\8687.01 WM Master Plan Update 2013_14\Tables\Tables Section 9 WM MP.xlsx]APP D1

APPENDIX D-3

Reference Project Job #	Wilson Way Tank F9903 Welded Steel W Anchors	Corte Madera Top D9931 Bolted Steel W/O Anchors	Spring Lane D99061 Welded Steel W/O Anchors	Oak Woodland D04028 Welded Steel W/Anchors	Monte Mar Vista D03035 Bolted Steel W/Anchors	Fairfax Manor First D03025 Bolted Steel W/Anchors	Scott Tanks D03034 Bolted Steel W/Anchors	Bay Rd D04023 Bolted Steel W/O Anchors	Fairhills D04033 Bolted Steel W/Anchors	Santa Venetia Bids D04026 Welded Steel W/Anchors	Marin City Tank D06024 Welded Steel W/Anchors	Kent Woodlands D05053 Bolted Steel W/Anchors	Mt Tiburon Tank D06002 Welded Steel w/ anchor	Sequoia D05052 TK-215 Bolted Steel W Anchors	TK-216 Bolted Steel W Anchors	Tam Woods Top Tank D07031 Bolted Steel W/Anchors	Summit Lower Tank D07016 Welded Steel W Anchors	Friar Tuck Lane Tank D08004 Welded Steel W Anchors	Oak Manor First LIR D06025 Welded Steel W Anchors	Beacon Hill D05049 Welded Steel W Anchors	Cascade D08045 2-Bolted Steel w/o temp tanks	Sugar Loaf Tank D08006 Welded Steel w/o temp tanks	Slide Gulch D06023 Welded Steel w/ temp tanks
Sign Report Estimate Owner's Estimate	Extrapolated Bid																				Engineer's Estimate		
Extrapolated Bid Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown	Contractor Cost Breakdown
Capacity (gal)	100,000	132,000	1,500,000	230,000	60,000	20,000	120,000	132,000	60,000	310,000	200,000	100,000	590,000	114,000	TK-216 Bolted Steel W Anchors	80,000	100,000	125,000	100,000	100,000	2 at 60,000 gallons 120,000	2 at 127,000 gallons 254,000	Engineer's Estimate 100,000
Bid Date/ Date of Estimate	11/10/1998	9/27/2000	6/27/2002	9/28/2004	1/24/2005	2/8/2005	3/21/2005	4/11/2005	11/8/2005	6/6/2006	7/20/2006	9/21/2006	5/3/2007	9/18/2007		9/20/2007	7/1/2008	7/22/2008	9/5/2008	10/6/2008	4/28/2009	4/20/2009	10/1/2009
Construction Costs																							
Mobilization	\$ 7,000	\$ 6,500	\$ 22,700	\$ 29,300	\$ 2,500	\$ 10,500	\$ 8,500	\$ 10,000	\$ 10,000	\$ 35,000	\$ 18,000	\$ 25,000	\$ 8,000	\$ 7,000	\$ 3,000	\$ 26,831	\$ 22,000	\$ 32,103	\$ 32,072	\$ 25,000	\$ 5,000	\$ 55,000	\$ 25,000
Survey						\$ 6,850					\$ 7,200	\$ 3,000						\$ 3,500					
Submittals	\$ 6,500										\$ 7,200	\$ 3,000						\$ 3,500					
Clear and Grub Site	\$ 13,500		\$ 10,500		\$ 13,467		\$ 10,500	\$ 26,410	\$ 4,228		\$ 6,000	\$ 8,000		\$ 13,250	\$ 9,250		\$ 10,000		\$ 7,000	\$ 10,000	\$ 20,000	\$ 10,000	\$ 10,000
Temp. Tanks		\$ 14,163									\$ 68,000	\$ 20,000				\$ 9,000	\$ 5,082	\$ 59,662	\$ 24,000	\$ 10,560			\$ 15,000
Demo Existing TKS	\$ 10,250	\$ 21,240		\$ 47,025	\$ 11,102	\$ 15,000	\$ 21,500	\$ 16,680	\$ 20,100		\$ 37,500	\$ 20,500		\$ 30,600	\$ 27,600	\$ 7,500	\$ 31,890	\$ 15,000	\$ 20,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 30,000
Site Excavation/Grading	\$ 55,817	\$ 37,116	\$ 211,800	\$ 45,375	\$ 18,095	\$ 47,000	\$ 56,500	\$ 22,780	\$ 5,095	\$ 175,800	\$ 39,000	\$ 10,000	\$ 52,000	\$ 20,100	\$ 13,097	\$ 15,500	\$ 25,327	\$ 65,900	\$ 20,000	\$ 35,000		\$ 20,000	\$ 25,000
Recompact Site		\$ 8,025																					
Storm Drainage System	\$ 12,500		\$ 24,450	\$ 52,530		\$ 1,500		\$ 30,370		\$ 24,360				\$ 14,593	\$ 5,500	\$ 4,000	\$ 12,410		\$ 7,200	\$ 8,200	\$ 15,000	\$ 15,000	\$ 10,000
Cathodic Protection								\$ 7,850		\$ 9,000	\$ 5,000					\$ 4,000		\$ 4,000	\$ 2,500			\$ 5,000	
Concrete V-Ditches	\$ 3,500																						
Water Pipe System	\$ 23,250		\$ 75,125	\$ 75,000	\$ 45,494	\$ 38,000	\$ 58,350		\$ 35,700	\$ 25,000	\$ 72,120	\$ 62,500	\$ 65,000	\$ 25,800	\$ 38,500	\$ 20,000	\$ 55,134		\$ 36,000	\$ 26,000		\$ 25,000	\$ 50,000
Tank Piping		\$ 16,650						\$ 18,660	\$ 23,500	\$ 10,000	\$ 6,500			\$ 15,482	\$ 14,700		\$ 9,803			\$ 20,000	\$ 20,000	\$ 10,000	
Install Fire Hydrant Offsite		\$ 5,525								\$ 5,000											\$ 20,000	\$ 20,000	\$ 10,000
Wood Retaining Wall		\$ 7,930				\$ 35,200						\$ 14,000	\$ 60,000		\$ 16,600								\$ 5,000
Pile Wall	\$ 36,500		\$ 55,515		\$ 35,831		\$ 18,800						\$ 20,628		\$ 49,750	\$ 56,293		\$ 38,000	\$ 87,000			\$ 80,000	\$ 80,000
Elect. Controls	\$ 47,250	\$ 5,736		\$ 17,300	\$ 18,250	\$ 18,000	\$ 40,850	\$ 29,930	\$ 8,250	\$ 31,200	\$ 49,800	\$ 5,000	\$ 75,000	\$ 24,100	\$ 20,100	\$ 14,500	\$ 35,000	\$ 25,000	\$ 9,500	\$ 8,500	\$ 25,000	\$ 30,000	\$ 25,000
Tank Foundation	\$ 18,750	\$ 18,360	\$ 68,750	\$ 122,400	\$ 44,611	\$ 46,250	\$ 38,470	\$ 26,200	\$ 44,611	\$ 46,250	\$ 38,470	\$ 26,200	\$ 44,611	\$ 46,250	\$ 38,470	\$ 26,200	\$ 44,611	\$ 46,250	\$ 38,470	\$ 26,200	\$ 44,611	\$ 46,250	\$ 38,470
Under Tank Fill & Paving	\$ 4,100	\$ 5,520		\$ 3,239		\$ 9,575	\$ 14,350	\$ 6,200		\$ 11,000			\$ 4,721	\$ 4,721	\$ 3,000	\$ 20,674		\$ 12,000			\$ 25,000	\$ 20,000	\$ 20,000
Site Paving	\$ 9,250		\$ 23,000	\$ 53,900	\$ 10,070	\$ 22,601	\$ 21,300		\$ 15,000	\$ 30,000	\$ 47,000	\$ 9,200	\$ 8,200	\$ 7,000	\$ 18,191	\$ 35,000	\$ 16,000	\$ 22,500			\$ 25,000	\$ 25,000	\$ 25,000
Sub Grade Roadway	\$ 3,400					\$ 46,580	\$ 42,780																
Landscaping	\$ 32,600	\$ 1,830		\$ 3,158	\$ 16,500		\$ 3,158		\$ 2,000														
Site Fencing	\$ 21,000	\$ 7,320	\$ 2,000	\$ 16,000	\$ 3,750	\$ 27,500	\$ 11,750	\$ 13,910	\$ 23,000	\$ 17,000	\$ 22,000	\$ 35,000		\$ 5,850	\$ 4,850	\$ 12,500	\$ 11,353	\$ 6,000	\$ 26,500	\$ 25,000	\$ 25,000	\$ 20,000	\$ 20,000
Site Stairs				\$ 8,657	\$ 750		\$ 8,657			\$ 3,500									\$ 13,750				
Construct Road		\$ 73,935		\$ 68,840	\$ 42,988	\$ 134,500	\$ 94,500	\$ 85,000	\$ 405,450	\$ 187,780	\$ 140,000	\$ 125,000		\$ 130,000		\$ 265,304	\$ 200,000	\$ 116,000	\$ 164,044	\$ 700,000	\$ 370,000	\$ 370,000	\$ 370,000
Tank	\$ 8,500			\$ 98,000																			
Submittals & Engineering	\$ 62,000		\$ 153,400	\$ 98,000																			
Shop Fabricated Material	\$ 84,499		\$ 104,850	\$ 127,000																			
Tank Construction	\$ 10,150		\$ 45,100																				
Shop Coating	\$ 21,500		\$ 155,915	\$ 120,000																			
Field Coating	\$ 3,300	\$ 3,525		\$ 345,000	\$ 58,840	\$ 42,988	\$ 134,500	\$ 94,500	\$ 85,000	\$ 536,450	\$ 317,380	\$ 140,000	\$ 458,000	\$ 119,784	\$ 108,800	\$ 130,000	\$ 334,000	\$ 358,620	\$ 280,000	\$ 286,000	\$ 164,044	\$ 700,000	\$ 370,000
Delivery of Tanks	\$ 179,955	\$ 77,460	\$ 459,285	\$ 345,000	\$ 58,840	\$ 42,988	\$ 134,500	\$ 94,500	\$ 85,000	\$ 536,450	\$ 317,380	\$ 140,000	\$ 458,000	\$ 119,784	\$ 108,800	\$ 130,000	\$ 334,000	\$ 358,620	\$ 280,000	\$ 286,000	\$ 164,044	\$ 700,000	\$ 370,000
Tank subtotal				\$ 20,310												\$ 2,500	\$ 2,000	\$ 1,000					
Testing				\$ 20,500																			
Concrete slope protection				\$ 20,500																			
Shore, OverExcavation, I	\$ 8,025	\$ 1,825	\$ 38,120	\$ 16,300																			
Pump Station (break down elsewhere)																							
5% Contingency for Estimates Only																							
Contract Total	\$ 493,147	\$ 235,200	\$ 1,011,725	\$ 840,440	\$ 249,202	\$ 327,000	\$ 444,955	\$ 388,000	\$ 277,988	\$ 844,450	\$ 813,860	\$ 452,500	\$ 830,000	\$ 340,908	\$ 299,718	\$ 369,581	\$ 676,347	\$ 642,075	\$ 578,322	\$ 677,060	\$ 349,044	\$ 1,155,000	\$ 670,000
COST PER GALLON T#	\$ 1.80	\$ 0.59	\$ 0.31	\$ 1.50	\$ 0.98	\$ 2.15	\$ 1.12	\$ 0.72	\$ 1.42	\$ 1.73	\$ 1.59	\$ 1.40	\$ 0.78	\$ 1.05	\$ 2.13	\$ 1.63	\$ 33.38	\$ 2.87	\$ 2.80	\$ 2.88	\$ 1.37	\$ 2.76	\$ 3.70
COST PER GALLON - T	\$ 4.93	\$ 1.78	\$ 0.67	\$ 3.65	\$ 4.15	\$ 16.35	\$ 3.71	\$ 2.94	\$ 4.63	\$ 2.72	\$ 4.07	\$ 4.53	\$ 1.41	\$ 2.99	\$ 5.88	\$ 4.62	\$ 66.76	\$ 5.14	\$ 5.78	\$ 6.77	\$ 2.91	\$ 4.55	\$ 6.70

APPENDIX E-1

NORTH MARIN WATER DISTRICT
WATER SYSTEM IMPROVEMENTS/SPECIAL PROJECTS
PROJECT SUMMARY
AS OF March 2013

Job No. 2.6601.32	Title: PRTP Solids Handling Tank
Facility No. 6601	Facility Type (Pipelines, Pump Stations, etc.) Treatment Plant
Description Purchasing land, constructing a 100,000 gallon solids handling concrete tank and pipe line extension from PRTP to Four G's property where the tank will be located. Change 3/11: Railroad Property Purchased, Dual tank design planned.	

Project Justification
Point Reyes Water Treatment Plant Upgrade Study by SPH Associates (July 2005) recommended construction of a backwash waste water treatment system to eliminate discharge of untreated backwash water and reclamation of clarified backwash water for recycling.

	Baseline Cost Estimate	Design/ Permit	Constr. Ph (Original)	Expended to Date	Total Est (3/11)	Total Est (5/12)	Total Est (3/13)		Start	Finish (Est.)	Finish (Actual)
1	Project Development (1)	\$20,000		\$12,000	\$12,000	\$12,000	\$12,000	Project Dev.	Mar-09	Jun-09	
2	Prelim. Design(2)	\$10,000		\$10,800	\$10,800	\$10,800	\$10,800	Prelim.	Jul-09	Sep-09	
3	Land Purchase (3)	\$250,000		\$40,000	\$40,000	\$40,000	\$40,000				
4	Surveying/Mapping	\$5,000		\$8,000	\$8,000	\$8,000	\$8,000		Jul-09	Aug-09	
5	Geotech. Invest	\$5,000		\$5,000	\$5,000	\$5,000	\$5,000		Jul-09	Aug-09	
6	CEQA / Permitting	\$20,000		\$35,600	\$20,000	\$20,000	\$52,000	Permitting	Jul-09	Sep-09	Jul-12
7	Final Design	\$10,000		\$40,000	\$30,000	\$40,000	\$45,000	Final Design	Aug-12	Jul-13	
8	Design Phase Staff Costs	\$5,000		\$17,800	\$10,000	\$10,000	\$25,000				
9	Bidding Services	\$5,000			\$5,000	\$5,000	\$5,000				
10	Construction(4)&(7)		\$327,000		\$313,000	\$530,000	\$530,000				
11	Fence & retaining wall (5)		\$75,000		above						
12	Pipe extension (6)		\$137,500		Included below	Included above	Included above				
13	Pump		\$10,000								
14	Elec. / Mech.		\$5,000		\$260,000						
15	Const. Admin		\$10,000		\$20,000	\$20,000	\$20,000	Construction	Jan-13	Jun-13	
16	Project Closeout		\$3,000		\$5,200	\$5,200	\$5,200	Project Closeout	Jun-13	Aug-13	
	Project Subtotal		\$567,500		\$739,000	\$706,000	\$758,000				
	Project Contingency		\$56,750		\$100,000	\$140,000	\$150,000				
	Sub-Total	\$330,000	\$624,250	\$169,200	\$839,000	\$846,000	\$908,000				
	Grand Total		\$954,250								

Notes: Note revisions in BOLD

- (1) Conceptual Design Report (Job #2.7102.00)
- (2) Preliminary Design (\$5,000 staff costs, \$5,000 consultant)
- (3) Purchase of 1.5 acres from Four G's property. (RR Right-a-Way purchased, 1.3 A)
- (4) based on estimate for PRE tank #4 100,000 gallon tank (Prelim Est for Concrete Dual tanks)
- (5) Fence and Retaining wall estimate from SPH report
- (6) Pipe extension from Four G's property to existing PRTP (approx. 1,100 ft x\$125) (NOT REQUIRED)
- (7) Inserted Construction Cost estimate from Pre-Design Report, HydroScience Engineers.
- (8) Added costs due to Coastal Permit - Fees \$11,000; LCA \$13,000; HSE \$8,200

**NORTH MARIN WATER DISTRICT
WATER SYSTEM IMPROVEMENTS/SPECIAL PROJECTS
PROJECT SUMMARY**

COMPLETED BY: Robert Clark

Updated by: David Jackson

DATE: 3/5/2012

Date: 3/18/2014

SERVICE AREA: NOVATO WEST MARIN OCEANA MARIN

Job No. Title: Olema PS Flood Protection & RTU upgrade

2.6130 Facility Type: Pump Station

Description: Raise the building above flood level and replace RTU.

Project Justification: The Olema Pump station has flooded every year during heave winter rains. The flood level is 18"-24" AFF prohibiting staff from entering site for service. The intent is to use reinforced concrete blocks to raise the foundation and build a retaining wall around the building and back fill adjcent area for safe vehicle access. The RTU has failed twice over the past three years and TESCO recomends a full replacement. The cost is 5x the Automation Direct unit to replace. Over the years we have not had communications failures during the winter rains and have had to trouble shoot to make repairs we need to locate the damagend section of cable and make repairs to save time and money and annual down time..

Baseline Cost Estimate	Initial (03/12)	Updated (3/13)	Updated (3/14)	Expended to Date	Baseline Schedule	Start	Finish (Est.)	Finish (Actual)
Project Dev.			\$ 5,000	\$5,000.00	Project Dev.	07/01/13		02/01/14
Design	\$ 1,000	\$ 5,000	\$ 13,000	\$ 300.00	Design	03/15/14	05/30/14	
Permitting					Permitting			
Land					Procurement			
Procurement	\$ 9,000	\$ 15,000	\$ 10,000		Construction	06/01/14	09/30/14	
Construction	\$ 15,000	\$ 65,000	\$ 55,000					
Const. Admin.		\$ 5,000	\$ 2,000		Project Closeout			
Project Closeout		\$ 2,000	\$ 2,000					
Project Contingency		\$ 8,000	\$ 13,000					
Total	\$ 25,000	\$ 100,000	\$ 100,000					

**NORTH MARIN WATER DISTRICT
WATER SYSTEM IMPROVEMENTS/SPECIAL PROJECTS
PROJECT SUMMARY
AS OF 4/23/2014 - Invoice 1 Prop 50**

Job No. 2.7087		Title: Gallagher Well Pipeline— West Marin
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Facility No.		Facility Type (Pipelines, Pump Stations, etc.): Pipeline & other
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	Description Project involves Gallagher pipeline final design (7,200 5,200 ft of 12" pipeline), Environmental and Geotechnical review, Permitting, Construction and contract administration costs and installing 3 new wells at Gallagher. rehabilitation of existing Gallagher well.
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	Project Justification: Lagunitas Creek Salinity Intrusion Study (1998) prepared by Soldati Engineering Services recommended that the District construct a pipeline to the existing Gallagher well for additional supply or for blending with the Coast Guard supply. One is currently at the site with a reliable capacity of approx. 120 GPM. It is assumed that additional wells at Gallagher are required to provide a fully redundant 700 GPM well field. (which will be a future project(s))
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Baseline Cost Estimate	2007 (Est.) \$	2014 (Est.) \$	Expended To Date \$	Baseline Schedule	Start	Finish (Est.)	Finish (Actual)
Project Dev.		13,000	12,627	Project Dev.	2007		Feb-13
Design (1)	115,000	100,000	80,397	Design	Mar-13	Oct-13	Feb-14
Geotechnical Review & Testing(2)*	30,000	40,000	9,900	Geotechnical Review			
Environmental Review(3)	15,000	25,000	17,161	Environmental Review		2009	
Encroachment Permit(4)	65,832	5,000		Permitting			
Grant funding and Pre-Const.project admin(5)	30,800	18,000	10,500	Bid Phase			
Construction(6)	856,000	1,040,000		Construction		Oct-14	
Material(6a)		10,000		Project Closeout			
CM/Inspection.(7)	60,000	60,000					
Wells (8)	241,200	70,000	70,316				
Admin/Design Support(9)	27,000	20,000					
Project Closeout(10)	12,000	13,000				Dec-14	
Project Contingency(11)	219,440	57,000					
Total	1,672,272	1,486,000	\$200,901				

Comments:
 (Note: for the 2007 Cost Estimate, the original 1999 costs were inflated to represent current (2007) costs based on San Francisco Construction Cost Index published in Engineering News Record. CCI (Dec. 1998) = 6845.6, CCI (Dec, 2007) = 9131.8. Increase in costs= 9131.8 / 6845.6 = 1.3339.). The following represents 2013

- (1) 10% of construction cost - CSW bridge crossing design and NMWD eng.
- (2) Material testing and geotech services estimate including geotech report. expended (\$9,900 from .01)
- (3) Consultant for CEQA + SWPPP. expended are all AP costs in 2.7087.00.
- (4) Estimate County Encroachment Permit
- (5) 2% of construction cost for Staff costs for funding application preparation, plan check, includes topo survey, bid evaluation and general pre-design project administration. expended cost is topo survey (\$10,500 from .01).
- (6) Current construction cost updated after bid opening (\$1,039,858)
- (7) NMWD Inspection cost.
- (8) 2007 estimate for two additional wells. 2014 estimate is only for rehabilitation of existing well and permitting (Auxiliary gage).
- (9) Engineering svcs during construction plus overall admin.
- (10) 1.5% of construction. Includes As-built drawings and close out
- (11) 12.5% Contingency based on Construction cost only


Prop 50 Grant Funding Categories: Invoice 1 - Prop 50
 yellow -preliminary costs (\$120,504); blue-engineering costs (\$80,397); green-equipment costs

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MEMORANDUM

To: Board of Directors

August 15, 2014

From: Robert Clark, Operations / Maintenance Superintendent 

Subj: Authorization to Solicit Bid Proposals for Fire Service Testing

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RECOMMENDED ACTION: Authorize staff to solicit proposals to test 220 fire service backflow prevention devices

FINANCIAL IMPACT: Not to exceed \$20,000

In 2013/14, after a brief cost evaluation process, staff determined that it would be more economical to the District to have an outside testing service perform a major portion of its fire service testing, and subsequently contracted with Inspection Services & Fire Protection, Inc. (Santa Rosa) to perform these tests, at a cost below the District's average in-house costs. This year, staff has chosen to present a Request for Proposal (RFP) (Attachment A) to a broader list of testers to determine if the cost per unit could be improved upon. The list of prospective testing companies (Attachment B) includes those which staff has identified as having both a certified backflow tester and ability to perform these tests for other local organizations.

As part of the approved 2014/15 fiscal year budget, the annual testing of 220 of the District's 356 fire service backflow devices were identified to be tested by an outside testing company. The RFP has been developed to include a scope of work and testing schedule and will be sent to the companies identified. The RFP will also be available on the District's website to enable other interested companies to review and submit proposals.

RECOMMENDATION

Authorize staff to advertise Request for Proposal to test 220 fire service backflow devices.

REQUEST FOR PROPOSALS
FOR
ANNUAL
FIRE SERVICE DCDA / RPDA ASSEMBLY
TESTING SERVICES

RFP 8-14

AUGUST 20, 2014

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I. PROPOSAL SUBMISSION

One (1) printed copy of the Proposal shall be delivered in a sealed envelope labeled:

Proposal for the North Marin Water District for the Annual Fire Service DCDA / RPDA
Assembly Testing & Repair Services
Attention: Mr. Robert Clark, Operation / Maintenance Superintendent
RFP 8-14
Bidder's name

Sealed proposals will be received no later than 3:00 p.m., local time, on Wednesday, September 10, 2014, at North Marin Water District's Administrative Office, located at 999 Rush Creek Place, Novato, CA 94945.

II. SCOPE OF WORK

The Scope of Work for the annual Fire Service Detector Check assembly testing and repair services being solicited is found in Exhibit A, attached to this RFP. A Notice to Proceed is anticipated to be issued by October 1, 2014 and the scope of work must be completed no later than December 19, 2014. The successful proposal(s) will demonstrate sufficient staff resources, expertise, relevant experience, and lack of disabling professional conflicts to perform the scope of work, along with demonstrated commitment to cost-control and client service that meet the District's needs.

LII. QUESTIONS / ADDENDA

Any questions about this RFP shall be submitted in writing (via U.S. mail, facsimile transmission, or e-mail) to Mr. Robert Clark at the following address:

North Marin Water District
Attn: Mr. Robert Clark
999 Rush Creek Place
PO Box 146
Novato, CA 94948-0146
Fax: (415) 892-8043
E-mail: rclark@nmwd.com

To be considered, questions must be received by the District no later than 5:00 p.m. on August 27, 2014. The District may, if deemed necessary, respond to such questions by issuance of formal written addenda, interpreting or clarifying the requirements of this RFP. The District may also issue addenda to modify the RFP as deemed advisable by the District. All such addenda shall be part of this RFP and binding upon each proposer. The District may, upon inquiry, orally direct a firm's attention to specific provisions of the RFP which cover the subject of the inquiry. However, all supplemental information provided by the District during the RFP process shall not be binding unless communicated by formal written addenda. Addenda to the RFP, if any, will be posted to the District's website (www.nmwd.com) no later than 5:00 p.m. on August 29, 2014.

IV. INFORMATION TO BE SUBMITTED IN PROPOSAL

1. CONTENT

Each proposal shall be limited to five (5) pages (not including transmittal letter and resumes) and shall follow the outline below:

Section 1 – Scope of Work

State in succinct terms your understanding of the scope of work listed in Exhibit A attached hereto.

Section 2 – Relevant Experience, Expertise and Certifications

Describe in narrative form the experience and expertise of your firm and/or project team members in providing the services sought by District. Identify representative clients.

Section 3 – Project Team

Identify each individual you expect to work on the project team, including sub-contractors, if any. Provide resumes for each member of the team.

Section 4 – Quality Assurance and Control; Conflicts

Describe your approach to Quality Assurance and Control for your firm's performance as well as any performance guarantees you offer.

Section 5 – Client References

Provide contact information for representatives of three former or current clients for whom your firm or project team members have performed similar services so that the District may interview these references.

Section 6 – Cost Schedule

Provide a completed cost schedule in the form shown in Exhibit B to perform annual testing services. Costs per device shall include all necessary activities within the scope of work including but not limited to services performed at each device as well as all reporting requirements to the District.

Section 7 – Contract and Insurance Requirements

All successful Proposal Respondents will be required to execute a contract and to meet the insurance requirements of Exhibit C. Please indicate your firm's willingness and ability to comply with these requirements.

1. COST OF SERVICES

All proposals must include a complete and current table of all rates and charges to perform all the proposed services with detailed itemization as displayed in the Cost Schedule provided in Exhibit B.

The rates and charges provided shall include all overhead rates to cover costs and other compensation of Proposal Respondent's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, specialists, estimators, lawyers, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by consultant whether at the site or in its principal or a branch office for general administration of the work and not specifically included in the list of personnel, Proposal Respondent's principal and branch offices other than Proposal Respondent's office at the site.

Rates and charges shall also include any part of Proposal Respondent's capital expenses, including necessary transportation, travel and subsistence expenses of Proposal Respondent's employees incurred in discharge of duties connected with performance of the services.

The rates and charges shall also include minor expenses connected with performance of the services such as copies, computers, software, on-line legal research, office supplies, postage, faxes, long-distance telephone calls, telephone, and any other expense incurred to accomplish the work. Note that no separate charges for these items will be allowed. Note also that no administrative charges will be allowed. Any markup shall be explicitly included in the cost schedule provided in Exhibit B.

1. NON-DISCLOSURE AND DISCLOSURE OF PROPOSALS

Proposals will be held in confidence during the evaluation process until District staff issues Notice of Intent to Award the contract. Thereafter, all proposals will be treated as documents subject to disclosure under the California Public Records Act (Act).

V. SELECTION CRITERIA

1. GENERAL

The proposals received shall be subject to an evaluation by the District as deemed appropriate for purposes of selection. The evaluation will be made according to the following criteria:

1. Responsiveness to RFP
2. Experience and expertise
3. Project team makeup and capabilities
4. Rates and charges, affordability and cost control
5. Evaluations from client references

1. FINAL SELECTION

Proposals will be rated based on the merit of the entire proposal. Notice of Intent to Award the professional services contract will be posted at the entry to the District's office at the aforesaid address and on the District's website at www.nmwd.com upon selection of a consultant to perform the Project.

The District reserves the right to reject any or all proposals and to re-issue this RFP. The District may waive any minor informalities or irregularities in any proposal that are immaterial and inconsequential in nature. The District reserves the right to request additional written or oral information from respondents to obtain clarification of their proposals. All proposals become the property of the District. All costs associated with development of the proposal shall be the sole responsibility of the proposing firm and shall not be charged in any manner to the District.

1. PROTEST PROCEDURE

Any protest concerning the rating of any proposal or award of the contract hereunder must be submitted in writing to the District's Operations/Maintenance Superintendent, at 999 Rush Creek Place, Novato, CA 94945 on or before 5:00 p.m. of the tenth (10th) calendar day following the District's posting of Notice of Intent to Award the professional service contract at the entry to the District's Customer Service Building at the aforesaid address and on the District's website at www.nmwd.com.

The procedure and time limit set forth in this section are mandatory and are Proposal Respondent's sole and exclusive remedy in the event of a protest of the rating of its proposal or award of the contract and failure to pursue said remedy shall constitute a waiver of any right to further pursue said protest, including filing a Government Code claim or legal proceedings.

1. ATTACHMENTS

EXHIBIT A – Scope of Work

EXHIBIT B – Annual Fire Service DCDA / RPDA Assembly Testing Cost Schedule

EXHIBIT C – Insurance Requirements

EXHIBIT A

SCOPE OF WORK

1. Conduct annual testing for approximately 220 commercial fire service assemblies in the Novato area of Marin County. Assemblies will range in size from ¾” to 8” with the approximate breakdown as follows (this count does not include any fire services in the West Marin distribution system):

Type of Device	Device Size	# of Devices
RPDAs	4”	1
	8”	1

DCDAs	1”	1	(no bypass)
	2”	4	
	2-1/2”	10	
	4”	88	
	6”	118	
	8”	40	
	10”	2	

(Please note: DCDAs have a companion ¾” DC bypass device, but are considered to be one fire service; each RPDA has a companion ¾” RP bypass device, but is considered to be one fire service.)

2. Test procedures shall be those currently recommended by the University of Southern California Foundation for Cross-Connection Control in accordance with District Administrative Regulation 6 which states, “In accordance with Board Policy 6, the District protects its public water system at the service connection against any actual or potential cross-connection between the public water system and any source or system containing used water, industrial fluid, gas or other substance that is not, or cannot be, approved as safe, wholesome and potable for human consumption. Such protection is enforced through California Code of Regulations Title 17 Section 7584, which requires the District to comply with all applicable state and federal laws required by the Safe Drinking Water Act of 1974, as they are now constituted, or as they may hereafter be amended or recodified, and implemented through the District’s “Cross-Connection Control and Prevention of Backflow Program.”
3. District shall supply to the Proposal Respondent blank District test reports and list of all contracted assemblies to be tested for the contract year prior to the beginning of testing.
4. Proposal Respondent shall furnish all labor, materials, tools, equipment, supplies, facilities, vehicle and supervision necessary to provide annual tests.

7. Notification of service interruption to authorized onsite representative for each affected suite or building.
8. Notify District immediately of illegal cross-connections, incorrect installations, or any other potential hazard to the water system observed during annual fire service DCDA / RPDA assembly test.
9. Provide District accurate and complete individual original hardcopy of test report for each tested assembly for previous week by the last business day of the following week.
10. Provide District with annual test kit calibration documentation for all test kits used prior to annual expiration date.
11. Any other duties or requirements needed to ensure the satisfactory completion of the aforesaid testing goals.
12. Follow-up repairs are not included in the above. Provide an hourly cost if District decides to request any additional repairs.

MINIMUM QUALIFICATIONS

- Current CA/NV AWWA Backflow Prevention Assembly or equivalent District-approved General Tester Certification
- All required certifications expiring during contract period must be renewed and copies supplied to District prior to expiration date
- Test kits must be those approved by the University of Southern California Foundation for Cross-Connection Control

OUTCOME AND PERFORMANCE STANDARDS

Proposal Respondent shall provide a monthly performance schedule five working days prior to the beginning of each month showing tests to be completed for that month. All contracted fire service DCDA / RPDA assemblies must be tested no later than December 19, 2014. A copy of the paperwork for this testing must be filed with the District within the timeframes outlined in the scope of work provided in Exhibit A.

DELIVERABLES

A complete list of all testers and a copy of their current certification will be required prior to testing. Annual test kit calibration documentation must be submitted as it comes due. Individual test results for the previous week shall be submitted to District by the last business day of the following week.

EXHIBIT B

ANNUAL FIRE SERVICE DCDA / RPDA ASSEMBLY
TESTING COST SCHEDULE

Type of Device	Device Size	# of Devices	\$ per Device	Extended \$
RPDAs	4"	1		
	8"	1		
DCDAs	1"	1		
	2"	4		
	2-1/2"	10		
	4"	88		
	6"	118		
	8"	40		
	10"	2		
			TOTAL	

ANNUAL FIRE SERVICE DCDA / RPDA ASSEMBLY
REPAIR COST SCHEDULE

Type of Device	Device Size	# of Devices	\$ per Device	Extended \$
RPDAs	4"	1		
	8"	1		
DCDAs	1"	1		
	2"	4		
	2-1/2"	10		
	4"	88		
	6"	118		
	8"	40		
	10"	2		
			TOTAL	

EXHIBIT C

INSURANCE REQUIREMENTS

Attachment A – Example of the Certificate of Liability. This is the main document we require, which shows the General Liability and Automobile policy information. Please note that the District requires at least \$1M limits in each of these areas. Also, the Worker's Comp. policy information should be noted where indicated.

Attachments B & C – These are examples of the "Additional Insured" Endorsements for the General Liability policy. NMWD is required to be named as additional insured, and the District should be named as noted. Either form is acceptable, provided that pertinent information is offered.

Attachments D, E & F – These examples are three types of Additional Insured Endorsement forms for the Business Auto policy, any of which is acceptable. The District is required to be named as additional insured on the auto policy as well, as indicated.

Attachment G is State Comp. Ins. Fund's Certificate of Workers' Comp Insurance – this is also acceptable.

Attachments A, either B or C, and any of D, E, F and G (total of three forms) must be in place at and approved by the District prior to the commencement of any work on the Proposal Respondent's part or disbursement of any funds.

ACORD CERTIFICATE OF LIABILITY INSURANCE

OP ID KM

DATE (MM/DD/YY)

PRODUCER	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.
	INSURERS AFFORDING COVERAGE
INSURED	INSURER A
	INSURER B
	INSURER C
	INSURER D
	INSURER E

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS
A	GENERAL LIABILITY				EACH OCCURRENCE \$ 1,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY				FIRE DAMAGE (Any one fire) \$ 100,000
	<input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR				MED EXP (Any one person) \$ 5,000
					PERSONAL & ADV INJURY \$ 1,000,000
					GENERAL AGGREGATE \$ 2,000,000
					PRODUCTS - COM/PROP AGG \$ 2,000,000
		GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC			
B	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000
	<input checked="" type="checkbox"/> ANY AUTO				BODILY INJURY (Per person) \$
	<input type="checkbox"/> ALL OWNED AUTOS				BODILY INJURY (Per accident) \$
	<input type="checkbox"/> SCHEDULED AUTOS				PROPERTY DAMAGE (Per accident) \$
	<input type="checkbox"/> HIRED AUTOS				
	<input type="checkbox"/> NON-OWNED AUTOS				
	GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT \$
	<input type="checkbox"/> ANY AUTO				OTHER THAN EA ACC \$
					AUTO ONLY: AGG \$
	EXCESS LIABILITY				EACH OCCURRENCE \$
	<input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE				AGGREGATE \$
	<input type="checkbox"/> DEDUCTIBLE				\$
	RETENTION \$				\$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY				WC STATU-TORY LIMITS OTH-ER
					E.L. EACH ACCIDENT \$
					E.L. DISEASE - EA EMPLOYEE \$
					E.L. DISEASE - POLICY LIMIT \$
	OTHER				

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS
 Re: Operations of the Named Insured for the Certificate Holder.

RECEIVED

* Ten day notice will be sent for non-payment of premium cancellations
 30*XCG2033 7/98/UCA258

NOV 13 2001

CERTIFICATE HOLDER	Y	ADDITIONAL INSURED; INSURER LETTER.	CANCELLATION
NORTHMA			SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30* DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, OUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.
North Marin Water District P.O. Box 146 Novato, CA 94948			AUTHORIZED REPRESENTATIVE

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

→ **ADDITIONAL INSURED - OWNERS, LESSEES OR CONTRACTORS - AUTOMATIC STATUS WHEN REQUIRED IN CONSTRUCTION AGREEMENT WITH YOU**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

A. Section II - Who Is An Insured is amended to include as an insured any person or organization for whom you are performing operations when you and such person or organization have agreed in writing in a contract or agreement that such person or organization be added as an additional insured on your policy. Such person or organization is an additional insured only with respect to liability arising out of your ongoing operations performed for that insured. A person's or organization's status as an insured under this endorsement ends when your operations for that insured are completed.

contract language

B. With respect to the insurance afforded these additional insureds, the following additional exclusion applies:

This insurance does not apply to:

"Bodily injury", "property damage", "personal injury" or "advertising injury" arising out of the rendering of, or the failure to render, any professional architectural, engineering or surveying services, including:

1. The preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; and
2. Supervisory, inspection, architectural or engineering activities.

~~Additional Insured: North Marin Water District
P.O. Box 146
Novato, CA 94948~~

Policy Number:

Commercial General Liability

THIS ENDORSEMENT CHANGES THE POLICY - PLEASE READ IT CAREFULLY.

→ ADDITIONAL INSURED - OWNERS, LESSEES OR CONTRACTORS (FORM B)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART.

SCHEDULE

Name of Person or Organization - Additionally Insured's:

North Marin Water District
P.O. Box 146
Novato, CA 94948

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

WHO IS AN INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of "your work" for that insured by or for you.

POLICY NUMBER:

COMMERCIAL AUTO
CA 20 48 02 99

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY

→ **DESIGNATED INSURED**

This endorsement modifies insurance provided under the Following:

- BUSINESS AUTO COVERAGE FORM
- GARAGE COVERAGE FORM
- MOTOR CARRIER COVERAGE FORM
- TRUCKERS COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by this endorsement.

This endorsement identifies person(s) or organization(s) who are "insureds" under the Who Is An Insured Provision of the Coverage Form. This endorsement does not alter coverage provided in the Coverage Form.

This endorsement changes the policy effective on the inception date of the policy unless another date is indicated below.

Endorsement effective:	Countersigned by:
Named Insured:	

(Authorized Representative)

SCHEDULE

Name of Person(s) or Organization(s):
 North Marin Water District
 P.O. Box 146
 Novato, CA 94948

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

Each person or organization shown in the Schedule is an "insured" for Liability coverage, but only to the extent that person or organization qualifies as an "insured" under the Who Is An Insured Provision contained in Section II of the Coverage Form.

→ ADDITIONAL INSURED

This endorsement modifies insurance provided under the following

- BUSINESS AUTO COVERAGE FORM
GARAGE COVERAGE FORM
TRUCKERS COVERAGE FORM

SCHEDULE

Name of Organization: North Marin Water District

WHO IS AN INSURED (SECTION II) is amended to include as an insured the organization shown in the schedule, but only with respect to the operation of vehicles owned by the named insured and operated on behalf of the named insured. This endorsement does not apply to any operations for other than the named insured.

The additional insured is not required to pay for any premiums stated in the policy or earned from the policy. Any return premium and any dividend, if applicable, declared by us shall be paid to you.

You are authorized to act for the additional insured in all matters pertaining to this insurance.

We will mail the additional insured notice of any cancellation of this policy. If the cancellation is by us, we will give ten days notice to the additional insured.

The additional insured will retain any right of recovery as a claimant under this policy.

THIS ENDORSEMENT IS A PART OF YOUR POLICY AND TAKES EFFECT ON THE EFFECTIVE DATE OF YOUR POLICY UNLESS ANOTHER EFFECTIVE DATE IS SHOWN BELOW.

POLICY CHANGE NO.	EFFECTIVE DATE OF THIS POLICY CHANGE
POLICY NUMBER	NAMED INSURED:
COUNTERSIGNED DATE	AUTHORIZED REPRESENTATIVE



POLICY NUMBER

COMMERCIAL AUTO

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**→ ADDITIONAL INSURED
DESIGNATED PERSON OR ORGANIZATION**

This endorsement modifies insurance provided under the following:

- BUSINESS AUTO COVERAGE FORM**
- GARAGE COVERAGE FORM**
- TRUCKERS COVERAGE FORM**

SCHEDULE

Name and Address of Person or Organization:

**NORTH MARIN WATER DISTRICT
999 RUSH CREEK PLACE #146
NOVATO CA 94948**

DISTRICT POLICY & SIMPLE STATE "AS THEIR INTEREST MAY APPEAR"

- A. The person or organization shown in the Schedule is included as an insured but only if liable for the conduct of an "insured" and only to the extent of the liability.
- B. CANCELLATION
 1. If we cancel the policy, we will mail or deliver notice to such person or organization in accordance with the Common Policy Conditions.
 2. If you cancel the policy, we will mail or deliver notice to such person or organization.
 3. Cancellation ends this agreement.

BU1114(3-01)

**STATE
COMPENSATION
INSURANCE
FUND**

P.O. BOX 807, SAN FRANCISCO, CA 94142-0807

CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

ISSUE DATE: 10-01-2004

GROUP:
POLICY NUMBER:
CERTIFICATE ID:
CERTIFICATE EXPIRES:

NORTH MARIN WATER DISTRICT NC
999 RUSH CREEK ROAD
NOVATO CA 94945

This is to certify that we have issued a valid Workers' Compensation insurance policy in a form approved by the California Insurance Commissioner to the employer named below for the policy period indicated.

This policy is not subject to cancellation by the Fund except upon 10 days' advance written notice to the employer.

We will also give you 10 days' advance notice should this policy be cancelled prior to its normal expiration.

This certificate of insurance is not an insurance policy and does not amend, extend or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term, or condition of any contract or other document with respect to which this certificate of insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

J. Andor

AUTHORIZED REPRESENTATIVE

Dianne C. Oki

PRESIDENT

EMPLOYER'S LIABILITY LIMIT INCLUDING DEFENSE COSTS: \$1,000,000.00 PER OCCURRENCE.

STANDARD EXCLUSION: INDIVIDUAL EMPLOYERS AND HUSBAND AND WIFE EMPLOYERS ARE NOT ELIGIBLE FOR BENEFITS AS EMPLOYEES UNDER THIS POLICY.

EMPLOYER

LEGAL NAME

RECEIVED

SEP 24 2004

NORTH MARIN WATER DISTRICT

FIRE SERVICE TESTING COMPANIES

Name	Address	City State Zip	Phone No.
Inspection Services & Fire Protection, Inc.	P.O. Box 11457	Santa Rosa, CA 95406	707-523-0404
McCoy Fire Protection, Inc.	131-A Stony Circle, Ste. 500	Sanra Rosa, CA 95401	707-673-9492
Sinclair Plumbing & Fire Protection*	390 Bel Marin Keys Blvd.	Novato, CA 94949	415-883-9400
Dreier Fire Protection, Inc.	359 Bel Marin Keys Blvd.	Novato, CA 94949	415-883-1359
Gage-Babcock & Associates	100 Larkspur Landing Circle	Larkspur, CA 94939	
13-D Fire Systems, Inc.*	46 Digital Drive	Novato, CA 94949	415-883-1383
Alto Fire Protection	615 Sunset Parkway	Novato, CA 94947	415-883-8462
Fire King Fire Protection	26 Commercial Blvd., Ste. M	Novato, CA 94949	415-567-9373
AAA Fire Security Systems	204 Cobblestone Drive	San Rafael, CA 94903	415-492-8999
Automatic Sprinkler Testing & Inspection	102 Couch Street	Vallejo, CA 94590	707-649-1782
Fire Technologies	1945 Francisco Blvd. E., #40	San Rafael, CA 94901	415-457-6805
Firefree Coatings	580 Irwin St., #1	San Rafael, CA 94901	415-459-6488
Atazz Technical Services*	2500 Marconi Ave., Ste. 208	Sacramento, CA	888-388-1955
Northern California Fire Protection Services, Inc.	16840 Joleen Way, Ste. A	Morgan Hill, CA	408-776-1580
Alpha Fire Suppression*	2391 Circadian Way	Santa Rosa, CA	707-527-6407
Station 1 Fire Protection	2351 N. Watney Way, A-2	Fairfield, CA	707-399-1000
International Fire Equipment	437 Ohio Avenue	Richmond CA	510-237-5000


NOTE: Above the heavy black line – companies on Robert’s list
 “Greyed-out” – companies used by NFPD
 * -- companies that appear to have BF tested, but no paperwork to that effect submitted.

13

MEMORANDUM

To: Board of Directors

August 15, 2014

From: Chris DeGabriele, General Manager 

Subj: Resolutions Supporting Fresh Water Flows in the San Francisco Bay Delta Estuary
l:\gmibod misc 2014\sf bay estuary memo 2.docx

RECOMMENDED ACTION: Provide Direction to Staff

FINANCIAL IMPACT: None at this time

At the August 5th Board of Directors meeting, the Board received an informational item on the Friends of the San Francisco Estuary and their focus on Fresh Water Flows in the San Francisco Bay Delta Estuary. At that meeting, Director Fraites requested that the board see the resolutions adopted by various entities to-date supporting the Friends of the Estuary Fresh Water Flows. Those resolutions are attached (Attachment 1).

Director Baker also requested that the differences in the various resolutions be identified. I have prepared a spreadsheet comparing the various provisions in the adopted Fresh Water Flows Resolutions. The spreadsheet is included as Attachment 2.

Friends of the San Francisco Estuary is presenting a free, ½ day conference to discuss the role of fresh water in the Bay-Delta Estuary on Wednesday, September 24 (Attachment 3). The Board may desire to send a representative to the conference to keep informed about the subject issue.

RECOMMENDATION:

Board provide Direction to staff.

Passed Freshwater Flows Resolutions in the San Francisco Bay-Delta Estuary

- 1. Association of Bay Area Governments (May 17, 2012)**
- 2. Contra Costa County (February 7, 2012)**
- 3. Napa County (October 1, 2013)**
- 4. Marin County (December 17, 2013)**
- 5. Marin Municipal Water District (January 7, 2014)**
- 6. City of Emeryville (March 4, 2014)**
- 7. Sonoma County (March 25, 2014)**
- 8. San Mateo County (May 20, 2014)**



**ASSOCIATION OF BAY AREA GOVERNMENTS
EXECUTIVE BOARD**

RESOLUTION NO. 08-12

**ON ECOSYSTEM HEALTH AND THE NEED FOR FRESH WATER FOR THE
SAN FRANCISCO BAY DELTA ESTUARY**

WHEREAS, the Association of Bay Area Governments is the home for the San Francisco Estuary Partnership, a coalition of resource agencies, non-profits, citizens, and scientists working to protect, restore, and enhance water quality and fish and wildlife habitat in and around the San Francisco Bay Delta Estuary. One of the San Francisco Estuary Partnership's purposes is to inform local governments in the region on issues critical to the health of the San Francisco Bay Delta Estuary and to enable them to effectively engage in processes that will affect its health; and

WHEREAS, at 1,600 square miles, the San Francisco Bay Delta Estuary is the largest on the West Coast and drains nearly 40 percent of California's land area, provides drinking water to nearly two-thirds of the state's population, and supplies irrigation water to four million acres of farmland. Although significantly altered since 1850, the Estuary still supports hundreds of fish, wildlife, and plant species, many found nowhere else on Earth: Almost two-thirds of the state's salmon travel through the Estuary as young fish and return to spawn as adults; almost half of the migratory birds on the Pacific Flyway pass by the Golden Gate or stop in San Francisco Bay's remaining wetlands. Brackish habitat in the Suisun Marsh provides critical habitat to many species important to the estuarine ecosystem; and

WHEREAS, the San Francisco Bay Area is the United States' fourth largest exporting region, accounting for 36 percent of California's exports. In 2009, the San Francisco Bay Area hosted over 15 million visitors, adding some \$8 billion to the Bay Area economy and many more billions of dollars to our nation's wealth. The San Francisco Bay Delta Estuary helps to power this economic engine, and the health of the ecosystem is vital to maintaining a healthy regional economy; and

WHEREAS, in a 2010 survey, 92% of Bay Area voters agreed that "It is important for the region's economy to have a clean, healthy and vibrant San Francisco Bay." The Bay is the globally recognized symbol of our region, and its health reflects on our region's capacities, values, and vibrancy; and

WHEREAS, the San Francisco Bay and the Sacramento-San Joaquin River Delta are at risk from many factors, and the State and Federal governments are proposing large-scale changes to address these factors. These include new water conveyance through and around the Delta to address state-wide water supply needs; changes to the Bay-Delta ecosystem to address declining ecosystem health and fish populations; changes to land use authority within the Delta; and changes to water allocations and management. These changes will impact the long-term health of the San Francisco Bay Estuary; and

**ASSOCIATION OF BAY AREA GOVERNMENTS
RESOLUTION NO. 08-12**

WHEREAS, the California's State Water Resources Control Board determined in 2010 that, in order to protect public trust resources in the Sacramento-San Joaquin Bay-Delta ecosystem, 75 percent of unimpaired runoff from the Sacramento-San Joaquin watershed should flow out of the Delta and into the Estuary during the critical winter and spring periods. From 2000 to 2009, in contrast, on average only 45 percent of estimated unimpaired inflow was actually received into the estuary during these seasons; and

WHEREAS, the Association of Bay Area Government/San Francisco Estuary Partnership's *2011 State of the Bay* report also indicates that limited freshwater inflows are having a negative impact on the greater San Francisco Bay Delta Estuary, and finds that fish abundance and diversity are declining in all regions of the Bay except near the Golden Gate and that the fish community is in poor condition in Suisun Bay; and

WHEREAS, each county and city and town in the Association of Bay Area Governments will be impacted by planned actions in the Delta through potential changes in water quality and health of the San Francisco Bay.

NOW, THEREFORE, BE IT RESOLVED that the Executive Board of the Association of Bay Area Governments hereby expresses its interest in the on-going Bay-Delta planning process of the Delta Stewardship Council, the Bay Delta Conservation Plan, and the State Water Board's Delta planning and regulatory efforts, and urges that as part of any solution or conclusions reached in these critical planning and regulatory processes, the following principles be applied:

Bay-Delta Ecosystem. Recognize that protection and restoration of a healthy sustainable Bay-Delta ecosystem includes adequate water quality, outflow, and water supply, to support fisheries, wildlife and habitat in perpetuity.

Delta Outflows. Recognize that the Bay-Delta ecosystem has been in a state of "chronic drought" due to current water management practices, and ensure adequate Delta outflows to San Francisco Bay to support fisheries, wildlife, habitat, water quality and other beneficial uses.

Regional Self-Sufficiency. Incorporate sustainable approaches for improved water supply, water quality and reliability through the overarching principle of regional self-sufficiency, linked specifically to reducing reliance on exports from the Delta and reducing the current impacts on the Bay-Delta ecosystem.

Bay Area Communities. Protect the economic viability of industry, recreation, tourism, fisheries, and agriculture, and the ongoing vitality of communities throughout and along the shoreline of the greater San Francisco Bay-Delta ecosystem.

Full Financial Disclosure. The multi-decade costs of restoring habitat in the Bay and the Delta are expected to be significant as would be the full costs associated

**ASSOCIATION OF BAY AREA GOVERNMENTS
RESOLUTION NO. 08-12**

with any new or modified water management facilities. Realistic cost estimates must be calculated and made clear to both taxpayers and ratepayers throughout California before any final decisions are made. A full cost-benefit analysis of any proposed project must cover all affected geographic areas, and adverse socio-economic impacts need to be minimized and fully mitigated by the beneficiaries of the project.

Fair Representation. Represent and include local governments in any new governance structures for the Delta.

Flood Protection. Support funding and implementation of urban and non-urban flood protection, at the appropriate level of protection, through rehabilitation and restoration of wetlands wherever feasible, and improvement and maintenance of flood control levees and structures where necessary.

The foregoing adopted by the Executive Board this 17th day of May, 2012.

Mark Luce
President

Certification of Executive Board Approval

I, the undersigned, the appointed and qualified Secretary-Treasurer of the Association of Bay Area Governments (Association), do hereby certify that the foregoing resolution was adopted by the Executive Board of the Association at a duly called meeting held on the 17th day of May, 2012.

Ezra Rapport
Secretary-Treasurer

Approved as To Legal Form

Kenneth K. Moy
Legal Counsel

*The Board of Supervisors of
Contra Costa County, California*

In the matter of:

Resolution No. 2012/46

WATER, ECOSYSTEM HEALTH AND OTHER ISSUES RELATED TO THE SAN FRANCISCO BAY and the SACRAMENTO - SAN JOAQUIN RIVER DELTA

This Resolution is effective upon passage by the Cities, Towns, the Contra Costa County Board of Supervisors and other interested parties within Contra Costa County ("the County"), including Special Districts and other organizations and agencies, both public and private, hereinafter collectively referred to as "STAKEHOLDERS."

WHEREAS, the San Francisco Bay and the Sacramento-San Joaquin River Delta ("the Delta") are at risk from many factors, and the State is proposing large-scale changes to water conveyance through and around the Delta to address state-wide water supply needs, changes to the Delta ecosystem to address declining ecosystem health and fish populations, changes to land use authority within the Delta, and changes to water rights, statewide water management and many other aspects related to the Delta that will impact the areas in and around the Delta; and,

WHEREAS, each city and town in the County will be adversely impacted by planned actions in the Delta through reduction in water quality and health of the San Francisco Bay-Delta and the resulting increase in stormwater (NPDES) permit requirements; and,

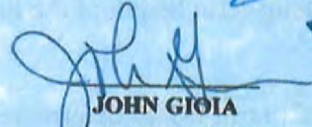
WHEREAS, the STAKEHOLDERS believe there is value in developing a coalition on issues concerning the Delta, its watershed and greater San Francisco Bay/Delta estuary; and,

WHEREAS, the STAKEHOLDERS wish to collectively articulate the issues and interests from the perspective of the Delta region itself, from the people who call the Delta home and best understand the tremendous resource the Delta represents; and,

WHEREAS, the STAKEHOLDERS recognize the efforts and value of the Delta Counties Coalition and a need for joint action and advocacy on Delta-related issues, and have identified mutual interests.

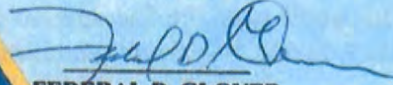
NOW THEREFORE, the Contra Costa County Board of Supervisors, as a STAKEHOLDER, adopts this Resolution for the purpose of articulating mutual interests on Bay-Delta issues. Furthermore, the STAKEHOLDERS resolve to work together to defend Bay-Delta related interests at a regional perspective and to use their unified voice to advocate on behalf of local government in available forums at all levels, consistent with the following principles of mutual interest: 1. **Local Government Authority.** Recognition of the authority and responsibility given to local government related to land use, urban and agricultural water supply, waste water treatment and recycling, water resource development, flood management, public health and safety, economic development and sustainable growth, agricultural stability, recreation, and environmental protection. 2. **Delta Ecosystem.** Protection and restoration of a healthy sustainable Delta ecosystem including adequate water quality, inflow and outflow, and water supply, to support fisheries, wildlife and habitat in perpetuity. 3. **Existing System Reliability.** Support immediate improvements to the existing Through-Delta Conveyance and improvements to protect key regionally important infrastructure, such as trans-Delta aqueducts, as part of a complete strategy for the State's water management and to ensure reliability of the existing water supply system. 4. **Delta Outflows.** Ensure adequate Delta outflows to San Francisco Bay to support fisheries, wildlife, habitat, water quality and other beneficial uses. 5. **Regional Self-Sufficiency.** Incorporation of sustainable approaches for improved water supply, water quality and reliability through the overarching principle of regional self-sufficiency to reduce reliance on exports from the Delta and reduce the current impacts on the Bay-Delta ecosystem. 6. **Delta Area Communities.** Protect the economic viability of industry, recreation, tourism, and agriculture, and the ongoing vitality of communities throughout the Delta and immediately adjacent to the Delta, and along the shoreline of the greater San Francisco Bay-Delta. 7. **Fair Representation.** Represent and include local government in any new governance structures for the Delta. 8. **Flood Protection.** Support funding and implementation of urban and non-urban flood protection, at the appropriate level of protection, through rehabilitation, improvement and maintenance of flood control levees and structures.


MARY N. PIEPHO
Chair,
District III Supervisor


JOHN GIOIA
District I Supervisor


KAREN MITCHOFF
District IV Supervisor

Absent
GAYLE B. UILKEMA
District II Supervisor


FEDERAL D. GLOVER
District V Supervisor

RESOLUTION NO. 2013-116

**RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF
NAPA, STATE OF CALIFORNIA, REGARDING THE ECOSYSTEM HEALTH
AND THE NEED FOR FRESH WATER FOR THE
SAN FRANCISCO BAY DELTA ESTUARY**

WHEREAS, the Napa County Board of Supervisors supports the work of the San Francisco Estuary Partnership, a coalition of resource agencies, non-profits, citizens, and scientists working to protect, restore, and enhance water quality and fish and wildlife habitat in and around the San Francisco Bay Delta Estuary. One of the San Francisco Estuary Partnership's purposes is to inform local governments in the region on issues critical to the health of the San Francisco Bay Delta Estuary and to enable them to effectively engage in processes that will affect its health; and

WHEREAS, at 1,600 square miles, the San Francisco Bay Delta Estuary is the largest on the West Coast and drains nearly 40 percent of California's land area, provides drinking water to nearly two-thirds of the state's population, and supplies irrigation water to four million acres of farmland. Although significantly altered since 1850, the Estuary still supports hundreds of fish, wildlife, and plant species, many found nowhere else on Earth: Almost two-thirds of the state's salmon travel through the Estuary as young fish and return to spawn as adults; almost half of the migratory birds on the Pacific Flyway pass by the Golden Gate or stop in San Francisco Bay's remaining wetlands. Brackish habitat in the Suisun Marsh provides critical habitat to many species important to the estuarine ecosystem; and

WHEREAS, the San Francisco Bay Area is the United States' fourth largest exporting region, accounting for 36 percent of California's exports. In 2009, the San Francisco Bay Area hosted over 15 million visitors, adding some \$8 billion to the Bay Area economy and many more billions of dollars to our nation's wealth. The San Francisco Bay Delta Estuary helps to power this economic engine, and the health of the ecosystem is vital to maintaining a healthy regional economy; and

WHEREAS, in a 2010 survey, 92% of Bay Area voters agreed that "It is important for the region's economy to have a clean, healthy and vibrant San Francisco Bay." The Bay is the globally recognized symbol of our region, and its health reflects on our region's capacities, values, and vibrancy; and

WHEREAS, the San Francisco Bay and the Sacramento-San Joaquin River Delta are at risk from many factors, and the State and Federal governments are proposing large-scale changes to address these factors. These include new water conveyance through and around the Delta to address state-wide water supply needs; changes to the Bay-Delta ecosystem to address declining ecosystem health and fish populations; changes to land use authority within the Delta; and changes to water allocations and management. These changes will impact the long-term health of the San Francisco Bay Estuary; and

WHEREAS, the California's State Water Resources Control Board determined in 2010 that, in order to protect public trust resources in the Sacramento-San Joaquin Bay-Delta ecosystem, 75 percent of unimpaired runoff from the Sacramento-San Joaquin watershed should flow out of the Delta and into the Estuary during the critical winter and spring periods. From 2000 to 2009, in contrast, on

average only 45 percent of estimated unimpaired inflow was actually received into the estuary during these seasons; and

WHEREAS, the Association of Bay Area Government/San Francisco Estuary Partnership's *2011 State of the Bay* report also indicates that limited freshwater inflows are having a negative impact on the greater San Francisco Bay Delta Estuary, and finds that fish abundance and diversity are declining in all regions of the Bay except near the Golden Gate and that the fish community is in poor condition in Suisun Bay; and

WHEREAS, each county and city and town in the Association of Bay Area Governments will be impacted by planned actions in the Delta through potential changes in water quality and health of the San Francisco Bay.

NOW, THEREFORE, BE IT RESOLVED that the Napa County Board of Supervisors hereby expresses its interest in the on-going Bay-Delta planning process of the Delta Stewardship Council, the Bay Delta Conservation Plan, and the State Water Board's Delta planning and regulatory efforts, and urges that as part of any solution or conclusions reached in these critical planning and regulatory processes, the following principles be applied:

Bay-Delta Ecosystem. Recognize that protection and restoration of a healthy sustainable Bay-Delta ecosystem includes adequate water quality, outflow, and water supply, to support fisheries, wildlife and habitat in perpetuity.

Delta Outflows. Recognize that the Bay-Delta ecosystem has been in a state of "chronic drought" due to current water management practices, and ensure adequate Delta outflows to San Francisco Bay to support fisheries, wildlife, habitat, water quality and other beneficial uses.

Regional Self-Sufficiency. Incorporate sustainable approaches for improved water supply, water quality and reliability through the overarching principle of regional self-sufficiency, linked specifically to reducing reliance on exports from the Delta and reducing the current impacts on the Bay-Delta ecosystem.

Bay Area Communities. Protect the economic viability of industry, recreation, tourism, fisheries, and agriculture, and the ongoing vitality of communities throughout and along the shoreline of the greater San Francisco Bay-Delta ecosystem.

Full Financial Disclosure. The multi-decade costs of restoring habitat in the Bay and the Delta are expected to be significant as would be the full costs associated with any new or modified water management facilities. Realistic cost estimates must be calculated and made clear to both taxpayers and ratepayers throughout California before any final decisions are made. A full cost-benefit analysis of any proposed project must cover all affected geographic areas, and adverse socio-economic impacts need to be minimized and fully mitigated by the beneficiaries of the project.

Fair Representation. Represent and include local governments in any new governance structures for the Delta.

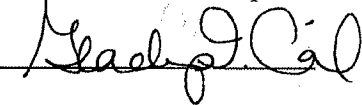
Flood Protection. Support funding and implementation of urban and non-urban flood protection, at the appropriate level of protection, through rehabilitation and restoration of wetlands wherever feasible, and improvement and maintenance of flood control levees and structures where necessary.

THE FOREGOING RESOLUTION WAS DULY AND REGULARLY ADOPTED by the Board of Supervisors of the County of Napa, State of California, at a regular meeting of the Board held on the 1st day of October, 2013, by the following vote:

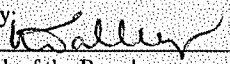
AYES:	SUPERVISORS	CALDWELL, DODD, WAGENKNECHT, LUCE and DILLON
NOES:	SUPERVISORS	NONE
ABSENT:	SUPERVISORS	NONE


BRAD WAGENKNECHT, Chairman
Napa County Board of Supervisors

ATTEST: GLADYS COIL
Clerk of the Board of Supervisors

By: 

APPROVED AS TO FORM
Office of County Counsel
By: Minh Tran (Via E-signature)
Date: September 9, 2013

APPROVED BY THE NAPA COUNTY
BOARD OF SUPERVISORS
Date: 10/1/2013
Processed by: 
Deputy Clerk of the Board

H:County/Doc/Legis/LegSubCommittee/ResolutionforSanFranciscoBayDeltaEstuary

RESOLUTION
of
THE BOARD OF SUPERVISORS
MARIN COUNTY

RESOLUTION NO. 2013-117
RESOLUTION OF THE MARIN COUNTY BOARD OF SUPERVISORS
REGARDING ECOSYSTEM HEALTH AND THE NEED FOR FRESH WATER
FOR THE SAN FRANCISCO BAY-DELTA ESTUARY

WHEREAS, Marin County is known for its rich environmental resources and agricultural heritage. Protecting natural resources reduces flooding, water pollution, draws visitors and supports recreation uses. Surrounded on two sides by the San Francisco Bay, Marin County has a critical interest in the health of the San Francisco Bay-Delta Estuary; and

WHEREAS, at 1,600 square miles, the San Francisco Bay-Delta Estuary is the largest on the West Coast and drains nearly 40 percent of California's land area, provides drinking water to nearly two-thirds of the state's population, and supplies irrigation water to four million acres of farmland. Although significantly altered since 1850, the Estuary still supports hundreds of fish, wildlife, and plant species, many found nowhere else on earth: Almost two-thirds of the State's salmon travel through the Estuary; almost half of the migratory birds on the Pacific Flyway pass by the Golden Gate or stop in San Francisco Bay's remaining wetlands; and

WHEREAS, Marin County baylands consist of more than 10,000 acres along the shoreline of San Francisco and San Pablo Bays. They provide crucial habitat for many species of plants and animals, including the endangered California Clapper Rail, the Salt Marsh Harvest Mouse, and other species. These baylands are habitat for overwintering and migratory habitat and movement corridors for wildlife. Preservation and enhancement of the diversity of the baylands ecosystem is a goal of the 2007 Marin Countywide Plan; and

WHEREAS, the San Francisco Bay Area hosted over 15 million visitors, in 2009, adding some \$8 billion to the Bay Area economy and many more billions of dollars to our nation's wealth. Marin County destinations are an essential part of the attraction of the Bay Area, and generated over \$620 million in tourism-related income in 2011 for Marin County. The health of the ecosystem is vital to maintaining a healthy regional economy; and

WHEREAS, the San Francisco Bay and the Sacramento-San Joaquin River Delta are at risk from many factors, and the State and Federal governments are proposing large-scale changes to address these factors. These include new water conveyance through and around the Delta to address state-wide water supply needs; changes to the Bay-Delta ecosystem to address declining ecosystem health and fish populations; changes to land use authority within the Delta; and changes to water allocations and management; and

WHEREAS, Bay-Delta counties, local agencies, and other impacted entities need a meaningful decision-making role in these proposed changes; and

WHEREAS, California's State Water Resources Control Board determined in 2010 that, in order to protect public trust resources in the Sacramento-San Joaquin Bay Delta ecosystem, 75 percent of unimpaired runoff from the Sacramento-San Joaquin watershed should flow out of the Delta and into the Estuary during the critical winter and spring periods. In contrast, from 2000 to 2009 on average only 45 percent of estimated unimpaired inflow was actually received into the estuary during these seasons; and

WHEREAS, the Association of Bay Area Government/San Francisco Estuary Partnership's 2011 State of the Bay report also indicates that limited freshwater inflows are having a negative impact on the greater San Francisco Bay-Delta Estuary, and finds that fish abundance and diversity are declining in all regions of the Bay except near the Golden Gate; and

WHEREAS, Marin County recognizes the need for joint action and advocacy on Bay-Delta Estuary-related issues.



RESOLUTION
of
THE BOARD OF SUPERVISORS
MARIN COUNTY

NOW, THEREFORE, BE IT RESOLVED, that the Board of Supervisors of Marin County hereby expresses its interest in the on-going Bay-Delta planning process of the Delta Stewardship Council, the Bay Delta Conservation Plan, and the State Water Board's Delta planning and regulatory efforts, and urges that the following principles be applied in any solution or conclusions reached in these critical planning and regulatory processes:

- Bay-Delta Ecosystem. Recognize that protection and restoration of a healthy sustainable Bay-Delta ecosystem includes adequate water quality, outflow, and water supply, to support fisheries, wildlife and habitat in perpetuity.
- San Francisco Bay Inflows/Delta Outflows. Recognize that the Bay-Delta ecosystem has been in a state of "chronic drought" due to current water management practices, and ensure adequate flows to San Francisco Bay to support fisheries, wildlife, habitat, water quality and other beneficial uses.
- Regional Self-Sufficiency. Incorporate sustainable approaches for improved water supply, water quality and reliability.
- Bay and Delta Communities. Protect the viability of industry, recreation, tourism, fisheries, and agriculture, and the ongoing vitality of communities throughout the greater San Francisco Bay-Delta ecosystem.
- Full Financial Disclosure. The multi-decade costs of restoring habitat in the Bay and the Delta are expected to be significant as would be the full costs associated with any new or modified water management facilities. Realistic cost estimates must be calculated and made clear.
- Fair Representation. Include representation of Bay and Delta governments in any planning processes for the Bay-Delta Estuary.
- Flood Protection. Support funding and implementation of urban and non-urban flood protection through rehabilitation and restoration of wetlands wherever feasible.

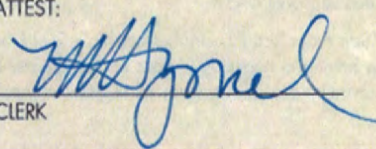
PASSED AND ADOPTED at a regular meeting of the Board of Supervisors of the County of Marin held on this 17th day of December, 2013, by the following vote:

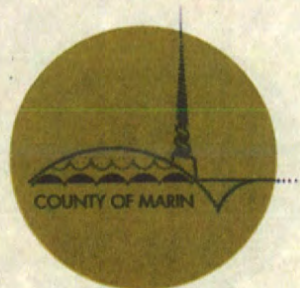
AYES: SUPERVISORS Kathrin Sears, Susan L. Adams, Steve Kinsey, Katie Rice,
Judy Arnold

NOES: NONE
ABSENT: NONE

ATTEST:

CLERK



PRESIDENT, BOARD OF SUPERVISORS

RESOLUTION NO. 8246

**RESOLUTION OF THE BOARD OF DIRECTORS OF
THE MARIN MUNICIPAL WATER DISTRICT SUPPORTING THE
COUNTY OF MARIN BOARD OF SUPERVISORS' RESOLUTION
REGARDING ECOSYSTEM HEALTH AND THE NEED FOR FRESH WATER
FOR THE SANFRANCISCO BAY-DELTA ESTUARY**

WHEREAS, the Marin Municipal Water District was founded in part on the principle of the public stewardship of natural resources in perpetuity, as evidenced by the district's own stewardship of Marin County's Mt. Tamalpais Watershed for more than 100 years; and

WHEREAS, the Marin County Board of Supervisors, representing the people of Marin County, known for its rich environmental resources and agricultural heritage, also is committed to protecting natural resources; and

WHEREAS, Marin County is surrounded on two sides by the San Francisco Bay, and these bay lands consist of more than 10,000 acres along the shoreline of San Francisco and San Pablo Bays, providing crucial habitat for many species of plants and animals, and therefore Marin County has a critical interest in the health of the San Francisco Bay-Delta Estuary; and

WHEREAS, at 1,600 square miles, the San Francisco Bay-Delta Estuary is the largest on the West Coast and drains nearly 40 percent of California's land area; and

WHEREAS, the San Francisco Bay and the Sacramento-San Joaquin River Delta are at risk from many factors, and the State and Federal governments are proposing large-scale changes to address these factors, and

WHEREAS, the Association of Bay Area Government/San Francisco Estuary Partnership's 2011 State of the Bay report indicates that limited freshwater inflows are having a negative impact on the San Francisco Bay-Delta Estuary; and

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Marin Municipal Water District hereby supports Marin County Board of Supervisors' Resolution 2013-117 expressing an interest in the on-going Bay-Delta planning processes that protection and restoration of a healthy sustainable Bay-Delta ecosystem includes adequate water quality, outflow, and water supply to support fisheries, wildlife and habitat in perpetuity.

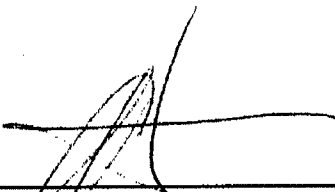
Resolution No. 8246

PASSED AND ADOPTED this 7th day of January, 2014 by the following vote of the Board.

AYES: Directors Crosse, Gibson, Koehler, Quintero and Russell

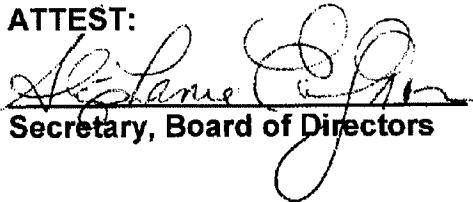
NOES: None

ABSENT: None



President, Board of Directors

ATTEST:



Secretary, Board of Directors

Resolution No. 14-23

**Resolution Of The City Council Of The City Of Emeryville In Support Of
Maintaining And Setting Guiding Principles For The Ecosystem Health
Of The San Francisco Bay Delta Estuary**

WHEREAS, the City of Emeryville enjoys a unique location at the heart of San Francisco Bay as the gateway to the East Bay; and

WHEREAS, Emeryville is the site of the Emeryville Crescent, a 30-acre designated Conservation Area of tidal marsh and home to endangered species such as the California clapper rail, the California black rail, the salt marsh harvest mouse, and other listed plants and animals; and

WHEREAS, preserving the natural habitat of the Emeryville Crescent is an integral part of the City's commitment to the environment; and

WHEREAS, the Emeryville Crescent is part of San Francisco Bay-Delta Estuary which is the largest estuary on the West Coast and in addition to supporting hundreds of fish, wildlife and plant species, many of which are not found anywhere else on Earth, drains nearly 40 percent of California's land area, provides drinking water to nearly two-thirds of the state's population, and supplies irrigation water to four million acres of farmland; and

WHEREAS, in a 2010 survey, 92% of San Francisco Bay Area voters agreed that "It is important for the region's economy to have a clean, healthy and vibrant San Francisco Bay"; and

WHEREAS, the San Francisco Bay and the Sacramento-San Joaquin River Delta are at risk from many factors; and

WHEREAS, the State and Federal governments are proposing large-scale changes to address these factors including new water conveyance through and around the Delta to address state-wide water supply needs; changes to the Bay-Delta ecosystem to address declining ecosystem health and fish populations; changes to land use authority within the Delta; and changes to water allocations and management; and

WHEREAS, the California's State Water Resources Control Board determined in 2010 that, in order to protect public trust resources in the Sacramento-San Joaquin Bay-Delta ecosystem, 75 percent of unimpaired runoff from the Sacramento-San Joaquin watershed should flow out of the Delta and into the Estuary during the critical winter and spring periods compared to the average of only 45 percent of unpaired flow that occurred from 2000 to 2009; and

WHEREAS, the Association of Bay Area Government/San Francisco Estuary Partnership's 2011 *State of the Bay* report indicates that limited freshwater inflows are

having a negative impact on the greater San Francisco Bay-Delta Estuary, and finds that fish abundance and diversity are declining in all regions of the Bay except near the Golden Gate and that the fish community is in poor condition in Suisun Bay; and

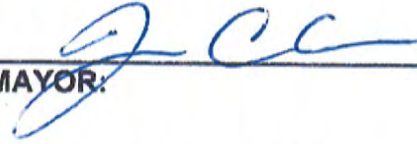
WHEREAS, Emeryville's goals of improved water conservation, increased use of recycled water, and reduced per capita water consumption are an example of sustainable approaches to reducing reliance on exports from the Delta; and

WHEREAS, Emeryville may be impacted by planned actions in the Delta through potential changes in water quality and health of the San Francisco Bay.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Emeryville hereby expresses its interest in the on-going Bay-Delta planning process of the Delta Stewardship Council, the Bay Delta Conservation Plan, and the State Water Board's Delta planning and regulatory efforts, and urges that as part of any solution or conclusions reached in these critical planning and regulatory processes, the following principles be applied:

- Recognition that the San Francisco Bay-Delta ecosystem has been in a state of "chronic drought" due to current water management practices, and that adequate Delta outflows to San Francisco Bay to support fisheries, wildlife, habitat, water quality and other beneficial uses are critical to the Bay-Delta's long term ecological sustainability.
- Incorporation of sustainable approaches for improved water supply, water quality and reliability through the overarching principle of regional self-sufficiency, linked specifically to reducing reliance on exports from the Delta and reducing the current impacts on the Bay-Delta ecosystem.
- Protection of the economic viability of industry, recreation, tourism, fisheries, and agriculture, and the ongoing vitality of communities throughout and along the shoreline of the greater San Francisco Bay-Delta ecosystem.
- Full public disclosure of the multi-decade costs of restoring habitat and establishing new or modified water management facilities in the Bay-Delta that includes a full cost-benefit analysis of any proposed project that covers all affected geographic areas, and minimizes and mitigates any adverse socioeconomic impacts proposed projects.
- Representation of local governments in any new governance structures for the Delta.
- Funding support and implementation of urban and non-urban flood protection, at the appropriate level of protection, through rehabilitation and restoration of wetlands wherever feasible, and improvement and maintenance of flood control levees and structures where necessary.

ADOPTED, by the City Council of the City of Emeryville at a regular meeting held Tuesday, March 4, 2014.



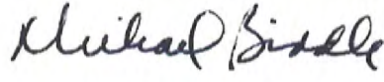
MAYOR:

ATTEST:

APPROVED AS TO FORM:



CITY CLERK



CITY ATTORNEY



County of Sonoma
State of California

Date: March 25, 2014.

Item Number: _____

Resolution Number: _____

4/5 Vote Required

**Resolution Of The Board Of Supervisors Of The County Of Sonoma, State Of California,
Regarding Ecosystem Health and the Need for Fresh Water for the San Francisco Bay-Delta
Estuary**

Whereas, Sonoma County is known for its rich environmental resources and agricultural heritage, encompassing several watersheds and rivers, and connecting to the San Francisco Bay-Delta Estuary, and has a Strategic Goal of Economic and Environmental Stewardship; and

Whereas, at 75,000 square miles, the San Francisco Bay-Delta Estuary watershed is the largest on the West Coast and drains nearly 40 percent of California's land area, provides drinking water to nearly two-thirds of the state's population, and supplies irrigation water to four million acres of farmland; and

Whereas, the San Francisco Bay-Delta Estuary supports hundreds of fish, wildlife, and plant species, many found nowhere else on earth: Almost two-thirds of the State's salmon travel through the Estuary; almost half of the migratory birds on the Pacific Flyway pass by the Golden Gate or stop in San Francisco Bay's remaining wetlands; and

Whereas, the San Francisco Bay-Delta Estuary provides a scenic and recreational gateway that supports Sonoma County's reputation as a world-class tourist and recreation destination; and

Whereas, the San Francisco Bay and the Sacramento-San Joaquin River Delta are at risk from many factors, and the State and Federal governments are proposing large-scale changes to address these factors, including new water conveyance through and around the Delta to address state-wide water supply needs, changes to the Bay-Delta ecosystem to address declining ecosystem health and fish populations, and changes to land use authority within the Delta; and

Whereas, Bay-Delta counties, local agencies, and other impacted entities need a meaningful decision-making role in these proposed changes; and

Whereas, the Association of Bay Area Government/San Francisco Estuary Partnership's

Resolution #

Date:

Page 2

2011 State of the Bay report also indicates that limited freshwater inflows are having a negative impact on the greater San Francisco Bay-Delta Estuary, and finds that fish abundance and diversity are declining in all regions of the Bay except near the Golden Gate; and

Whereas, Sonoma County recognizes the need for joint action and advocacy on Bay-Delta Estuary related issues.

Now, Therefore, Be It Resolved that the Board of Supervisors of Sonoma County hereby expresses its interest in the on-going Bay-Delta planning processes of the Delta Stewardship Council, the Bay Delta Conservation Plan, and the State Water Board's Delta planning and regulatory efforts, and urges that the following principles be applied in any solution or conclusions reached in these critical planning and regulatory processes:

- Bay-Delta Ecosystem. Recognize that protection and restoration of a healthy sustainable Bay-Delta ecosystem includes adequate water quality, outflow, and water supply, to support fisheries, wildlife and habitat in perpetuity.
- San Francisco Bay Inflows/ Delta Outflows. Recognize that the Bay-Delta ecosystem has been in a state of "chronic drought" due to current water management practices, and ensure adequate flows to San Francisco Bay to support fisheries, wildlife, habitat, water quality and other beneficial uses.
- Regional Self-Sufficiency. Incorporate sustainable approaches for improved water supply, water quality and reliability.
- Bay and Delta Communities. Protect the viability of industry, recreation, tourism, fisheries, and agriculture, and the ongoing vitality of communities throughout the greater San Francisco Bay-Delta ecosystem.
- Full Financial Disclosure. The multi-decade costs of restoring habitat in the Bay and the Delta are expected to be significant as would be the full costs associated with any new or modified water management facilities. Realistic cost estimates must be calculated and made clear.
- Fair Representation. Include representation of Bay and Delta governments in any planning processes for the Bay-Delta Estuary.
- Flood Protection. Support funding and implementation of urban and non-urban flood protection through rehabilitation and restoration of wetlands wherever feasible

Resolution #
Date:
Page 3

Supervisors:

Gorin:	Zane:	McGuire:	Carrillo:	Rabbitt:
Ayes:	Noes:	Absent:	Abstain:	

So Ordered.

RESOLUTION NO. _____

BOARD OF SUPERVISORS, COUNTY OF SAN MATEO, STATE OF CALIFORNIA

* * * * *

RESOLUTION INDICATING THAT THE HEALTH OF THE SAN FRANCISCO BAY DELTA SYSTEM BE ADEQUATELY CONSIDERED IN CONNECTION WITH THE WORK OF THE DELTA STEWARDSHIP COUNCIL, THE BAY DELTA CONSERVATION PLAN, THE STATE WATER BOARD'S DELTA PLANNING AND REGULATORY EFFORTS, AND OTHER BAY DELTA PLANNING PROGRAMS

RESOLVED, by the Board of Supervisors of the County of San Mateo, State of California, that

WHEREAS, at 1,600 square miles, the San Francisco Bay Delta Estuary is the largest on the West Coast and drains nearly 40 percent of California's land area, provides drinking water to nearly two-thirds of the state's population, and supplies irrigation water to four million acres of farmland. Although significantly altered since 1850, the Estuary still supports hundreds of fish, wildlife, and plant species, many found nowhere else on Earth: Almost two-thirds of the state's salmon travel through the Estuary as young fish and return to spawn as adults; and almost half of the migratory birds on the Pacific Flyway pass by the Golden Gate or stop in San Francisco Bay's remaining wetlands; and

WHEREAS, the San Francisco Bay Area is the United States' fourth largest exporting region, accounting for 36 percent of California's exports. In 2009, the San Francisco Bay Area hosted over 15 million visitors, adding some \$8 billion to the Bay Area economy. The San Francisco Bay Delta Estuary helps to power this economic engine, and the health of the ecosystem is vital to maintaining a healthy regional

economy; and

WHEREAS, in a 2010 survey, 92% of Bay Area voters agreed that “It is important for the region’s economy to have a clean, healthy and vibrant San Francisco Bay.” The Bay is the globally recognized symbol of our region, and its health reflects on our region’s capacities, values, and vibrancy; and

WHEREAS, the San Francisco Bay and the Sacramento-San Joaquin River Delta are at risk from many factors, and the State and Federal governments are proposing large-scale changes to address these factors. These include new water conveyance through and around the Delta to address state-wide water supply needs; changes to the Bay-Delta ecosystem to address declining ecosystem health and fish populations; changes to land use authority within the Delta; and changes to water allocations and management. These changes will impact the long-term health of the San Francisco Bay Estuary; and

WHEREAS, the California’s State Water Resources Control Board determined in 2010 that, in order to protect public trust resources in the Sacramento-San Joaquin Bay - Delta ecosystem, 75 percent of unimpaired runoff from the Sacramento-San Joaquin watershed should flow out of the Delta and into the Estuary during the critical winter and spring periods. From 2000 to 2009, in contrast, on average only 45 percent of estimated unimpaired inflow was actually received into the estuary during these seasons; and

WHEREAS, each city, town, and county, including San Mateo County, in the Bay Area may be impacted by planned actions in the Bay-Delta through potential changes in water quality and quantity and the health of the San Francisco Bay-Delta Estuary;

NOW THEREFORE, BE IT RESOLVED that the Board of Supervisors of San Mateo County hereby expresses its interest in the on-going Bay-Delta planning process of the Delta Stewardship Council, the Bay Delta Conservation Plan, and the State Water Board's Delta planning and regulatory efforts, and urges that as part of any solution or conclusions reached in these critical planning and regulatory processes, the following principles be applied:

Bay-Delta Ecosystem. Recognize that protection and restoration of a healthy sustainable Bay-Delta ecosystem includes adequate water quality, outflow, and water supply, to support fisheries, wildlife and habitat in perpetuity.

Delta Outflows. Recognize that the Bay-Delta ecosystem has been in a state of "chronic drought" due to current water management practices, and ensure adequate Delta outflows to San Francisco Bay to support fisheries, wildlife, habitat, water quality and other beneficial uses.

Regional Self-Sufficiency. Incorporate sustainable approaches for improved water supply, water quality and reliability through the overarching principle of regional self-sufficiency, linked specifically to reducing reliance on exports from the Delta and reducing the current impacts on the Bay-Delta ecosystem.

Bay Area Communities. Protect the economic viability of industry, recreation, tourism, fisheries, and agriculture, and the ongoing vitality of communities throughout and along the shoreline of the greater San Francisco Bay-Delta ecosystem.

Full Financial Disclosure. The multi-decade costs of restoring habitat in the Bay and the Delta are expected to be significant as would be the full costs associated with any new or modified water management facilities. Realistic cost estimates must be calculated and made clear to both taxpayers and

ratepayers throughout California before any final decisions are made. A full cost-benefit analysis of any proposed project must cover all affected geographic areas, and adverse socio-economic impacts need to be minimized and fully mitigated by the beneficiaries of the project.

Fair Representation. Represent and include local governments in any new governance structures for the Delta.

Flood Protection. Support funding and implementation of urban and non-urban flood protection, at the appropriate level of protection, through rehabilitation and restoration of wetlands wherever feasible, and improvement and maintenance of flood control levees and structures where necessary.

* * * * *

Comparison of Adopted Resolutions Supporting Freshwater Flows in the San Francisco Bay-Delta Estuary

Entity/Agency Date Adopted Provisions Addressed:	ABAG 5/17/2012	Contra Costa County 2/7/2012	Napa County 10/1/2013	Marin County 12/17/2013	MMWD* 1/7/2014	Emeryville 3/4/2014	Sonoma County 3/25/2014	San Mateo County 5/20/2014
Bay-Delta Ecosystem	X	X	X	X	-	-	X	X
Delta Outflows	X	X	X	X	-	X	X	X
Regional Self Sufficiency	X	X	X	X	-	X	X	X
Bay Area Communities	X	X	X	X	-	X	X	X
Full Financial Disclosure	X	-	X	X	-	X	X	X
Fair Representation	X	X	X	X	-	X	X	X
Flood Protection	X	X	X	X	-	X	X	X
Existing System Reliability	-	X	-	-	-	-	-	-
Local Gov't Authority	-	X	-	-	-	-	-	-

*Supports
Marin County
Resolution

Legend: X Addressed in Resolution
- Not addressed in Resolution



Friends of the San Francisco Estuary

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[About Us \(/about-us.html\)](#)

[Conference \(/conference.htm\)](#)

[Freshwater Flows \(/freshwater-flows.htm\)](#)

Wednesday, September 24, 2014
9:00am-12:30pm

Antioch Community Center
4703 Lone Tree Way
Antioch, CA

Presented by:
Association of Bay Area Governments
Delta Counties Coalition
Friends of the San Francisco Estuary

Please join us for this free half-day conference to discuss the role of fresh water in the Bay-Delta Estuary, the current planning processes underway that may negatively or positively impact fresh water flows, and what needs to be done to protect the environmental, economic, social, and health benefits of the San Francisco Bay-Delta Estuary.

This year's drought conditions highlight the importance of regional planning to address this issue—join us for a stimulating discussion!

Keynote Speaker: Congressman George Miller (invited)
...and more to come! Stay tuned for updates.

This event is **FREE** and is **open to the public**. Please pre-register to help us estimate number of attendees.

Funding provided by:
The Rose Foundation for Communities and the Environment
San Francisco Estuary Partnership
Friends of the San Francisco Estuary

Conference Registration:

Ticket Information		Powered by	
TYPE	END	PRICE	QUANTITY
General Admission	Sep 24, 2014	Free	1

[Register](#)

(<https://www.eventbrite.com/e/baydeltawater-better-together-conference-tickets-12080748845?ref=etckt>)



Delta Counties Coalition
Fresno County, Colusa County, Glenn County, Butte County, Sutter County, Yuba County, Placer County, El Dorado County, Nevada County, Yuba County, Placer County, El Dorado County, Nevada County



Conference Overview

Session 1: Freshwater Flows, Health, and the Economy: Why Do We Need Freshwater Flows?

This first session will discuss the health of the Bay-Delta Estuary in relation to the economy, environment, public health, and quality of life in the area. Experts will provide insights on the role of freshwater flows in estuary health, and how the state of the Bay-Delta Estuary affects the region at large.

Session 2: Opportunities for Action

The second session will offer a brief overview of the planning processes at work that influence the Bay-Delta Estuary, including the State Water Resource Control Board's updates to the Bay-Delta Water Quality Plan, the Delta Plan, the Bay Delta Conservation Plan, and the California Water Action Plan. The session will discuss the opportunities for influence by local officials and individuals, focusing on both local, self-reliant water supply solutions and policy solutions.


Session 3: Regional Response: Moving Forward Together

The third session will provide a facilitated discussion among attendees who can offer their own local perspectives on regional water management and policy solutions. This round-table discussion will aim to foster communication and collaboration between the various areas of the Bay and Delta.

CREATE A FREE WEBSITE ([HTTP://WWW.WEEBLY.COM/?UTM_SOURCE=INTERNAL&UTM_MEDIUM=FOOTER&UTM_CAMPAIGN=3](http://www.weebly.com/?utm_source=internal&utm_medium=footer&utm_campaign=3)) POWERED BY ([HTTP://WWW.WEEBLY.COM/](http://www.weebly.com/))
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14

MEMORANDUM

To: Board of Directors
From: Chris DeGabriele, General Manager 
Subj: Sonoma County Water Agency Temporary Urgency Change Petition
l:\gm\scwa\2014\tucp 0814.docx

August 15, 2014

RECOMMENDED ACTION: Information Only**FINANCIAL IMPACT:** None

On Wednesday, August 13th, Sonoma County Water Agency petitioned the State Water Resources Control Board to make a Temporary Urgency Change to their water rights requesting lower Russian River flows to preserve storage in Lake Mendocino. The petition in essence requests lowering upper Russian River minimum flows to 50 cubic feet per second (cfs from the current 75cfs) and lowering flows in the lower Russian from the Dry Creek confluence to the Pacific Ocean to 60cfs (from the current minimum flow of 85cfs). The reduced flows are projected to preserve approximately 4,000AF of water in Lake Mendocino between now and November 1st.

This Temporary Urgency Change Petition is different from those filled previously in that Mendocino County Russian River Flood Control and Water Conservation Improvement District (Mendocino District) also filed a petition which enables SCWA to request that the State Board take actions to reduce diversions by 20% for holders of water right permits and licenses issued under the 10,000AF per year Sonoma County Reservation in the upper Russian River. The reduced diversions are projected to preserve an additional 5,000AF in Lake Mendocino by November 1st. The petition proposes a 6 month duration in changed operations but would sunset earlier if the Lake Mendocino water supply pool fills prior to February 10, 2015.

SCWA specifically requested the State Board order no further terms regarding water conservation activities of the Water Agency and its contractors including NMWD. I will keep you apprised about approval of the Temporary Urgency Change Petition and any further requirements ordered by the State Board as a result.

A copy of the petition can be found at:
http://www.scwa.ca.gov/files/docs/projects/rrifr//stateboard//2014/TUCP_Transmittal-Package_Final_13aug2014-WEB.pdf

15

MEMORANDUM

ITEM #15

To: Board of Directors
From: Drew McIntyre, Chief Engineer 
Subject: North Bay Water Reuse Authority Board Meeting – July 28, 2014
R:\Folders by Job No\7000.jobs\7127\Board Memos\7127 NBRWA Update 7_28_14.doc

August 15, 2014

RECOMMENDED ACTION: Information Only

FINANCIAL IMPACT: None

The draft minutes from the above referenced meeting are provided in Attachment 1. Supplemental information is provided as follows using item numbers referenced in the meeting agenda. Note that I was not able to attend the meeting but staff was represented by Ryan Grisso, Water Conservation Coordinator.

2. Roll Call

NMWD Board was represented by John Schoonover (with Jack Baker attending as the designated NMWD Alternate).

7. Financial Report for the Period Ending June 30, 2014

The Phase 2 Scoping Study is complete for a FY13-14 cost ~\$170,000. In summary, there were no issues with the FY13-14 budget.

9. Program Development – Federal Advocacy Update

The Board approved providing an endorsement letter for Senator Boxer's legislation S.2771-W21 or Water in the 21st Century. This legislation provides up to 100% financing on projects with a 35 year repayment period and provides 50% grant funds for small scale storage facilities (up to \$15M per project). Ms. Bryant noted the House bill for WaterSMART funding includes \$21M for Title XVI grants and the Senate bill is rumored to have in excess of \$40M for WaterSMART grants. Ms. Bryant also provided an overview of remaining grant funds for studies and/or construction opportunities for Phase 2 participants. There are also plans for a fall trip to Washington DC to continue to support WaterSMART funding and Reclamation Infrastructure Innovation Act (RIFIA) legislation.

10. State Advocacy Update

Although the attached meeting minutes reference a water bond of \$6.0B, we now know a \$7.5B water bond was passed on both sides of the legislature on August 13, 2014 (a few hours before the midnight deadline for the November ballot). Within the bond, \$725M is designated for recycled water (up from \$500M in previous versions of the water bond). Assuming the voters approve the bond in November, next year will kick off the beginning of an infusion of State funding for recycled water projects. In addition, the bond also includes \$65M for the San Francisco Bay Hydrologic Region for Integrated Regional Water Management projects (IRWM). This is out of \$510M for state-wide IRWM funding.

**North Bay Water Reuse Authority
Board of Directors Meeting
Minutes
July 28, 2014**

1. Call to Order

Chair Rabbitt called the meeting to order at 9:36 a.m. on Monday, July 28, 2014 at the Novato City Hall Council Chambers, 901 Sherman Street, Novato, CA 94945. Consultants who were unable to attend participated via telephone, 1-866-906-7447, passcode 2428170#.

2. Roll Call

PRESENT: David Rabbitt, Chair, Sonoma County Water Agency
Bill Long, Vice-Chair, Novato Sanitary District
Megan Clark, Las Gallinas Valley Sanitary District
Jack Gibson, Marin Municipal Water District
Susan Gorin, Sonoma Valley County Sanitation District
Steve Kinsey, Marin County
Kathy Miller, City of Petaluma
Keith Caldwell, Napa County
Jill Techel, Napa Sanitation District
John Schoonover, North Marin Water District

ABSENT: None

OTHERS

PRESENT: Chuck Weir, Program Manager	Weir Technical Services
Jack Baker	North Marin Water District
Kevin Booker	Sonoma County Water Agency
Gary Butler	Novato Sanitary District
Ginger Bryant	Bryant & Associates
Grant Davis	Sonoma County Water Agency
Barry Dugan	Data Instincts
Rabi Elias	Las Gallinas Valley Sanitary District
Jenny Gain	Brown & Caldwell (via telephone)
Ryan Grisso	North Marin Water District
Pam Jeane	Sonoma Valley County Sanitation Agency
Andria Loutsch	CDM Smith (via telephone)
Mark Millan	Data Instincts
Phillip Miller	Napa County
Pilar Oñate-Quintana	The Oñate Group
Larry Russell	Marin Municipal Water District
Jake Spaulding	Sonoma County Water Agency
Dan St. John	City of Petaluma
Dawn Taffler	Kennedy Jenks Consultants (via telephone)
Jeff Tucker	Napa Sanitation District

Leah Walker
Mark Williams

City of Petaluma
Las Gallinas Valley Sanitary District

3. Public Comments

There were no comments from the public

4. Introductions

Participants introduced themselves for the benefit of new attendees.

5. Board Meeting Minutes of May 19, 2014.

A motion by Director Schoonover, seconded by Director Long to approve the May 19, 2014 minutes was unanimously approved.

6. Report from the Program Manager

a. Consultant Progress Reports

The Board reviewed the consultant progress reports for June 2014. The Program Manager highlighted the remaining agenda items.

7. Financial Report for the Period Ending June 30, 2014

The Board reviewed the Financial Report and noted that all items were on track.

8. Status of Consultant Agreement Approval Process

The Program Manager and Kevin Booker reported on the status of the consultant agreement approval process. They are scheduled to go to the SCWA Board on August 19, 2014.

9. Program Development – Federal Advocacy Update

Ginger Bryant provided an update for the Board on federal activities in support of Phase 1 and 2. She discussed Senator Boxer's RIFIA Bill which was to be introduced in the Senate on July 29, 2014. She has requested an endorsement letter from NBWRA. As an action item, the Board agreed to send an endorsement letter. Bryant also discussed the following: future WaterSMART grant levels, EPA's WIFIA regional activities, Phase 2 Feasibility Study funding options, and State funding options. Chair Rabbitt, Grant Davis, and other participants thanked Ginger Bryant and her team for their efforts on behalf of NBWRA.

10. State Advocacy Update

Pilar Oñate Quintana updated the Board on the following items: Governor Brown's indicated maximum support for a Water Bond of \$6 billion; Senator Wolk's version contains \$500 million for recycled water; and that WaterReuse is seeking \$1 billion. She also noted that the CEQA exemption bill for recycled water pipelines failed due to amendments gutting the intent. Grant Davis thanked Pilar for her efforts on behalf of NBWRA to keep the \$500 million for recycled water in Senator Wolk's bill.

11. Proposition 84 Funding Activities

Andria Loutsch gave an update on the Bay Area Clean Water Agencies selection process for projects to submit to the state for Proposition 84 funding.

12. Outreach Program Update

Mark Millan noted that they have received three recent telephone calls for the following items: a film crew from Germany wants to visit some sites in late August, the Golden Gate National Recreational Area is looking for recycled water, and a fifth grade class has requested a tour. Las Gallinas will respond to the class tour request.

13. Adjournment

Chair Rabbitt adjourned the meeting at 10:40 a.m. The next meeting will be October 27, 2014 at 9:30 a.m.

Minutes approved by the Board _____.

Charles V. Weir
Program Manager

C:\Users\Chuck\Documents\Weir Technical Services\NBWRA\Agendas\2014\2014-07\2014-07-28_NBWRA_Board_Minutes.docx


16

MEMORANDUM

ITEM #16

To: Board of Directors

August 15, 2014

From: Chris DeGabriele, General Manager 

Subj: Collaboration: Sea-level Marin Adaptation Response Team (C-SMART) Participation
L:\gm\bod misc 2014\csmart memo.docx

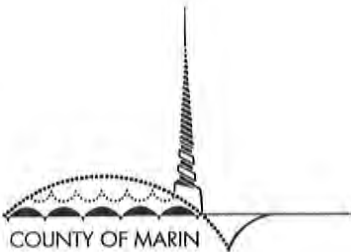
RECOMMENDED ACTION: Information

FINANCIAL IMPACT: None

In early August, the District received a letter addressed to Director Rodoni requesting NMWD's participation in the Technical Advisory Committee of C-SMART. The invitation is enclosed at Attachment 1.

I contacted Jack Liebster, Principal Planner with the County, who advised that NMWD's participation is requested but not at an elected official level. He did advise there will be public meetings in the future when elected representation would probably be a good idea. I have advised the County that I will be the contact for the Technical Advisory Committee. I will attend the first TAC meeting and determine to fully participate or assign to another staff member at that time.

Also attached to this memo is some background information on the effort to assess sea-level rise effects on coastal infrastructure and resources, including a December 2013 Marin Independent Journal article (Attachment 2), a summary of the Sea-Level Rise and Marin's Ocean coast information page from the County's website (Attachment 3), and the C-SMART work plan (Attachment 4).



COMMUNITY DEVELOPMENT AGENCY

July 28, 2014

Dennis Rodini, Board President
North Marin Water District
P.O. Box 146, Novato, CA 94948-0146

RECEIVED
AUG 11 4 2014
North Marin Water District

Dear Mr. Rodini,

The County of Marin is initiating a sea level rise program for Marin's ocean coast, and we are requesting your agency's participation in our Technical Advisory Committee (TAC). Collaboration: Sea-level Marin Adaptation Response Team (C-SMART) is an intergovernmental, public-private partnership working to assess vulnerability and develop adaptation strategies for the potential impacts of sea level rise and storm events on Marin's coastal resources.

The TAC will play an integral role in C-SMART by providing scientific and technical expertise to contribute to a better understanding of the effects of sea level rise at a local level. TAC members will expand the County's relationships with leading researchers, innovators, and practitioners; serve as a source of data, analysis and contacts; and provide advice on potential adaptation strategies and the impacts that such strategies may have on coastal resources. TAC participation will be required for three virtual meetings via an online platform, tentatively scheduled for October 2014, February 2015, and November 2015. Committee members may be contacted for advice at other times throughout the process.

If you are unable to serve on the committee but would like to recommend someone else from your agency or organization, share this invitation with them. To learn more about C-SMART, visit www.marinslr.org. Please contact Jack Liebster at (415) 473-4331 with any questions.

Sincerely,

Brian Crawford

Director, Marin County Community Development Agency

Please indicate your willingness to serve on this committee by checking the appropriate box and providing your contact information below. Return this letter to our office by August 30, 2014. Or, respond by email to Alex Westhoff at awesthoff@marincounty.org.

- I accept the committee appointment.
- I am unable to serve on the committee.

Name: _____

Email address: _____

Title: _____

Phone number: _____

Marin gets state cash to look at sea-level rise

Posted: 12/03/2013 05:47:19 PM PST

marinij.com

Click photo to enlarge

Marin County will use a \$200,000 grant to look at how it can prevent businesses, homes and highways from being inundated by a rising sea over the next several decades.

The California Ocean Protection Council is providing the money to Collaborating on Sea-Level: Marin Adaptation Response Team, known as C-SMART. The program, overseen by the Marin County Community Development Agency, is trying to get ahead of sea level rise.

"The bad thing about sea-level rise is that it is happening so slowly, it's hard to get people interested," said Jack Liebster, who is heading the project for the county. "The good thing is it is happening so slowly we can take steps to address it."

Sometime over the next century, huge shoreline swaths of Marin, including Hamilton Field, Highway 37, Highway 1 in West Marin and the Tamalpais Valley could be under water if global warming causes the bay and ocean to rise by a meter, according to the San Francisco Bay Conservation and Development Commission, which monitors shoreline development.

"This is something the county wants to address," said Judy Arnold, president of the county Board of Supervisors. "Sea-level rise ties into housing; do we place housing in a place like the Tam Valley, where there are going to be king tides? This issue is something the county has to be aware of."

The commission has said the bay could rise by a meter — a little more than three feet — based on the projected impact of global warming made by scientists. The time frame is 100 years.

"Marin's coast is a perfect testing laboratory for grappling with sea-level rise and related climate change issues," Liebster wrote in the grant application to the state. "Its diverse biological resources, varied topography and highly susceptible human habitation present challenges that will need to be faced all along the California coast. By starting now, we will have a better understanding of our options and more time to prepare in a well thought out and less costly way."

The work on the report is expected to begin in early 2014 with a 2016 delivery date. It will look at ways to protect Marin from the rising waters. That may include improving dunes, wetlands, sea grass, kelp beds and oyster reefs through restoration. Building up those natural processes could protect shorelines, in particular from high wave action caused by storm surges.

"The science says storms will be more frequent in the future," Liebster said.

Engineered solutions such as seawalls, rip-rap, and raising or floodproofing structures also will be looked at as part of the report. As sea level comes up, local governments will have to maintain, or may have to relinquish public facilities in the face of encroaching seas, according to the county's grant application.

Marin's coastal lagoons, wetlands and beaches — including southern Tomales Bay, Drakes Estero, Bolinas Lagoon and Stinson Beach — are at risk of drowning over time unless action is taken to increase their resilience.

Highway 1 could be inundated at many different locations, with about 6 miles affected, cutting off large areas of the coast. Homes in places like Stinson Beach's Seadrift also could face issues with sea-level rise, according to the county.

"Our effort is just getting off the ground," Liebster said of the project. "It's a vulnerability assessment."

The project still needs another \$64,000 to be fully funded at \$419,000 and a grant to cover the cost will be sought from the state's Coastal Commission.

Gulf of the Farallones National Marine Sanctuary, the U.S. Geological Survey, the U.S. National Park Service, Point Blue Conservation Science and the Federal Emergency Management Administration are all helping with the Marin effort.

The California Ocean Protection Council overall awarded \$1.3 million to seven local governments — including Marin — last month to look at sea-level rise issues.

"These voter-approved funds will assist coastal communities in preparing for a changing climate," California Natural Resources Secretary John Laird said in a statement.

Contact Mark Prado via email at mprado@marinij.com

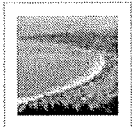
Sea Level Rise and Marin's Ocean Coast

What Could Marin's Sea Level Rise Mean to You? Find Out!

Subscribe to this page to receive notification of news and meetings.

Sea levels world-wide are rising as the warming Earth drives thermal expansion of the ocean and global melting of glaciers and ice sheets. Climate experts estimate that by 2100, sea level could rise by around 70 inches and that the frequency, intensity and flood-effects of storms will increase. People in coastal areas, such as here in Marin, need to understand how sea level rise (SLR) may affect their homes, schools, roads, public facilities, natural resources and habitat areas, when these impacts might occur, how they might change over time, and how to prepare for them.

Marin County's "Collaboration: Sea-level Marin Adaptation Response Team" (C-SMART) is an intergovernmental/public-private partnership that is working to develop this understanding so that, while there is still time, we can together become prepared to meet the challenge of sea level rise. Please use this page to learn about, join, and contribute to this effort. If you'd like additional information, please call us at (415) 473-4331 or send an email to the Sea Level Rise Planner.



Get Involved

Sign up to receive email updates and learn about upcoming events. Share your ideas about sea level rise impacts and resilience strategies through the C-SMART project.



News & Meetings

See the latest news about upcoming C-SMART meetings on sea level rise in Marin County. Keep up with the process as we assess potential effects of sea level rise and develop response strategies.



C-SMART Publications

Check here to view C-SMART organizational materials, working documents, schedules, FAQs, and other reports as they are developed.



More Information

In confronting sea level rise, Marin is in the same boat as other coastal regions of the country, and around the world. See what others are learning about sea level rise, and what efforts they are making to address this threat.

C-SMART: Collaboration: Seal-level Marin - Adaptation Response Team

Organization: Marin County Community Development Agency

Term of Project: April 30, 2014 – April 30, 2016

SCOPE OF WORK

A. PROJECT DESCRIPTION

The C-SMART project will develop a sound scientific and technical basis for assessing the potential changes, vulnerabilities, and impacts that sea level rise may bring to people, natural resources, access, and the built environment of Marin's ocean and Tomales Bay coast, will identify appropriate response and resilience strategies to address these effects, will coordinate with other agencies, and will plan for the implementation of such measures, including by integrating them into Marin's Local Coastal Program.

B. TASKS

TASK 1: PUBLIC INVOLVEMENT PROCESS, STAKEHOLDER AND TECHNICAL ADVISORY COMMITTEES

Task 1.1 Establish Public Process and Committees

An initial involvement strategy will be developed to address the publics affected by or concerned with sea level rise, including involved decision-makers, a Stakeholder Advisory Committee (SAC), a Technical Advisory Committee (TAC), and the wider interested public.

Decision-makers, including the local elected County Supervisor, the Superintendents of the Point Reyes National Seashore, GGNRA and Gulf of the Farallones National Marine Sanctuary, will be briefed on the project, its objectives and its schedule.

A ***Stakeholder Advisory Committee (SAC)*** will be established from among those who could be directly impacted by sea level rise and those with a broader interest in coastal resources and public finances, including citizen groups such as the Environmental Action Council of West Marin, planning groups such as the East Shore Planning Group, and affected individuals.

The ***Technical Advisory Committee (TAC)*** will be appointed to provide a foundation for the best available science with respect to sea-level rise impacts. It will continue and expand the County's relationships with the leading researchers, innovators, practitioners to be a source of data, analysis and contacts, guide development of critical new data, and provide expertise and ideas to make the project as productive and useful as possible.

Deliverable: A report including initial rosters of the TAC and SAC, and a tentative schedule of TAC, SAC and other public meetings.

Task 1.2 Carry Out the Public Involvement Process

The SAC, TAC and decision-maker group will work together to explore a range of potential future conditions and recommend those appropriate to evaluate through the vulnerability assessment. Workshops will engage participants in helping define potential impacts, develop creative and robust approaches for dealing with impacts, and to interactively develop a shared understanding of the efficacy, feasibility and cost of potential adaptation strategies.

Based on the groundwork laid by the SAC, TAC, consultants and staff, the broader public will be engaged in addressing issues throughout the process. In addition to general public meetings and meetings of the SAC and TAC, traditional media, social media, and the project website will all be employed to inform and learn from the public. Continuous contact and individual meetings with the public will also be used to assure full participation and understanding of the process. Both the Planning Commission and the Board of Supervisors will be brought along as the project proceeds so that they are informed and comfortable making decisions on potential SLR LCP Amendments.

Deliverable: A summary of the TAC, SAC and public meetings held to support the project objectives.

TASK 2: VULNERABILITY ASSESSMENT

Overview: In this assessment phase, project collaborators will work together to evaluate the full range of vulnerabilities from sea level rise, extreme events and geomorphic evolution.

The Our Coast–Our Future Project (OCOF) model, drawing on high resolution sophisticated scientific tools will identify areas that would be affected by sea level rise over time considering several scenarios. Data from OCOF modeling will be compared to information from FEMA’s CCAMP “Open Pacific Coast Study” critical analyses including statistical water level analysis, offshore and nearshore wave modeling, wave runup and overtopping assessments, and coastal erosion studies as they become available to strengthen the robustness of the project’s assessments. Project consultants will assess how potential geomorphic changes could affect impact patterns.

The project will also utilize data generated by the Marin County Department of Public Works Stinson Beach Flood Protection and Watershed Program (DPW) to assess the effects of sea level rise on riverine flooding (“combined flooding”). Additionally, the project will collaborate with the Natural Capital Project /Center for Ocean Solutions to apply the InVEST (Integrated Valuation of Ecosystem Services and Tradeoffs) toolbox to assess coastal vulnerabilities in a way that establishes the groundwork spatial and economic evaluation of risks to people, property and infrastructure from erosion and inundation due to climate impacts.

Task 2.1 Exposure Assessment

Task 2.1 will identify potential climate change effects on the Marin coast, using OCOF outputs to integrate wind, wave and surge conditions into an exposure assessment, including factors such as water levels, wave heights, flooding, and erosion. Specific OCOF assets that will be used include a seamless Digital Elevation Model derived from recent LIDAR and multibeam bathymetry, a suite of 40 dynamic coastal flooding projections in 25cm increments with four storm scenarios ranging from daily to 100-year return levels. OCOF's interactive maps overlays and a user-friendly interface will be used to help convey the results to promote public understanding. Additionally, we will share our experience with the Coastal Storm Modeling System (CoSMoS) models used in the OCOF tool to assist those who are applying these models in other areas throughout the state.

The Exposure Assessment will also explicitly address three additional aspects of sea level rise risk:

Extreme events (OCO F): As noted by Heberger, *et al.* (2009), “the majority of studies on climate change have emphasized changes in average conditions, yet the greatest socio-economic impacts tend to occur as a result of extreme events...” . While the NOAA Sea Level Rise Viewer currently does not include such events, OCOF modeling does, providing an important new dimension and value to this project. In addition, the collaboration with FEMA will ensure that this project is consistent with their analyses of extreme events and the corresponding mapping data that will become the regulatory basis for Marin County through the National Flood Insurance Program.

Combined flooding (County Flood, OCO F): Heberger also found that “higher sea levels... can also worsen flooding in nearby rivers as higher water surface elevations at the downstream end of a river causes water to back up and increase upstream flooding.” Marin DPW has completed extensive watershed analysis and hydraulic modeling of flooding in Easkoot Creek which flows out to Bolinas Lagoon through Stinson Beach. The Creek drains directly into Bolinas Lagoon, and the preliminary modeling indicates sea level rise in the Lagoon will retard drainage and worsen flooding from the landward side at the same time that it increases from the ocean side. C-SMART will examine this important, potentially widespread, yet poorly studied vulnerability.

Geomorphic evolution: Patterns and rates of erosion and deposition on the coast will change as sea level rises, extreme events increase and runoff changes. Over a period of decades we expect to see significant changes in the morphology of the coast that in itself may threaten resources, such as the erosion of bluffs. This may also change the extent of hazard zones by allowing large areas to become inundated as they are eroded. Few assessments have considered the geomorphic response to sea level rise, but C-SMART will describe these qualitatively and their influence on inundation and flooding based upon previous work undertaken for the Pacific Institute (Heberger, 2009).

Deliverable: A report section of the changes projected in flooding during extreme events, combined flooding and geomorphic change due to climate impacts, focusing on three future years spanning the end of the century will be written. This will leverage existing studies to the

extent feasible. It will include GIS maps developed by CDA indicating the location and extent of the hazard areas.

Task 2.2 Sensitivity Assessment

Task 2.2 will determine what resources of the coast (functions, structures, and populations) will be affected by the impacts. Using the tools available from OCOF and others, this part of the project will specifically map resources and assets, identify their level of criticality, and evaluate the degree that these and other assets are susceptible to damage from a range of sea level rise and storm surge scenarios in order to develop a sharper picture of the sensitive resources.

For example, Marin's coastal zone is exceptionally rich in resources, including public beaches, recreational and visitor-serving opportunities, wetlands, diverse wildlife and sensitive habitats, and productive agricultural lands. People and their support systems also crowd the shore – homes on sandspits and low-lying areas with nothing but shifting sands separating them from the sea. Other homes already sit on piles above the water itself. These dwellings rely on septic systems to cleanse their wastewater before it rejoins the ocean; but the effect of a rising ocean on the water table and the viability of those systems has not been measured. Saltwater intrusion into low lying areas also has the potential to foul vital public and private drinking water sources. On hot, sunny days (which are likely to increase) thousands of people from throughout the Bay Area and beyond come here for respite and recreation, relying on the sole north-south artery of Highway One. The analysis will evaluate how susceptible the Highway is to inundation and, potentially cutting people off from the coast.

This data will be combined with the County's parcel level GIS land use data and additional data developed through the public involvement process to assess the sensitivity of natural systems such as coastal wetlands, beaches, dunes and oyster beds, and critical coastal and community assets including visitor accommodations, Highway 1, public facilities, businesses and homes.

Deliverable: A report section describing the assets within the hazard area identified in Task 2.1. It will include GIS maps developed by CDA indicating the location and criticality of the assets.

Task 2.3 Potential Impacts

Task 2.3 will investigate how sensitive the vulnerable resources identified in Task 2.2 are to the climate change drivers identified in Task 2.1. This part of the assessment will evaluate how changing conditions will impact the resources at risk in terms of specific characteristics of the resource, magnitude of the impact, its persistence or growth over time, and the degree it disrupts the normal functioning of the community or resources.

In this process we will also account for the inherent uncertainty of models and predictions of expected change, and seek to prepare robust scenarios to strengthen the willingness to make decisions despite a lack of all the desired information.

Deliverable: A report section describing the potential impacts to the assets within the hazard area identified in Task.2.1. It will include an assessment of potential impacts for each asset,

rated low, medium or high. It will include tables developed by CDA indicating the location and impact rating.

Task 2.4 Adaptive Capacity

This task will evaluate and characterize the structures and mechanisms that are currently available to respond to the identified potential impacts identified in Task 2.3, such as flood risk management levees and structures, flood-proofing and raising homes, evacuation plans, flood insurance, etc. Marin's demonstrated record on environmental innovation and leadership, combined with the creativity, foresight and accomplishment of other C-SMART partners, lay a solid foundation for this task.

Deliverable: A report section describing the adaptive capacity of assets within the hazard area identified in Task 2.1. The report section will be written by CDA with contributions from County DPW, Geomorphology/Hydrology expert and OCOF. It will include an assessment of the current capacity to address each of the potential impacts for each asset, rated low, medium or high. It will include tables developed by CDA indicating the location and adaptive capacity rating.

Task 2.5 Risk and Onset

This task assesses how likely and how quickly the impacts identified in Task 2.3 will occur. This assessment, integrating the likelihood of each impact and the expected level of damage and the timing of their occurrence will allow us to formulate priorities among the impacts to be addressed. Secondary impacts will be similarly assessed.

Deliverable: A report section describing the certainty and timing of impacts to assets within the hazard area identified in Task 2.1. The report section will be written by CDA with contributions from project partners. Each potential impact will be rated low, medium, or high based on certainty and rated near-term, mid-term, or long-term based on onset. It will include tables developed by CDA indicating the location and certainty and timing ratings. A report of the vulnerabilities assessment (Task 2) will be prepared by CDA that summarizes the results of the work above for review by the SAC and TAC.

TASK 3: ADAPTATION STRATEGY DEVELOPMENT

Task 3 translates the climate vulnerability and risk identified in Task 2 into implementable actions as described in the *California Adaptation Planning Guide*.

Task 3.1 Prioritize Adaptive Needs: (CDA lead)

Based upon the potential impacts (Task 2.3), the existing adaptive capacity (Task 2.4) and the risk and onset profile (Task 2.5) identified by the Vulnerability Assessment, the County, with input from the SAC and TAC, will formulate priorities for development of adaptation strategies. For example, higher priority will go to strategies addressing impacts with greater potential severity, longer ramp-up times or easy, generally accepted and inexpensive solutions. Impacts that are already well controlled or predicted to arise further in the future (offering more time to mobilize a response) would rank with relatively lower priority.

Deliverable: A report section listing the potential impacts divided into three categories: (1) need to develop adaptation strategies (2) evaluate further to assess impacts and needs, and (3) continue to monitor to assess impacts. It will include tables indicating the prioritization ratings.

Task 3.2 Identify Strategies

Task 3.2 will assess which impacts require actions to address them and will identify which strategies should be pursued to address the adaptation needs. In coordination with the Coastal Commission, the project will develop a range of flexible, cost-effective multi-objective strategies which include both structural and non-structural responses. These may include those that work with natural processes such as dune or wetland restoration, sea grass and kelp beds, oyster reefs and racks and other living shoreline approaches, engineered solutions such as seawalls, rip-rap, and raising/flood-proofing of structures, and planning, zoning, and legal adaptation alternatives such as planned retreat/relocation, rolling easements, and an evaluation of the flexibility local governments have to maintain or relinquish public facilities over the next 25-30 years in the face of encroaching seas. A targeted effort will be made to build upon Cal-Adapt's *Identifying Adaptation Strategies* and identify suitable strategies on a statewide and even global scale to capitalize on lessons learned by others. This should increase confidence and reduce the time from idea to implementation. We would like to coordinate this work with other grantees for an efficient division of labor. Strategies will be evaluated to identify those providing the most robust response over a spectrum of possible future conditions. The results of this effort will also strengthen the transferability value of our project.

Deliverable: A report section describing in conceptual terms a set of strategies to address each adaptation need identified for strategy development. This would include indicative costs and identification of co-benefits.

Task 3.3 Evaluate and Prioritize

This task seeks to identify which of the strategies in Task 3.2 should be implemented first. Strategies will be prioritized based upon the number of criteria determined by the County, with input from the SAC and TAC. The criteria could include the projected onset of impacts, indicative costs (both initial and ongoing), calculated effectiveness, the timing and duration of the strategy, the full spectrum of benefits, including corollary gains beyond those related to sea level, (including "co-benefits" to habitat, public access and permitting), and legal, political and community acceptability. A general cost-benefit analysis will be performed on various alternative scenarios based on knowledge of adaptation cost planning using a published range of costs in order to provide a basis of evaluation of next steps.

Deliverable: A report section will be written that will identify, for each strategy, implementation timing: (near-term, mid-term, and long-term); indicative cost (low, medium, and high both for capital and maintenance); likely range of effectiveness, and barriers to implementation and uncertainty.

Task 3.4 Plan Implementation Phasing

A preliminary implementation plan will be prepared to describe the phasing of strategies and their component projects, and to recommend responsibilities for who would carry out each strategy. Potential funding mechanisms will be identified and strategies to secure appropriate funding suggested, according to the implementation schedule. A monitoring and evaluation table, including adaptive management, where applicable, will be outlined for each broad strategy to address the performance and effectiveness of the strategies. A monitoring protocol will also be outlined to evaluate changes in the rate and extent of sea level rise and related climate factors, and their conformance or divergence from the predictions upon which the adaptation strategies are based. Finally, periodic reviews will be included to allow re-calibrating accepted strategies in the light of the evolving science of understanding and responding to sea level rise.

Deliverable: A report section will be written that will identify a conceptual implementation plan and monitoring program for the identified strategies.

A final report of the adaptation strategy development (Task 3) will be prepared that summarizes the results of the work above for review by the SAC and TAC. This report will include a section describing lessons learned written for the dissemination of knowledge gained during this project.

TASK 4: LCP AMENDMENT

One of the principal means of implementing the project will be updating the Marin County Local Coastal Program to incorporate the applicable measures to address sea-level rise and other climate change impacts. Concurrent with the development of Task 3.4, the County will develop the appropriate LCP Amendments based on the results of the sea level rise study, to address sea level rise and climate change impacts.

A preliminary list of such measures is currently proposed in the County's draft LCPA (Program C-EH-22a). The County will work in close partnership with the Coastal Commission to develop an LCP Amendment, and to assure that the LCP Amendment fully carry out the Coastal Act, are highly effective, and are in a transferrable format to provide the greatest assistance to other coastal jurisdictions.

The development of the LCP Amendment will include at least one public meeting, and coordination meetings with the Coastal Commission every other month. Once a draft is complete, the County will submit it to the Planning Commission and Board of Supervisors for approval.

After approval by the Planning Commission and Board of Supervisors, the County will submit the LCP Amendment to the Coastal Commission for review.

Deliverable: Submittal of LCP Amendment to Coastal Commission

TASK 5: TRANSFER LESSONS

We will create or participate in a network of all recipients of this and related funding opportunities to share experiences and lessons as they are learned across sectors and geographies. This network will be coordinated by the CCC, OPC and/or through the project's OCOF team members who already act as conveners and communication strategists for multiple local, regional, and state adaptation efforts. This activity was part of our original grant proposal, and will also incorporate the condition the Coastal Commission placed upon the grant award:

Sea level rise work completed under the grant program shall be coordinated regionally to the extent feasible between other jurisdictions and entities working on sea level rise within the same county or broader regional area relevant for sea level rise adaptation, such as the watershed, littoral cell, or area with similar geologic characteristics. Coordination includes early coordination meetings among the different entities, sharing of technical analyses and lessons learned, and consideration of regional adaptation policies.

Deliverable: A summary document of lessons learned from each funding recipient will be prepared in order to inform future iterations of this funding opportunity and of other policy initiatives. Team members will prepare this report in consultation with state agencies including the Coastal Commission and the Coastal Conservancy to ensure that information in the document is actionable and relevant to existing planning and policy processes, including LCP updates.

C. SCHEDULE

Project begin/end dates:

Task 1. Public Involvement Process, Technical and Stakeholder Committees	Begin date: 6/1/14 End Date: Ongoing
1.1 Establish Committees	Begin date: 6/1/14 End Date: 8/15/14
2.1 Conduct Involvement Process (4 public meetings, including the forth public meeting on the LCPA)	Begin date: 6/1/14 End Date: 4/30/16
Deliverable: Public Outreach Summary Report	Completion Date: 4/30/16
Task 2. Vulnerability Assessment	Begin date: Contract date* End Date: 4/30/15
2.1 Exposure Assessment	Begin date: Contract date* End Date: 8/29/14
2.2 Sensitivity Assessment	Begin date: 6/1/14 End Date: 2/27/15
2.3 Potential Impact Assessment	Begin date: 6/1/14 End Date: 2/27/15
2.4 Adaptive Capacity Assessment	Begin date: 6/1/14 End Date: 2/27/15
2.5 Risk and Onset	Begin date: 6/1/14 End Date: 4/30/15
Deliverable: Vulnerability Assessment	Complete Date: 4/30/15

Report	
Task 3. Adaptation Strategy Development	Begin date: 3/1/15 End Date: 4/30/16
3.1 Prioritize Adaptive Needs	Begin date: 3/1/15 End Date: 8/30/15
3.2 Identify Strategies	Begin date: 3/1/15 End Date: 9/30/15
3.3 Evaluate and Prioritize	Begin date: 8/1/15 End Date: 1/30/16
3.4 Plan Implementation Phasing	Begin date: 3/1/15 End Date: 1/30/16
Deliverable: Adaptation Strategy Report	Complete Date: 2/28/16
Task 4. LCPA Development	
Coordination meetings with CCC (Every other month)	Begin date: 3/1/15 End Date: 2/28/16
Complete draft Amendment	Begin date: 3/1/15 End Date: 2/28/16
Planning Commission Action – Proposed LCPAs	Completion Date: 2/29/16
Board Action – Proposed LCP Amendments	Completion Date: 4/30/16
Deliverable: Submittal to CCC	4/30/2016
Task 5. Transfer Lessons	Begin date: 6/1/14 End Date: 4/30/16
Deliverable: A summary document of lessons learned	Completion Date: 4/30/16
Final Deliverable: Final Report, Submittal of LCPA to Coastal Commission	Complete Date: 4/30/16

**The start date for any work covered by OPC & CCC contracts is the date those agencies authorize their respective contracts.*

D. BENCHMARK SCHEDULE

BENCHMARK SCHEDULE

ACTIVITY	COMPLETION DATE
Establish SAC and TAC	Completion Date: 8/15/14
First General Public Meeting (Project Process)	Completion Date: 8/15/14
Progress Report to SAC, TAC, PC, BOS	Completion Date: 10/31/14
Second Public Meeting-Progress Update	Completion Date: 11/28/14
SAC, TAC Review- Vulnerability Report	Completion Date:

	3/31/15
Third Public Meeting/ Brief Plan. Comm./ Bd.Sups.	Completion Date: 5/18/15
SAC, TAC Prioritize Adaptation Strategies	Completion Date: 11/13/15
Fourth Public Meeting - Proposed LCPAs	Completion Date: 2/29/16
Planning Commission Action –Proposed LCPAs	Completion Date: 2/29/16
Board Action – Proposed LCP Amendments	Completion Date: 4/30/16
Submittal of LCPA to Coastal Commission	Completion Date: 4/30/16

E. EVALUATION AND REPORTING

The Grantee shall submit a progress report at least every 6 months, subject to the Coastal Commission Executive Director’s review and approval, and a final progress report upon completion of the grant project. The progress report shall include a description of work tasks and deliverables completed to date, and a description of completed benchmarks, or progress toward completing benchmarks.

Progress reports will be due on the following dates:

- October 30, 2014
- April 30, 2015
- October 30, 2015
- April 30th, 2016

Final deliverable and progress report are due on April 30, 2016.

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DISBURSEMENTS - DATED AUGUST 14, 2014

ITEM #17

Date Prepared: 8/12/14

The following demands made against the District are listed for approval and authorization for payment in accordance with Section 31302 of the California Water Code, being a part of the California Water District Law:

<u>Seq</u>	<u>Payable To</u>	<u>For</u>	<u>Amount</u>
P/R*	Employees	Net Payroll PPE 7/31/14	\$120,127.61
EFT*	US Bank	Federal & FICA Taxes PPE 7/31/14	53,445.30
EFT*	State of California	State Taxes & SDI PPE 7/31/14	9,574.61
1	101 Office Products	Quarterly Toner Supply Order. Black (\$1,470) & Color (\$83)	1,553.22
2	Able Tire & Brake	Tires (6) ('07 Trailmax Trailer - \$808 & '06 Chevy Colorado - \$452)	1,259.99
3	Athens Administrators	Replenish Workers Comp Account (Venegas)	4,605.25
4	AT&T	Telephone Charges: Leased Lines	898.26
5	Ball, Jamie Lee	Claim Settlement - Reimbursement for Cost to Repair Vehicle Damaged by Rocks Falling from District Dump Truck	1,704.09
6	Bastogne	Refund Overpayment on Closed Account	117.08
7	BlackPoint Tree Service	Remove 2 Cypress Trees, Haul Away & Grind Stumps (Lynwood P.S.)	1,285.00
8	Borges & Mahoney	4" Teflon Diaphragm (STP)	356.74
9	Building Supply Center	Caulk, Junction Box & Drill Bit	52.04
10	Calpico	T-Caps (20) (\$62) & #8 Sleeves (100)	116.63
11	CalPERS Retirement System	Pension Contribution PPE 7/31/14	40,723.63
12	Cole-Parmer Instrument	Filters (200) (STP)	131.81
13	DeGabriele, Chris	Exp Reimb: Membership for Professional Engineers & Land Surveyors (7/14-6/16) (Budget \$130)	115.00
14	Dominican University of Calif	Tuition for Leadership Certification Program - Sept-Dec 2014 (McIntyre) (Budget \$0)	4,050.00
15	Evoqua Water Technologies	Service on Deionization System	296.14

Seq	Payable To	For	Amount
16	Farwest Corrosion Control	Cable #8 (500 ft)	272.50
17	GFS Chemicals	Turbidity Standard (STP)	337.56
18	Goebel, Diana	Novato "Toilet Rebate" Program	100.00
19	Grainger	LED Flashlights (2) (\$121), Mounting Rack (STP), High Pressure Hose Quick Coupler, Air Compressor Hose Fittings, Angle & Tank Level Sensors (9) (\$448)	686.50
20	Groeniger	Couplings (7), Flanges (10) & Valve (\$709)	888.63
21	Hach	Calibration Standard, Reagent & Lamp (\$135) (STP)	268.19
22	Idexx Laboratories	Quality Control for Colilert (Lab)	195.07
23	Journey Ford/Lincoln	Engine Oil, Transmission Oil (\$34), Air Filter, Oil Filter & Transmission Filter ('10 F150)	127.59
24	Kuhn, Richard	Novato "Cash for Grass" Program	400.00
25		Vision Reimbursement	330.50
26	Marin Landscape Materials	Tarps for Mixing Concrete (4) (\$91) & Concrete (1/2 yd)	184.21
27	McLellan, WK	Night Paving (DeLong @ Machin) (\$24,263) & Misc Paving (\$5,860)	30,123.41
28	North Marin Auto Parts	Oil Filters (6) (\$34), Air Filters (5) (\$80), Gasket Material, Toggle Switch, Cabin Air Filters (3) (\$30), Motor Oil (8qts) (\$54), Spark Plugs (12) (\$78), Wire Plug, Fuse Holder, Air Hose (3/8" x 25'), Primer, Spray Paint & Wiper Blades	439.21
29	North Bay Gas	Carbon Dioxide (\$65), Nitrogen (\$457) (STP) & July Cylinder Rental (\$117)	639.70
30	Novato, City of	Street Excavation Moratorium Fee for Work at 128 Rockrose Way	500.00
31	Novato Sanitary District	Recycled Water June 2014	10,623.39

Seq	Payable To	For	Amount
32	Novato Chevrolet	Ignition Lock Cylinder Assembly ('04 Chevy Silverado) (\$102), Steering Column Cover ('04 Chev Silverado) (\$76), Blower Motor Resistor & Repair Connector (\$145) ('04 Chevy Silverado), Air Filters (2), Oil Filters (2), Motor Oil (6 qts), Blower Motor Relay, Fan Blower Resistor & Pigtail, Evaporation Vent, Solenoid, Canister Vent (\$158) ('06 Chevy Colorado) & Vapor Canister	772.51
33	Novato Police Dept	Telephone Answering Service (May-July)	600.00
34	Office Depot	Binders (15) & Classification Folders (5)	59.95
35	O'Reilly Auto Parts	Car Wash, All- Purpose Cleaner, Anti-Freeze (\$124) (1 gal) & Brake Cleaner	225.28
36	Pace Supply	Valve Gates (3), Elbow (\$127), Nipples (8) (\$197), Unions (23) (\$250), Hydrant (\$298) & Couplings (2)	2,084.01
37	PG&E	Power: Bldgs/Yard (\$4,186), Rectifier/Controls (\$456), Pumping (\$33,534), Less Credit for Annual True-Up of STP Solar Facility Production (\$6,499) & Other (\$221)	31,897.90
38	Pini Hardware	Light Bulbs (STP), P-Trap (Office), Unions (2), Elbow, Hex Key, Clamps (3), Masking Tape, 2 Gallon Buckets (101), Silicone Sealer, Pipe 'O' Ring, Vinegar, Bolt, Chain, Extension Cord Plug, Square Point Shovels (18) (\$282), Motion Ceiling Light (Vault), Utility Knife Blades, Steel Wool, Drill Bit & Key	826.77
39	Protection Engineering	Polyguard Primer (16 qts)	345.31
40	Puccinellil, Henry	Novato "Toilet Rebate" Program	200.00
41	Roth, Capri	Novato "Washer Rebate" Program	50.00
42	Scott Technology Group	Quarterly Maintenance on Engineering Copier (4/16-7/15/14)	560.39
43	Senior, Richard	Novato "Cash for Grass" Program	400.00
44	Sequoia Safety Supply	Brief Relief Urine Bags (100) (\$231) & Safety Gloves (200)	270.54
45	Shirrell Consulting Services	Dental Insurance Admin Fee	288.15

Seq	Payable To	For	Amount
46	Shirrell Consulting Services	July Dental Expense	6,583.00
47	Sierra Chemical	Chlorine (2 tons) (STP)	1,013.33
48	Smith, Anna	Novato "Toilet Rebate" Program & Refund Alternative Compliance Reg 15 Deposit (\$630)	830.00
49		Vision Reimbursement	450.00
50		Cafeteria Plan: Uninsured Medical Reimbursement	146.70
51	Thomas Scientific	Pipet Tips (1,000)	33.98
52	Tim, Kimmeean	Novato "Cash for Grass" Program	400.00
53	Underground Service Alert	Annual Membership (7/1/14-6/30/15) (Arendell) (Budget \$910)	884.64
54	Univar	Caustic Soda (24,767 lbs)	5,453.58
55	Van Bebber Bros	Steel Floor Plate ('02 Dump Truck)	158.78
56	Verizon California	Telephone Charges: Leased Lines	876.41
57	Verizon Wireless	Cellular Charges: Data (\$108) & Airtime (\$136)	243.99
58	West Marin Citizen	Subscription Renewal (8/14-8/15) (Budget \$70)	64.00
TOTAL DISBURSEMENTS			<u>\$342,248.08</u>

The foregoing payroll and accounts payable vouchers totaling \$342,248.08 are hereby approved and authorized for payment.



Auditor-Controller

8/12/14

Date



General Manager

8/12/2014

Date

DISBURSEMENTS - DATED AUGUST 7, 2014

Date Prepared: 8/5/14

The following demands made against the District are listed for approval and authorization for payment in accordance with Section 31302 of the California Water Code, being a part of the California Water District Law:

Seq	Payable To	For	Amount
EFT*	US Bank	July Credit Card Fees	\$1,855.99
1	Arendell, Tony	Exp Reimb: D3 Exam Fee	100.00
2	AT&T	July Internet Service @ PRTP	70.00
3	Baker, Jack	July Director's Fee	200.00
4	Bonino, Anthony	Novato "Cash for Grass" Program	400.00
5	Brown, Richard	Novato "Washer Rebate" Program	50.00
6	CAD Masters	Installation & Configuration of AutoCAD (7 PC's)	1,000.00
7	Calpico	Wrap Around End Seals (2)	183.12
8	Checchi, Robert	Novato "Cash for Grass" Program	325.00
9	Cooperman, Jane	Novato "Washer Rebate" Program	50.00
10	CSW/Stuber-Stroeh Engineering	Engineering Services - Marin Sonoma Narrows AEEP (Balance Remaining on Contract \$38,019)	35,216.65
11	CT Promotions	Rubber Ducks w/NMWD logo for 4th of July Parade Promotional Give-A-Way (300)	981.00
12	Cummings Trucking	Sand (97 yds) (\$5,026) & Rock (65 yds) (\$2,406)	7,432.52
13	DeGabriele, Chris	Exp Reimb: July Mileage	610.20
14	Environmental Express	Sample Cups (1,000) (Lab)	49.04
15	Ewing, Cindy	Novato "Toilet Rebate" Program	300.00
16		Cafeteria Plan: Uninsured Medical Reimbursement	520.00
17	Fraites, Rick	July Director's Fee (\$200) & North Bay Watershed Association Meeting on 7/11/14	400.00

Seq	Payable To	For	Amount
18	Franchise Tax Board	Payment of Employee Delinquent Income Tax (Payment 2 of 2)	314.27
19	Golden Gate Petroleum	Gasoline (\$3.82/gal) & Diesel (\$3.83/gal)	2,995.64
20	Grainger	Intrusion Switches (6) (\$271), Light Bulb for Pump Panel Indicator, Degreaser (5) (STP) & 1 1/2" Fire Hose Nozzle (3) (\$54)	360.60
21		Cafeteria Plan: Uninsured Medical Reimbursement	2,062.00
22	Harrington Industrial Plastics	1/4" Tubing (200) & 1/2" Bushing (2)	92.26
23	Harris and Associates	Perform Pipeline Inspection & Testing for AEEP Project (Balance Remaining on Contract \$18,672)	865.50
24	Hertz Equipment Rental	Excavator & Bucket Rental (\$818) & Damage Charge to Dump Truck Rental (\$1,967)	2,785.66
25	Jim-n-i Rentals	16' I-Beam Rental for Shoring (6/10-7/9/14)	171.68
26	Kaiser Foundation Health Plan	Pre-Employment Physical (Ochoa & Moretti)	130.00
27		Unreimbursed Medical Reimbursement	119.00
28	Kemira Water Solutions	Ferric Chloride (10 dry tons) (STP)	5,340.60
29	Landeros, Dianne	Exp Reimb: Baywork Meeting in San Francisco on 7/31/14. Mileage (\$35), Bridge Toll (\$7) & Parking (\$10)	52.28
30	LGVSD	Recycled Water Deliveries (4/1-6/30/14)	18,277.08
31	Lyon, Stephen	Novato "Washer Rebate" Program	50.00
32	Maltby Electric	Electrical Supplies	310.59
33	McLellan, WK	Grind & Pave Inn Marin Parking Lot (1,740 S.F.) (\$14,285) & Misc Paving (650 S.F.) (Novato Area)	19,305.43
34	Meadows, Georgia	Novato "Washer Rebate" Program	50.00
35	Miller Pacific Engineering	Engineering Services: Gallagher Well Pipeline (Balance Remaining on Contract \$57,652)	800.00
36	Novato Builders Supply	Stakes (60), Flashing & Concrete (\$207) (1 yd)	264.83

Seq	Payable To	For	Amount
37	Novato Lock	Install Trim Hardware (Front Door Yard Building)	217.15
38	Office Depot	Notepads (48), Dust Spray (12) (\$44), Pens (144) (\$124), Paperclips, Envelopes (200), Post-its (26), Binders (3), Shipping Labels (1,000), Desk Chair (\$288) (Williamson), File Folders (600) (\$39), Card Stock (750), Scotch Tape (10), Rubberbands, Recycle Bin, Wrist Rest, Scissors (4), Sheet Protectors (200), Dry Erase Pens (16) & Table of Contents Dividers (28) (\$253)	1,151.99
39	Pace Supply	Neck Track Bolts (6) (\$211), Meter Gaskets (210), Nipples (23) (\$168), Elbows (2), Bushings (6) (\$24), Couplings (125) (\$2,246), Plugs (32) (\$81), Reducers (18) (\$184), Corp Stops (15) (\$670), Meter Adaptors (120) (\$1,275), Unions (4), Valves (23) (\$3,781), Clamps (6), Fire Hydrants (3) (\$4,224) & Hydrant Extension	14,426.40
40	Petterle, Stephen	July Director's Fee	200.00
41	Protection Engineering	Anodes (200-4lb) (\$4,251), (100-12lb) (\$4,855), Primer (15) (\$323) & Coal Tar Tape (32) (\$1,059)	10,489.64
42		Cafeteria Plan: Childcare Reimbursement	208.33
43	Reeder, Ronald	Novato "Washer Rebate" Program	50.00
44	Rodoni, Dennis	July Director's Fee	200.00
45	Samadani, Ali	Novato "Washer Rebate" Program	50.00
46	Sanz, Eloy	Novato "Cash for Grass" Program	400.00
47	Schoonover, John	July Director's Fee Less Deferred (\$150) & NBWRA Meeting 7/28/14 (\$200)	350.00
48	Sequoia Safety Supply	Leather Gloves (48) (\$283), Safety Gloves (200), Ibuprofen (100), Respirator Test Kit (\$306), Safety Glasses (24) (\$81) & Sweat Bands (24)	743.82
49	Shamrock Materials	Controlled Density Fill (Balance Remaining on Contract \$420)	1,682.96
50	Shell Fleet Card	Gas for Tools	17.00

Seq	Payable To	For	Amount
51	US Geological Survey	1/3 Share FY15 Gallagher Stream Gauge Maintenance	7,525.00
52	Verizon California	Telephone Charges: DSL Line	49.03
53	Verizon Wireless	June CIMIS Station Data Transfer Fee	25.99
54	VWR International	Ampoules (20) (Lab)	245.51
		TOTAL DISBURSEMENTS	<u>\$142,123.76</u>

The foregoing payroll and accounts payable vouchers totaling \$142,123.76 are hereby approved and authorized for payment.

 _____
 Auditor-Controller Date 8/4/14

 _____
 General Manager Date 8/4/2014

DISBURSEMENTS - DATED JULY 31, 2014

Date Prepared: 7/29/14

The following demands made against the District are listed for approval and authorization for payment in accordance with Section 31302 of the California Water Code, being a part of the California Water District Law:

Seq	Payable To	For	Amount
1	Alpha Analytical Labs	Lab Testing	598.00
2	American Family Life Ins	August Employee Contribution for Accident, Disability and Cancer Insurance	4,390.89
3	American Water Works Assoc	Annual Dues (Chandrasekera) (8/1-7/31/15) (Budget \$250)	244.00
4	Anderson, Crystal	Novato "Toilet Rebate" Program	100.00
5	Athens Administrators	August Workers' Comp Admin Fee	1,000.00
6	Backflow Distributors	DCDA Repair Parts	460.41
7	Barrett, James	Novato "Toilet Rebate" Program	300.00
8	San Jose Water Co. FBO Baywork	Annual Fee FY15 (Budget \$650)	695.00
9	Bold & Polisner	June Legal Services: AEEP Caltrans Reimb-B1 (\$19), AEEP Caltrans Reimb B-3 (\$21), Atherton Tank Recoat (\$19), Rate Increase (\$54), RW So Phs 1b Claims (\$37), SCWA (\$111)	259.50
10	Borges & Mahoney	Diaphragm (STP)	356.75
11	Boyett, Rebecca	Novato "Cash for Grass" Program	400.00
12	California Department of Public Health	Water Distribution (D3) Application Fee (Jennison)	90.00
13	California State Disbursement	Wage Assignment Order	1,018.50
14	CalPERS	Health Insurance Premium (Employees \$52,271, Retirees \$10,107, Employee Contrib \$9,860)	72,238.49
15	C.J. Welding	Welding-Hannah Ranch	1,200.00
16	Core Utilities, Inc	Consulting Services: June IT Support Radio Telemetry (\$1,325), Reprogram Trumbull, Center & Wildhorse RTU'S, Program Replacement RTU for Tahiti Lift Station, SCADA troubleshooting, Debug Core Billing Program Lockbox Impact File, Online Credit Card Payment	13,500.00

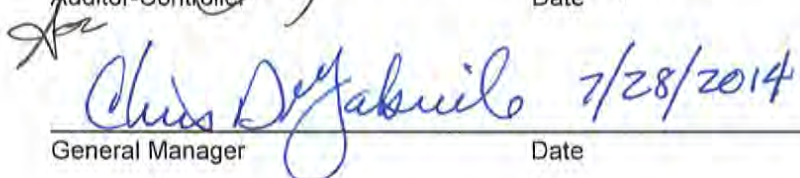
Seq	Payable To	For	Amount
17	CPI International	Zinc Lamp (Lab)	437.85
18	DeGabriele, Chris	Exp Reimb: Annual Dues for Rotary	175.00
19	Edwards, Patricia	Novato "Toilet Rebate" Program	100.00
20	Fong, Cindy	Novato "Washer Rebate" Program	50.00
21	Gallotti, Denis	Novato "Washer Rebate" Program	50.00
22	GFS Chemicals Inc.	Turbidity Standard (STP)	340.68
23	Ghilotti Construction	Construct AEEP Reaches A-D/MSN B3 Pipeline Project (Balance Remaining on Contract \$11,579,637)	517,731.00
24	Golden Gate Bridge Toll	Bridge Toll (Mello) (End Caps for Roblar Smart Crossing)	7.00
25	Grainger	Tape Measures (2), Cable Ties (6), Gas Pump Repair Kit, Safety Chain Hooks (\$198) (2), Blower Vent Cap, Hard Hats (7), 18" Breaker Bar, Intrusion Switch Wire (500')	1,030.65
26	Gutierrez, Rene	Novato "Cash for Grass" Program	385.00
27	Hach Co.	Annual Service Contract for Hach Equipment (STP)	17,660.00
28	Hensley, Melissa	Refund Alternative Compliance Reg 15 Deposit	630.00
29	Hertz Equipment Rental	Excavator & Bucket Rental (\$3,508), Storage Tank Rental (\$1,068)	4,575.82
30	InfoSend, Inc.	June Processing Fee for Water Bills (\$1,363) & Postage (\$3,943)	5,305.64
31	Janney, Dianne	Novato "Cash for Grass" Program	175.00
32	Jim-n-i Rentals	Shield & Plate Rental (6/3-7/7), Steel Plate Rental (1 month)	2,543.41
33	Lab Support	Temporary Staffing During Pregnancy Leave of Chemist II (Balance Remaining on Contract \$8,127)	1,522.50
34	Lincoln Life	Deferred Compensation PPE 7/31/14	12,920.87
35	Lynch, Winifred	Novato "Cash for Grass" Program	200.00
36	McLellan Co, WK	Compaction Testing (Calle de la Selva)	1,266.86
37	Drew McIntyre	Exp Reimb: May - June 2014 Mileage	177.52

Seq	Payable To	For	Amount
38	McMaster-Carr Supply Co	Breaker Bar, Wire Splices (5), Lock Nuts (6)	121.08
39	MegaPath	DSL Internet (7/12-8/11/14)	142.88
40	Mengarelli, John	Refund Overpayment on Open Account	79.14
41	Mutual of Omaha	August Group Life Insurance Premium	710.43
42	Nationwide Retirement Solution	Deferred Compensation PPE 7/31/14	1,025.00
43	Neopost USA Inc.	Quarterly Postal Meter Rental (8/1-10/31/14)	223.18
44	New Pig Corporation	Handy Pads (10" x 13") (300)	214.09
45	Novato Toyota	Water Pump (\$70), V-Belts, Transmission Filter, Oil Filter	145.93
46	Novato Disposal Service	June Trash Removal	419.94
47	Novato Disposal Service Inc	Commercial "Toilet Rebate" Program	400.00
48	On Line Resource Corporation	Refund Overpayment on Closed Account	57.47
49	Pacific Coast Cutters	Core Drill 4 Holes	465.50
50	Parkinson Accounting Systems	Quarterly Accounting Software Support (8/1-10/31/14) Sage Client Care Annual Fee (Budget \$7,370)	7,640.96
51	Pemintel, Hugo	Novato "Cash for Grass" Program	270.00
52	NMWD Petty Cash	Petty Cash Reimbursement	95.80
53	Point Reyes Light	Legal Notice: Regarding Public Meeting to Discuss Budget & Rate Increase (6/24/14)	45.50
54	Reed, Corey	Exp Reimb: Exam and Certification Fee for Water Distribution Grade 3	190.00
55	Rempe, Zac	Novato "Washer Rebate" Program	50.00
56	Sarubbi, Frank	Novato "Toilet Rebate" Program	200.00
57	Sebastopol Bearing & Hydraulic	Hose, Fittings, & Labor to Make Hydraulic Hoses, Air Compressor Hose Fittings	606.10
58	Shannon, Joan	Novato "Toilet Rebate" Program	100.00
59	Silverman, LJ	Refund security deposit on hydrant meter less final bill	704.23
60	Singh, Prabh	Novato "Washer Rebate" Program	50.00
61	Sonoma County Water Agency	June Contract Water	728,987.56

Seq	Payable To	For	Amount
62	SPG Solar	Energy Delivered Under Solar Services Agreement	14,188.88
63		Vision Reimbursement	120.00
64	Strahm Communications	Postage for Novato Summer Waterline (18,300)	3,111.00
65	Syar Industries Inc	Asphalt (6.22 tons)	760.85
66	Team Ghilotti	Construct Gallagher Well Pipeline Project (Balance Remaining on Contract \$999,108)	38,712.50
67	Thomas, William	Novato "Toilet Rebate" Program	100.00
68	United Parcel Service	Delivery Service: Returned Lab Coat	12.80
69	U.S. Bank	Tags for Numbering Fire Hydrants (200) (\$101), Toilet Leak Detection Liquid (12) (\$129), Chair Repair Parts) (\$28) (Solar), Printer Drum Unit (\$120) (Cons Svc), Eng Spec Book (\$47), Outlook Class (\$149) (Young), Wastewater System Operator & Maint Course (\$110) (Garrett), Power Adaptor (\$12) (Stompe), Stereo Headphones (2) (\$36) (Cons Svc), Candy & Decorations for 4th of July Parade (\$109), Monitors (2) (Const & Backup) (\$255), Replacement Port Switch (2,042) (Stompe), Controlling Chaos Seminar (\$399) (Young), Fuel, Lunch & Lodging ACWA Conf (DeGabriele) (\$331)	3,869.69
70	Vali Cooper & Associates	Construction Management Services for AEEP Reaches A-D MSN B3 Project (Balance Remaining on Contract \$1,133,598)	60,494.58
71	Verizon California	Telephone Charges: Leased Lines	359.46
72	Welch, William	Novato "Cash for Grass" Program	175.00
		TOTAL DISBURSEMENTS	<u>\$1,528,985.89</u>

The foregoing payroll and accounts payable vouchers totaling \$1,528,985.89 are hereby approved and authorized for payment.


 Auditor-Controller 7/28/14
 Date


 General Manager 7/28/2014
 Date

MEMORANDUM

To: Board of Directors

August 15, 2014

From: Nancy Williamson, Senior Accountant

Subj: Information – FY14 4th Quarter Labor Cost Report

t:\aclword\memo\14\4thqtr labor cost rpt.doc

RECOMMENDED ACTION: Information Only

FINANCIAL IMPACT: None

Attached in graphical format is a five-year comparative summary of total labor cost (Attachment A), overtime cost (Attachment B) and temporary employee cost (Attachment C) expended during each fiscal year. Also attached is a summary of total labor cost vs. budget (Attachment D), which shows that labor cost came in 3.6% under budget for the fiscal year. Total labor cost increased \$152,435 (2.3%) from the prior year.

Department	Increase / (Decrease) in Labor Cost vs prior FY	% Change
Administration	(\$22,037)	(1.3%)
Engineering	\$53,432	4.3%
Operations/Maint	\$18,379	0.8%
Construction/Maint	\$102,661	8.7%
Net Increase/(Decrease)	\$152,435	2.3%

Comment on Change from Prior Year

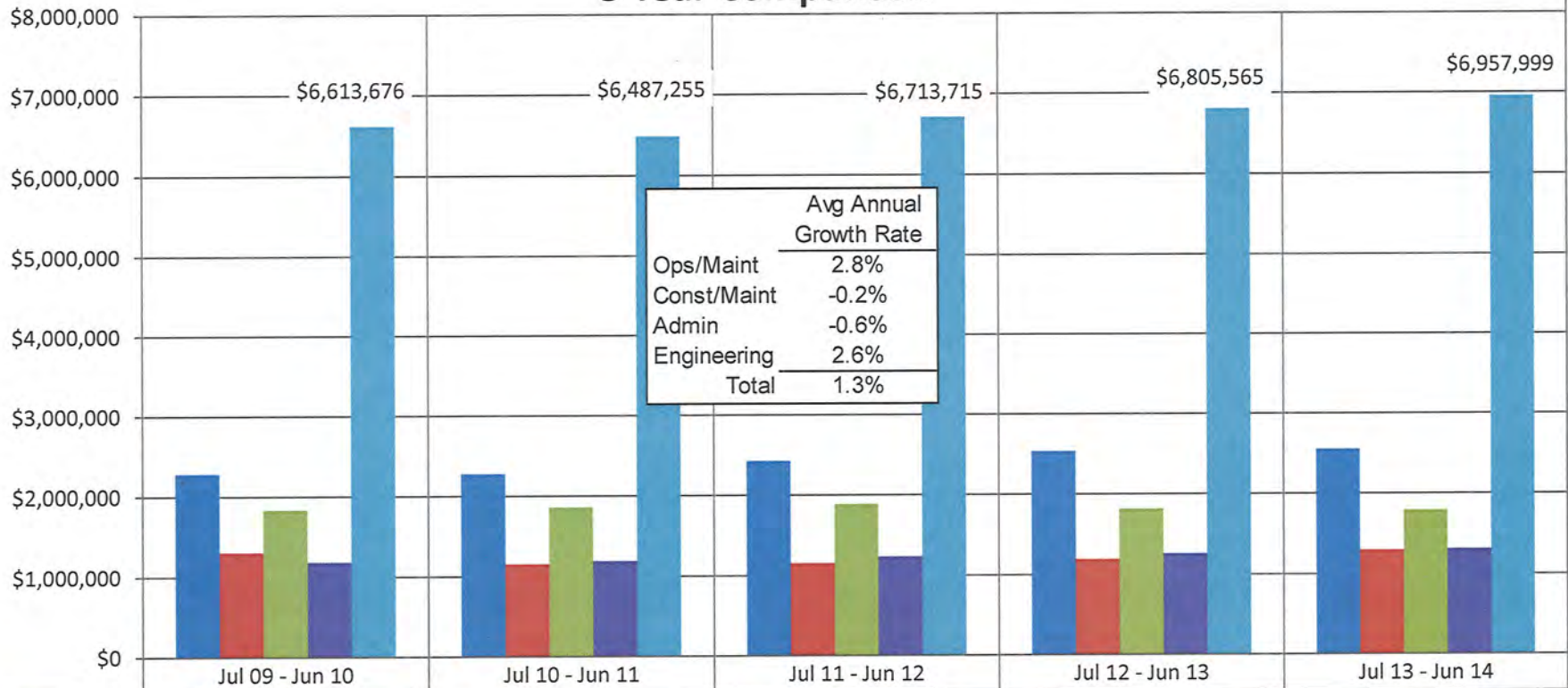
Administration: Labor Cost decreased \$22,037, or 1.3%. The decrease is primarily due to the retirement of Renee Roberts on December 28, 2012 and that position being combined with the Administrative Assistant position, as well as the elimination of an Accounting/Credit Clerk position with Mary Ann Dowden's November 30, 2012 retirement. This decrease was offset by a 1.76% COLA effective 10/1/13, three step-increases, and an increase in the use of temporary labor and overtime to cover for Darrell Bynum's 3-month absence and Miguel Venegas' 1-month absence.

Engineering: Labor Cost increased \$53,432, or 4.3%. The increase is primarily due to a 1.76% COLA effective 10/1/13 accompanied by a 9.3% spot adjustment granted the Chief Engineer.

Operations/Maintenance: Labor Cost increased \$18,379, or 0.8%. The increase is primarily due to five step-increases, the aforesaid 1.76% COLA, and an increase in both temporary labor and overtime expense. The increase is offset by a decrease of 1,715 hours (4%) worked which includes a 580 hour increase in leave time taken compared to the prior year.

Construction/Maintenance: Labor Cost increased \$102,661, or 8.7%. The increase is due to six step-increases, the 1.76% COLA, and by an increase of 680 hours (3%) worked (via employment of two seasonal temps (197 hour increase) as well as a 300 hour reduction in the amount of leave time taken compared to the prior year.

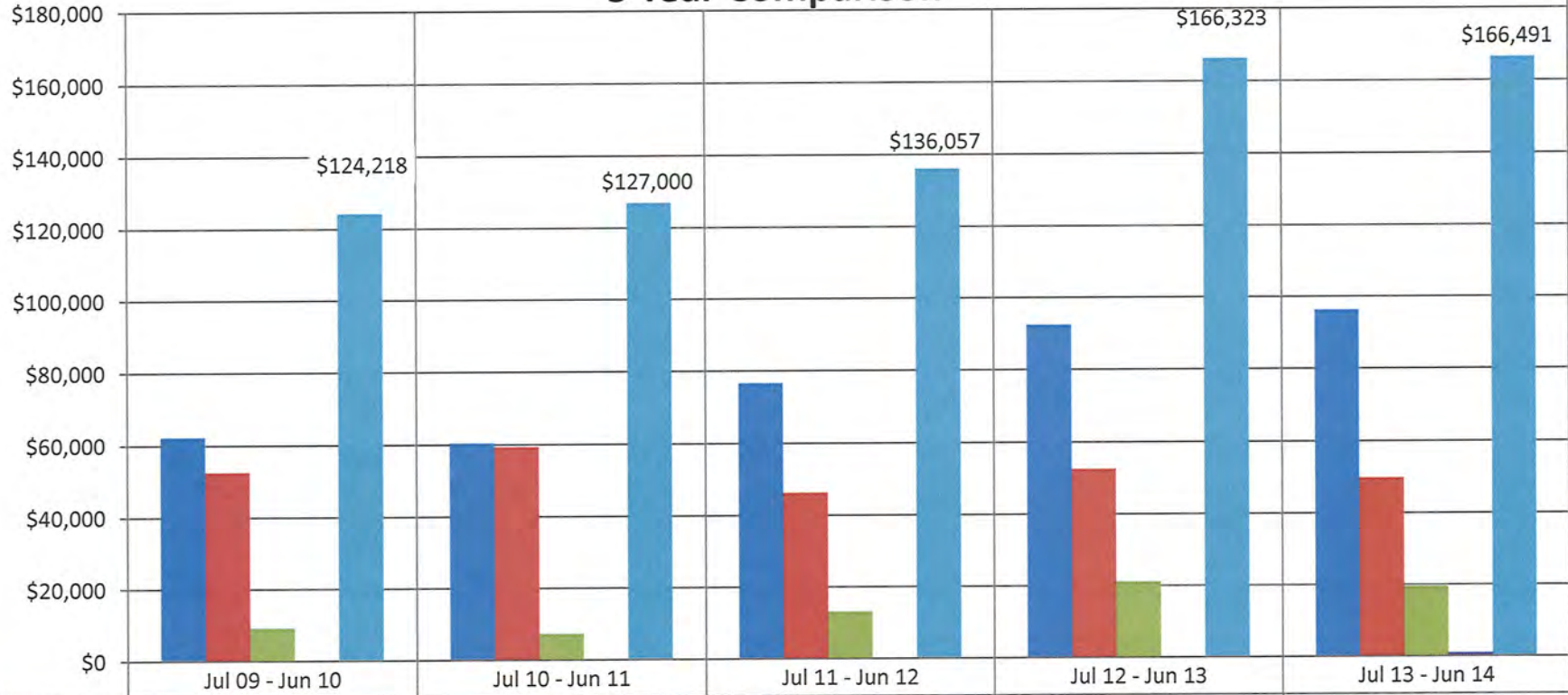
Total Labor Cost NMWD Fiscal Year through June 5 Year Comparison



	Jul 09 - Jun 10	Jul 10 - Jun 11	Jul 11 - Jun 12	Jul 12 - Jun 13	Jul 13 - Jun 14
Ops/Maint	\$2,281,978	\$2,274,887	\$2,426,908	\$2,534,618	\$2,552,997
Const/Maint	\$1,307,763	\$1,156,371	\$1,157,209	\$1,193,557	\$1,296,218
Admin	\$1,836,419	\$1,863,137	\$1,891,870	\$1,817,366	\$1,795,329
Eng	\$1,187,516	\$1,192,859	\$1,237,729	\$1,260,023	\$1,313,455
Total	\$6,613,676	\$6,487,255	\$6,713,715	\$6,805,565	\$6,957,999

■ Ops/Maint
 ■ Const/Maint
 ■ Admin
 ■ Eng
 ■ Total

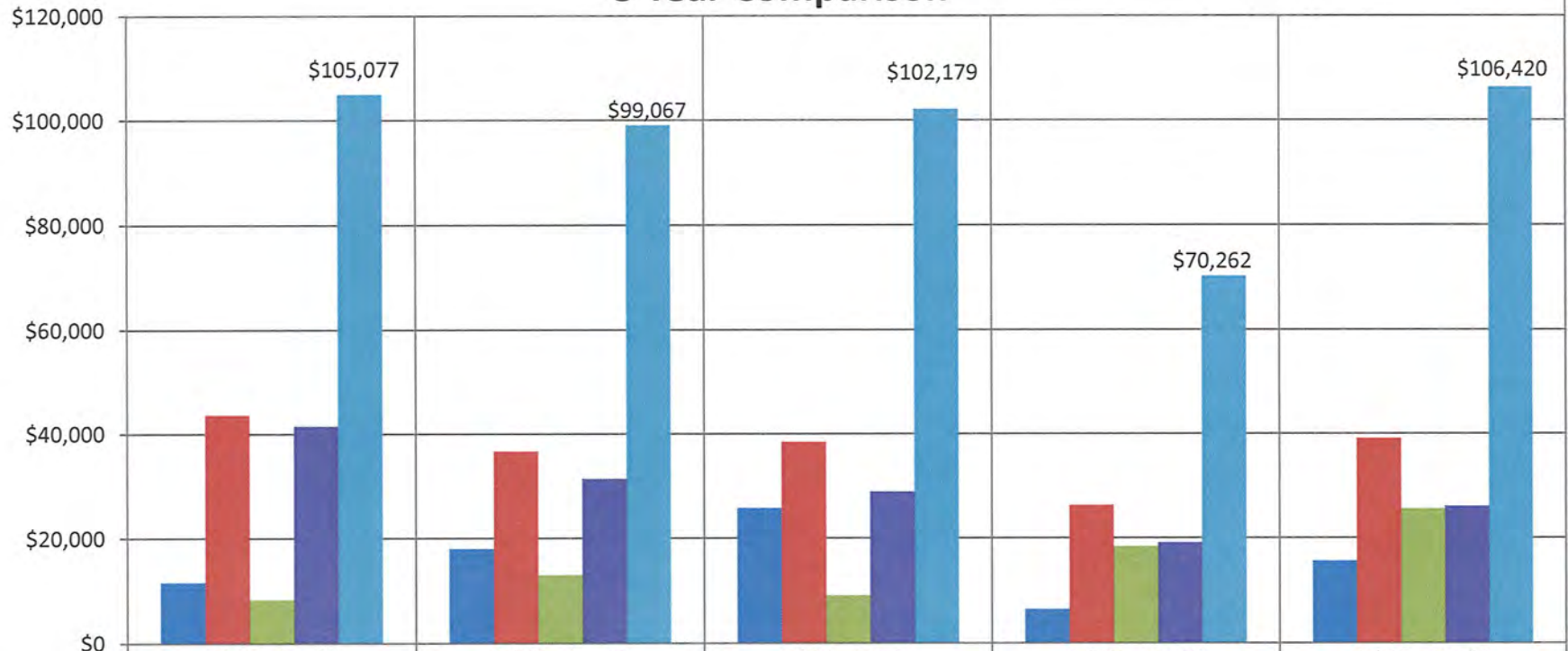
Overtime Cost NMWD Fiscal Year through June 5 Year Comparison



Ops/Maint	\$62,198	\$60,403	\$76,622	\$92,415	\$96,286
Const/Maint	\$52,498	\$59,294	\$46,281	\$52,549	\$49,747
Admin	\$9,275	\$7,303	\$13,155	\$21,141	\$19,549
Eng	\$248			\$219	\$910
Total	\$124,218	\$127,000	\$136,057	\$166,323	\$166,491

■ Ops/Maint
 ■ Const/Maint
 ■ Admin
 ■ Eng
 ■ Total

Temporary Employee Cost NMWD Fiscal Year through June 5 Year Comparison



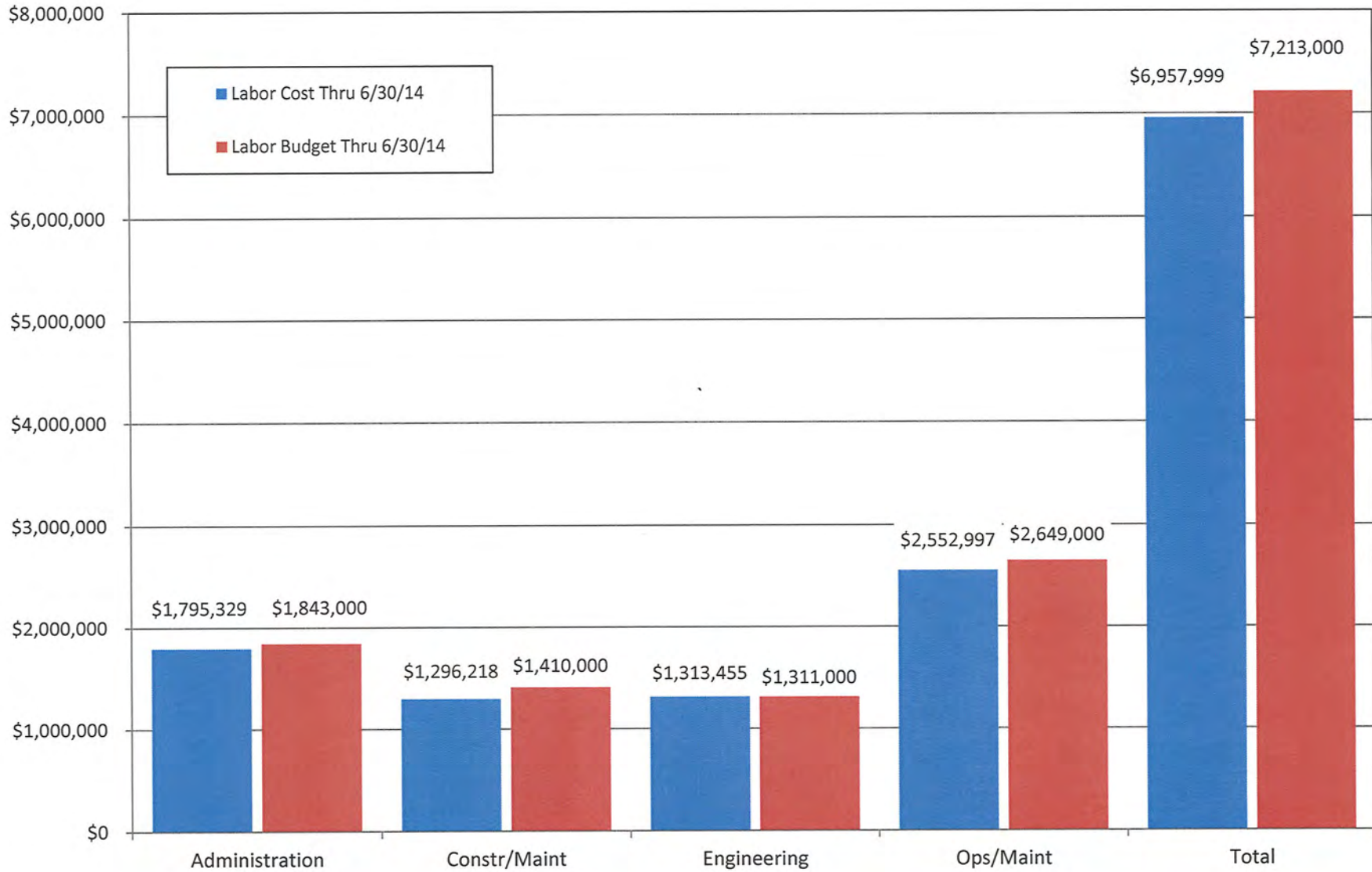
	Jul 09 - Jun 10	Jul 10 - Jun 11	Jul 11 - Jun 12	Jul 12 - Jun 13	Jul 13 - Jun 14
Ops/Maint	\$11,638	\$18,005	\$25,766	\$6,462	\$15,645
Const/Maint	\$43,591	\$36,640	\$38,419	\$26,257	\$39,109
Admin	\$8,358	\$13,035	\$9,119	\$18,405	\$25,606
Eng	\$41,490	\$31,387	\$28,875	\$19,139	\$26,061
Total	\$105,077	\$99,067	\$102,179	\$70,262	\$106,420

■ Ops/Maint
 ■ Const/Maint
 ■ Admin
 ■ Eng
 ■ Total

8/15/14

t:\finance\hrs\pt\labor cost compared to budget fy14\salary chart.xls

Total Labor Cost vs. Budget NMWD Fiscal year through June



MEMORANDUM

To: Board of Directors

August 15, 2014

From: David L. Bentley, Auditor-Controller

Subj: Self-Insured Workers' Comp – 4th Quarter Status Report
t:\acl\word\personnel\wc\self ins status 0614.docx

RECOMMENDED ACTION: None

FINANCIAL IMPACT: Cumulative Cash Outlay Avoided of \$425,797

The District returned to self-insuring its workers compensation liability effective July 1, 2011, after the low-cost proposal for first-dollar workers' compensation coverage increased 20% over the prior year, to \$159,331. The avoided-cost in FY12, FY13 and FY14 from self-insuring is calculated at \$412,791. In FY14, the District incurred four claims, three of which are closed.

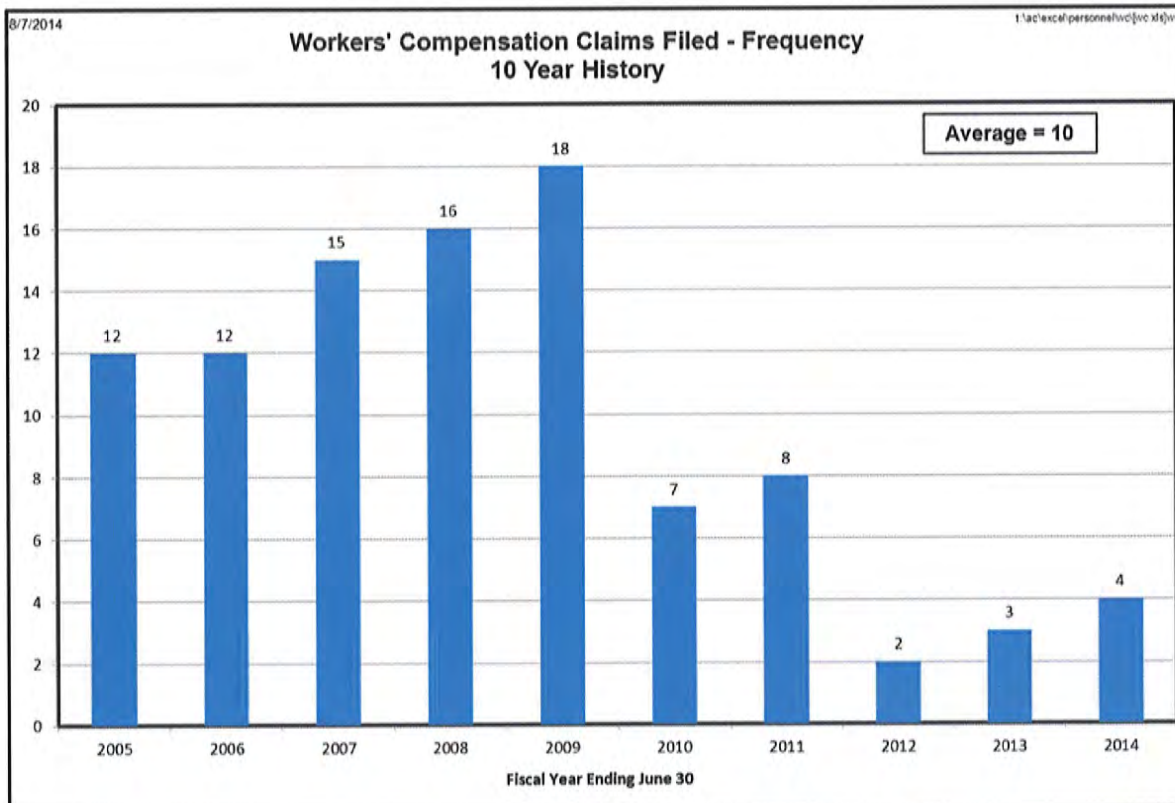
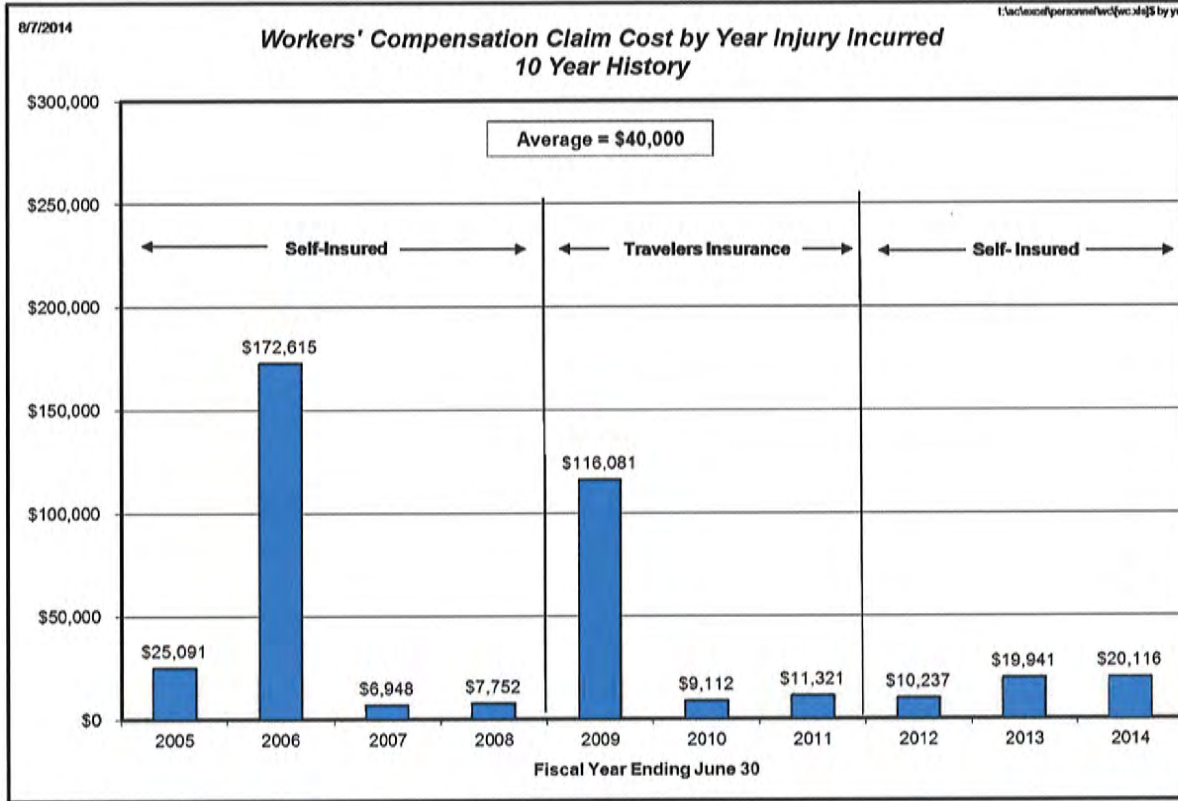
Cumulative cost avoided for the first three years of self-insurance total \$412,791. When the Reserve for Future Medical (which is money not yet paid out) is added, the total cash outlay avoided to date is \$425,797. This money is set-aside in a reserve for future claims.

Attached are charts showing a 10-year history of annual claims cost (average \$40,000 per year) and 10-year history of claims frequency (average 10 claims per year).

	FY12	FY13	FY14	Cumulative
Premium Avoided	\$159,331	\$170,574	\$311,764 ¹	\$641,669
Self-Insurance Cost				
Medical/Indemnity Cost	(10,237)	(19,941)	(20,116)	(50,294)
Third Party Administration	(12,000)	(12,000)	(12,000)	(36,000)
Excess Insurance Premium	(45,546)	(47,762)	(49,276)	(142,584)
Legal/Miscellaneous	0	0	0	0
Net Cost Avoided	\$91,548	\$90,871	230,372	\$412,791
Reserve for Future Medical	0	0	13,006	13,006 ²
Total Cash Outlay Avoided	\$91,548	\$90,871	\$243,378	\$425,797

¹ Chartis Insurance proposed \$311,764. State Compensation Insurance Fund proposed \$317,190.

² Reserve for Future Medical does not include Roberto Claim Reserve from FY05 in the amount of \$11,950.



Summary
North Marin Water District
Water Use Prohibitions for 2014 (Novato Service Area Only)

All current prohibitions and requirements are summarized below.

Water Waste Prohibitions

- Gutter flooding (unreasonable irrigation overspray or irrigation run-off onto pavement, down a gutter, ditch or other drain).
- Failure to repair a controllable leak of water within a reasonable time.
- Using water for non-recycling decorative fountains or single-pass cooling systems.
- Washing down exterior paved areas.
- Refilling a swimming pool drained after July 1, 2014.
- Washing privately-owned motor vehicles, trailers and boats except from a bucket and hose equipped with an automatic shut-off nozzle for a quick rinse.

Landscape Irrigation Requirements

- Watering of any lawn, garden, landscape area permitted only with drip irrigation or by hand with a container or hose with automatic shut off nozzle. Overhead sprinkler irrigation can be used if the customer maintains an overall 20% reduction in water use when compared to the same billing period in 2013. Customers using 300 gallons per day or less are permitted to use overhead sprinkler irrigation without the 20% reduction.
- Overhead sprinkler irrigation permitted only between the hours of 7:00 PM and 9:00 AM of the next day.

Violation Procedure

- 1) Customers in violation will receive a written or verbal warning and order that it be corrected immediately or within a specified time determined to be reasonable. Water service may be disconnected due to non-compliance with the order.
- 2) If water service is disconnected, a reconnection fee of \$50 shall be paid.
- 3) If that violation reoccurs water service may be disconnected again with a reconnection fee of \$75. Any water service that is disconnected twice shall be reconnected with a flow-restricting device and additional reconnection fee of \$100.

Variance Procedure

Applications for variance for any of the above may be made to the General Manager. The General Manager may grant a variance if reasonably necessary.

Questions or Comments

All customer questions and comments regarding the water use prohibitions for 2014 should be referred to the Water Conservation Hotline (415) 761-8944 or email at waterconserve@nmwd.com.

Summary
North Marin Water District
Water Use Prohibitions for 2014 (West Marin Service Area Only)

All current prohibitions and requirements are summarized below.

Water Waste Prohibitions

- Gutter flooding (unreasonable irrigation overspray or irrigation run-off onto pavement, down a gutter, ditch or other drain).
- Failure to repair a controllable leak of water within a reasonable time.
- Using water for non-recycling decorative fountains or single-pass cooling systems.
- Washing down exterior paved areas.
- Using water for dust control during construction.
- Refilling a swimming pool drained after July 1, 2014.
- Initial filling of a swimming pool after April 1, 2014.
- Non-residential use in excess of 75% of the amount used by that customer during the corresponding billing period in 2013.
- Washing privately-owned motor vehicles, trailers and boats except from a bucket and hose equipped with an automatic shut-off nozzle for a quick rinse.

Landscape Irrigation Requirements

- Watering of any lawn, garden, landscape area permitted only with drip irrigation or by hand with a container or hose with automatic shut off nozzle. Overhead sprinkler irrigation can be used if the customer maintains an overall 25% reduction in water use when compared to the same billing period in 2013. Customers using 200 gallons per day or less are permitted to use overhead sprinkler irrigation without the 25% reduction.
- Overhead sprinkler irrigation permitted only between the hours of 7:00 PM and 9:00 AM of the next day.

Violation Procedure

- 1) Customers in violation will receive a written or verbal warning and order that it be corrected immediately or within a specified time determined to be reasonable. Water service may be disconnected due to non-compliance with the order.
- 2) If water service is disconnected, a reconnection fee of \$50 shall be paid.
- 3) If that violation reoccurs water service may be disconnected again with a reconnection fee of \$75. Any water service that is disconnected twice shall be reconnected with a flow-restricting device and additional reconnection fee of \$100.

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Questions or Comments

All customer questions and comments regarding the water use prohibitions for 2014 should be referred to the Water Conservation Hotline (415) 761-8944 or email at waterconserve@nmwd.com.

cc: Crew Members
Personnel Files
BOD Misc (next mtg)

331 Grandview Avenue
Novato, CA 94945-3505

August 3, 2014

RECEIVED

AUG 05 2014

North Marin Water District

Chris DeGabriele
General Manager
North Marin Water District
999 Rush Creek Place
P.O. Box 146
Novato, CA 94948

Dear Chris:

Re: Recent NMWD Repair and Replacement Pipe to service at 331 Grandview

On July 11, 2014, around 8 am, I noticed water bubbling to the surface in the street in front of my house and water pouring down my property to my house, which is on a hillside and below the street. I immediately checked my meter box and noted that the dial was not moving but that the box was fast filling up with water and recognized that there was a break in the service line pipe to my water hook up.

I immediately called NMWD. It took three (3) attempts to reach a live person at NMWD, finally on the third try by pressing zero hoping to reach an operator. The operator answered promptly and I explained the problem and she immediately called on the radio to send a crew out to my house. Pete was there within 20 minutes, took charge and a crew showed up and temporarily repaired the pipe.

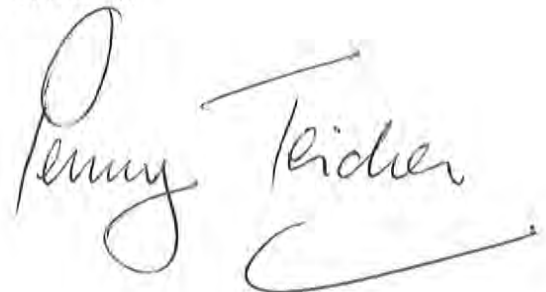
I was advised that the crew would be back to replace the pipe which they did on July 30 and 31.

I would like to thank your employees Pete, Shawn, Steve, Chris and Jose. They were prompt, pleasant, polite, courteous and patient with the difficulty working with traffic and narrow streets in Black Point.

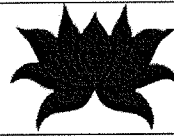
I am now awaiting the paving contractor and hoping that they do as satisfactory job as the crew at NMWD.

Thanks guys!

Sincerely,

A handwritten signature in cursive script that reads "Penny Teicher". The signature is written in black ink and is positioned below the word "Sincerely,".

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(http://www.marinij.com)

Weather:

OPINION (/OPINION)

San Rafael, CA | Now: 64°

(http://www.marinij.com/weather) | High: 79°

(http://www.marinij.com/weather) | Low: 55°

(http://www.marinij.com/weather) | 5-Day Forecast

(http://www.marinij.com/weather)

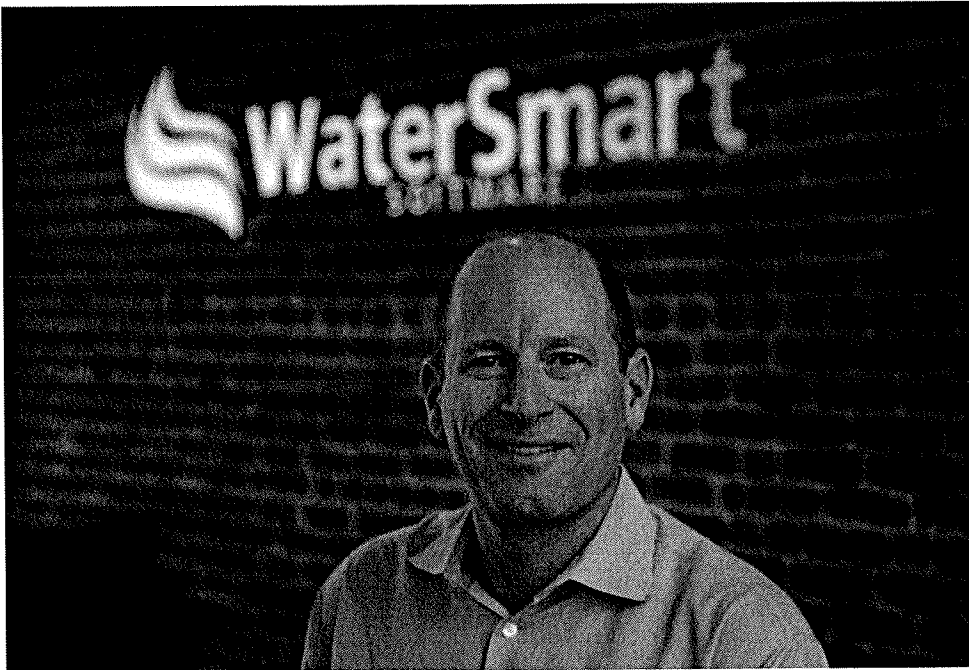
HOT TOPICS: [Hawaii storm weakens \(http://www.marinij.com/marinnews/ci_26299422\)](http://www.marinij.com/marinnews/ci_26299422)

Editorial: Marin Municipal Water District's 'smiley face' conservation program worth a look

Marin Independent Journal

POSTED: 08/07/2014 12:34:25 PM PDT

0 COMMENTS



<http://portal/article/html/imageDisplay.jsp?contentItemRelationshipId=6148441>

Peter Yolles, the founder and CEO of WaterSmart Software, speaks Tuesday afternoon, July 22, 2014, at the company's headquarters in San Francisco, Calif. (Karl Mondon/Bay Area News Group) (Karl Mondon)

If a smiley face can help conserve water, why not give it a try?

That's what managers at the Marin Municipal Water District figured when they launched a pilot program and invited 5,000 Marin water users to participate.

It's a simple concept. The customers who sign up will receive either by mail, email or text a message every couple months letting them know how they're faring in their efforts to conserve water.

They'll see personalized water usage data and a smiley face water-drop cartoon if they're doing well, a sad-looking drop if they could be doing better, and a neutral message if they're so-so.

Sounds corny?

Maybe, but it also seems to work.

The East Bay Municipal Utility District used the WaterSmart Software program — developed by Peter Yolles of Belvedere — with 10,000 customers last year. Households were given customized water-use reports that compared their water consumption to other houses of comparable size, along with recommendations on how to save.



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Happening Around Marin

News

News | News (<http://www.ktvu.com/news...>)

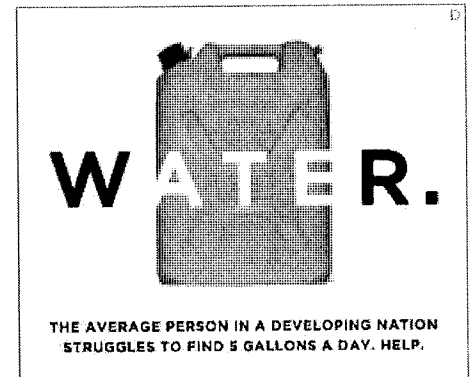
News quiz: World Cup winners; Emmy nominees

Think you're a news junkie? Test your knowledge of national and international headlines with these five questions.

Fun In Fairfax
@FunInFairfax

Gorgeous day @ Meadowlark Gardens
#fairfax (<https://twitter.com/search?>)

Crowdynows



The result: a 5 percent drop in water use. Water managers had been hoping for 2 percent.

"We know that people regularly underestimate how much water they use," said Andrea Pook of the East Bay district. "And the water bill isn't a hugely effective way for people to understand their use. The home water reports allow us to really target information."

MMWD customers' bills now show household water use over the course of a billing period on a bar chart that compares with the average use in their town.

But the WaterSmart program is more specific, with figures and comparisons tailored home by home, and relative to the immediate neighborhood.

"No two home water reports are alike," said Yolles, whose program is now being used by 15 water districts in four states. "The water-saving recommendations are specific to that specific house."

MMWD is spending \$49,000 on the yearlong pilot program, and water officials figure that could be money well spent. If it works, and if it's feasible to expand the program to include all district customers, the water savings could be dramatic.

Not that Marin residents aren't already doing their part.

MMWD customers have been asked to voluntarily cut back water use by 25 percent from the amount used last year. According to the agency's most recent figures, water customers had cut back 14 percent in the February-through-July period compared with the same period a year

Today's Promotion

There is already a much more significant reduction than water districts are seeing elsewhere in the state, which is averaging about a 5 percent

In the North Marin Water District, Novato customers have been asked to voluntarily reduce by 20 percent, and West Marin customers now face 25 percent mandatory cutbacks.

There have been dramatic savings: In Novato, water use dropped by 21 percent in the February-through-July period, and it dropped 25 percent in July alone.

Customers there can also see how they stack up in general terms; the district's website allows customers to view their water use history and see how it compares to water conservation goals.

But officials say they're also taking a look at the WaterSmart program because of how it can present specialized information to each home.

That concept is known as "behavioral water efficiency" — changing people's water conservation behavior by giving them the information they need to be most efficient.

Some might say the technique is designed to "shame" people into changing their behavior, but we don't see it that way. It's about giving customers information they can use to make a difference.

We look forward to seeing the results of MMWD's WaterSmart experiment.

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Marin water officials unfazed by downgraded El Niño predictions

By Paul Rogers

Bay Area News Group

POSTED: 08/07/2014 05:30:21 PM PDT

0 COMMENTS

A powerful El Niño that had been emerging in the Pacific Ocean is fizzling out — evaporating hopes it will deliver a knockout punch to California's three-year drought — but Marin officials say they aren't worried.

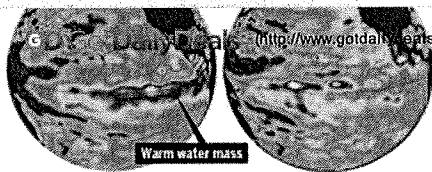
A new report from scientists at the National Oceanic and Atmospheric Administration decreases the probability of an El Niño — the condition that occurs when warm Pacific Ocean water at the equator affects the jet stream — to 65 percent starting in October, down from 82 percent in June.

More significantly, researchers said, the ocean water that had been warming steadily through the spring has cooled off in recent months. Most of the world's leading meteorological organizations now say that if an El Niño arrives this winter, it is likely to be a weak or moderate one — not the kind historically linked with wetter-than-normal winters in California.

El Niño fizzling?

In the spring, a large mass of warm water at the equator and west of South America brought hopes of a strong El Niño, which historically has increased chances for a wet winter in California. But now, much of that water is cooling.

Today's Promotion



Source: NASA, Jet Propulsion Laboratory

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El Niño (Bay Area News Group)

they were not concerned by the development, since reservoir levels remain safe and El Niño weather patterns don't always assure heavy rains in the winter.

"First of all, it's early. It's August," said Chris DeGabriele, general manager of the North Marin Water District. "Secondly, it's not always a great predictor of a really wet year or a really dry year, especially here in the Bay Area."

"It's fair to say that it's plateaued," said Michelle L'Heureux, a meteorologist with the NOAA

Climate Prediction Center in College Park, Maryland.

NORMAL RAINFALL

Water officials in Marin County said

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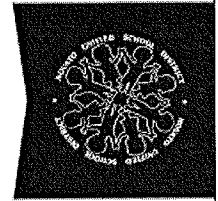
- [Marin water officials contemplate state proposal to slap fines on water wasters \(http://www.marinij.com/marinnews/ci_26142760/marin-water-officials-contemplate-state-proposal-slap-fines?source=pkq\)](http://www.marinij.com/marinnews/ci_26142760/marin-water-officials-contemplate-state-proposal-slap-fines?source=pkq)

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Even without a strong El Niño winter, Marin Municipal Water District engineer John LeHaye said it won't take an extraordinary rainy season to replenish Marin's water supply.

"Fortunately, (the water district) doesn't need well above normal precipitation to return our reservoir storage to normal levels," LeHaye said. "Anything approaching normal rainfall would ease our drought situation."

Because of the rain-gathering prowess of Mount Tamalpais, which helps collect water for the county's more southern reservoirs, Marin Municipal's water supply is at a safer level than North Marin's.

Marin Municipal's reservoirs are 70 percent of capacity, compared to an average of 77 percent at this time of year, said Marin Municipal spokeswoman Libby Pischel.

"It's below average, so it's on the lower side, but it's not extremely low," Pischel said. "There are parts of California that have much more serious issues."

CONSERVATION WORKING

North Marin's Lake Stafford is at 36 percent capacity. But more concerning are the low levels of North Marin's biggest water suppliers, the lakes along the Russian River. Lake Mendocino is at 34 percent capacity, while Lake Sonoma is at 66 percent capacity — which DeGabriele said is "ample water," but is at its lowest level in 25 years.

Both of Marin's water agencies said customers have responded well to voluntary cutbacks.

In Marin Municipal's territory, many water users are abiding by the suggested 25 percent reduction.

"Our customers are doing a good job conserving," Pischel said. "Consumption is down from last year, so we're happy to see that."

Water use in Novato, which is served by the North Marin district, dropped 21 percent from February to July — more than the 20 percent voluntary reduction suggested by the district.

North Marin's customers in West Marin, where a mandatory 25 percent reduction was implemented July 1, had only gone down 7.5 percent since February, officials said.

California could still have a wet winter to help fill depleted reservoirs, replenish streams and raise over-pumped water tables.

If a steady series of low-pressure systems develops off the Pacific coast later in the year, that could bring tropical storms dumping rain in large amounts. The trend, known as an "atmospheric river" or "Pineapple Express," has soaked the state in the past. But it has been all but shut down over the past three years as unusually persistent ridges of high pressure off the coast pushed winter storms north to Canada instead.

But the possibility that a strong El Niño won't be there to help is "not good news, especially if we are using El Niño as an optimism index. It's not what we want to see," said meteorologist Jan Null, with Golden Gate Weather Services in Saratoga.

"It's like in poker," he added. "If you have one fewer spade out there, the odds of getting that flush are less."

OCEAN WATER

(than what state says
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- Drought limits summer water releases from Mt. Tam reservoir
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- Pipeline over the Richmond-San Rafael Bridge eyed for Marin water supply
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May 21:

- Marin Municipal Water District holds off on easing conservation percentage
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- Panel explores drought's impacts on small business
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- Forum to air impact of drought on Marin's small businesses
http://www.marini.com/marinnews/ci_25654877/forum-air-impact-drought-marins-small-businesses?source=pkq

Apr 27:

- Some Marin residents answer to the drought: drill, baby, drill
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- Study links California drought to global warming
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Apr 10:

- Marin water crunch was eased by late winter, spring rains
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Generally speaking, the warmer the ocean water during El Niño years, the greater the likelihood of heavy winter rainfall. During mild El Niño years, when the ocean water is only slightly warmer than historic averages, there are just as many drier-than-average winters in California as soaking ones.

Since 1951, there have been six winters with strong El Niño conditions. In four of them, rainfall from the Bay Area to Bakersfield was at least 140 percent of the historic average, Null found.

But in the 16 winters since 1951 when there was a weak or moderate El Niño, California experienced below-normal rainfall in six of them. There was average rainfall in five and above-normal precipitation in the other five.

Thursday's NOAA report was based on ocean temperature readings from dozens of buoys, wind measurements, satellite images and more than a dozen computer models from scientific agencies around the world.

The last strong El Niño event, in the winter of 1997-98, saw Pacific surface temperatures 5 degrees warmer than normal at some times. That led to drenching rainfall across California, landslides that closed Highway 1 in Big Sur and 35 counties being declared disaster areas.

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[cuback adopted for Novato North Marin Water District customers](#)
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Mar 3:

- [A month of wet weather buoys Marin's reservoirs as new storm approaches](#)
http://www.marinij.com/marinnews/ci_25246719/heavy-storm-due-marin-monday-afternoon?source=pkq

Feb 28:

- [Heavy rain arrives in Marin and Bay Area, easing drought fears](#)
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Feb 24:

- [Rain this week, possible El Niño next winter](#)
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Feb 23:

- [Rain coming, drought staying](#)
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Feb 15:

- [California drought: Why is there no mandatory water rationing?](#)
http://www.marinij.com/marinnews/ci_25158774/california-drought-why-is-there-no-mandatory-water?source=pkq

Feb 10:

- [Rains buoy Marin reservoirs, help coho](#)
http://www.marinij.com/novato/ci_25108819/rains-buoy-marin-reservoirs-help-coho?source=pkq
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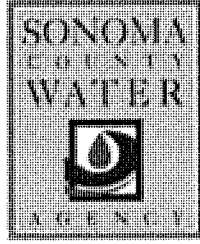
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Sonoma County Water Agency Press Release

For Immediate Release

August 14, 2014

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Community & Government Affairs Manager
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707.322.8192 (Cell)
sherwood@scwa.ca.gov

North Bay Water Suppliers Deploy New Water Management Tools in Response to Ongoing Drought

Santa Rosa, CA – North Bay drinking water suppliers, including the Sonoma County Water Agency (Water Agency), are moving forward with implementing new water supply management tools such as mandatory water conservation orders, innovative water conservation rebate programs for Russian River communities, seeking approval for adjusting Russian River in-stream flows to preserve storage in Lake Mendocino and Lake Sonoma, and participating in an outdoor water savings community event on August 23 in Santa Rosa. A new partnership with Scripps Institution of Oceanography has also kicked off to research the role of atmospheric rivers in the Russian River watershed. Due to three consecutive dry years, water storage levels in local reservoirs remain well below average, including Lake Mendocino at 34 percent and Lake Sonoma at 66 percent of water supply capacities.

“The drought continues to intensify across the State and North Bay. We have been closely monitoring water supply conditions in our two water supply reservoirs and have determined that additional drought response measures are needed to preserve storage for the coming fall and winter,” said Water Agency Director Efren Carrillo. “I am confident that with these additional measures our communities will continue to beat this drought and be prepared for another potential dry winter.”

Russian River In-Stream Flow Adjustment Sought:

Reservoir water storage modeling indicates that Lake Mendocino’s water storage will reach critical levels (20,000 acre-feet) by November if no significant storm events occur and adjustments are not made to how much water is released from the reservoir. Releases are needed to maintain in-stream flows and make up for diversions from the Russian River below Lake

Mendocino. In response to this data, the Water Agency and the Mendocino County Russian River Flood Control and Water Conservation Improvement District (District) have both filed Temporary Urgency Change Petitions with the State Water Resources Control Board (State) to immediately reduce Russian River minimum in-stream flow requirements and increase water conservation planning and requirements. If approved by the State this month, minimum in-stream flows could be adjusted to 50 cubic-feet-per-second (cfs) from 75 cfs in the upper Russian River (between Healdsburg and Ukiah), and to 60 cfs from 85 cfs in the lower Russian River (between the confluence of Dry Creek and the Russian River to Jenner), and the District would take additional steps to conserve Lake Mendocino storage. Adjusting the flow requirement and increasing conservation efforts will allow the Water Agency to decrease the amount of water released from Lake Mendocino resulting in more stored water in the reservoir for use in the fall and winter.

“It is the goal of the Water Agency and District to prevent Lake Mendocino’s storage from dropping below 20,000 acre-feet through the end of the year if dry conditions persist through the early winter,” said Water Agency Chairman David Rabbitt. “Lake Mendocino is a primary source of drinking water for upper Russian River communities, including the cities of Ukiah, Healdsburg and Cloverdale. Lake Mendocino also supplies water resources for the agricultural industry between Healdsburg and Ukiah, including the wine grape growing industry. Threatened steelhead and Chinook salmon rely on water released from Lake Mendocino to spawn in the upper Russian River during the fall and winter months.”

Mendocino County Russian River Flood Control and Water Conservation Improvement District General Manager Sean White stated, “Upper Russian River communities have done a great job conserving water this year. I am very pleased my District and the Water Agency were able to collaborate on petitions that balance the needs of all communities while preserving critical storage in Lake Mendocino. We all must continue to save water as this severe drought intensifies.”

Russian River Drought Relief Program:

To assist Russian River communities save Lake Mendocino water, a coalition of local government agencies, water suppliers and cities from northern Sonoma and Mendocino County joined together to create the new Russian River Drought Relief Program. The program will offer Russian River residents the opportunity to replace older, water guzzling toilets with new, water efficient toilets. Residents will also be paid to remove their grass and replace it with drought tolerant landscapes. The program will launch this month. For more information, residents can visit www.sonomacountywater.org/drought or contact their local water supplier.

“This is a first-of-its-kind program for the Russian River region, including portions of Mendocino and Sonoma counties. The Russian River Drought Relief Program will save over 40 million gallons of Lake Mendocino water per year if over 3,500 fixtures, such as water efficient toilets, are installed and over 500,000 square feet of turf are replanted with climate appropriate plant material,” said Water Agency Director Mike McGuire. “Over \$1.5 million is being secured

through the Governor’s emergency drought relief program, and partnering jurisdictions are providing the necessary match funding. I am thankful for the collaborative efforts every partner has put into this program, including the North Coast Integrated Regional Water Management Plan.”

The Water Agency is administering the program along with partnering upper Russian River municipalities that rely on Lake Mendocino for water supply, including the Sonoma County Public Works Department, cities of Healdsburg, Cloverdale and Ukiah, Redwood Valley County Water District, Mendocino County Russian River Flood Control and Water Conservation Improvement District and unincorporated Sonoma County within the Russian River watershed. The North Coast Integrated Regional Water Management Plan recommended to the Department of Water Resources (DWR) the \$1 million funding. Final funding decisions are anticipated to be made by DWR early this fall.

Sonoma County Water Agency and Scripps Institution of Oceanography Enter into Partnership to Study Atmospheric Rivers, Drought Relief Initiatives

The Water Agency has entered into a cooperative agreement with Scripps Institution of Oceanography and the Center for Western Weather and Water Extremes (CW3E) to advance research in ocean science and meteorology. The research will help define the role of atmospheric rivers in filling Lake Mendocino and potentially offering predictability to retain water without increasing flood risk. Atmospheric rivers consist of narrow bands of enhanced water vapor which provide approximately half of the major rainfall in the Russian River watershed. The partnership will also develop a feasibility assessment project for the potential use of forecast-informed reservoir operations (FIRO) for Lake Mendocino in cooperation with the US Army Corps of Engineers. Learn more about this partnership at www.sonomacountywater.org.

“The best minds in the ocean science and meteorology worlds are now focused on the Russian River watershed. Our partnership with Scripps Institution of Oceanography and the Center for Western Weather and Water Extremes is very timely as our region faces this severe drought. The research and projects that will come out of this partnership will directly impact our ability to manage water supply, and will inform how the U.S. Army Corps of Engineer manages flood control reservoir releases,” said Water Agency Director Shirlee Zane.

Mandatory water conservation measures:

In response to the State Water Resources Control Board’s emergency drought regulations, cities and water districts throughout the Water Agency’s service area, which includes portions of

Sonoma and Marin counties, are activating their mandatory water conservation programs this month. View a full list of mandatory actions taking place at www.sonomacountywater.org.

Water Agency Director Susan Gorin added, “I am pleased that the cities and water districts we serve are responding to the immediate need to conserve water. The Water Agency will continue to assist our customers meet conservation goals by actively participating in the Sonoma-Marín Saving Water Partnership. I encourage all residents to go to www.wateroff.org to learn how to save water today.”

Upcoming public outreach event: DIY Outdoor Drought Solutions:

On Saturday, August 23 between 10am and 4pm residents can participate in a free hands-on outdoor drought demonstration event in the parking lot at Coddington Mall near Whole Foods. Several demonstration tents will be set up to show residents how to save water in their yards. Demonstrations will include how to install drip irrigation systems, set-up automatic irrigation timers, install a greywater system, and more. For more information, visit www.water.off.org. This event is hosted by the City of Santa Rosa in collaboration with the Water Agency and the Sonoma-Marín Saving Water Partnership.

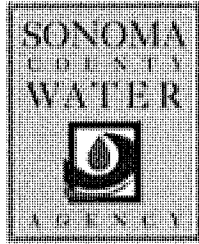
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For more information on these drought response programs and to learn more about current water supply conditions, please visit www.sonomacountywater.org.

###

The Sonoma County Water Agency is working to secure our future by investing in our water resources, community and environment. The Water Agency provides water supply, flood protection and sanitation services for portions of Sonoma and Marin counties. Visit us on the Web at www.sonomacountywater.org

Thank you,
Brad Sherwood
Principal Program Specialist
Community & Government Affairs



Sonoma County Water Agency Press Release

For Immediate Release

August 14, 2014

Water Bond Could Provide Significant Resources to Sonoma County

Santa Rosa, CA – The \$7.54 billion water bond approved by the Legislature and signed by the Governor on Wednesday could provide significant resources to the Sonoma County Water Agency and other North Bay water providers. The “Water Quality, Supply, and Infrastructure Improvement Act” provides funding to enhance local water supply and quality, increase the use of recycled water, protect and develop groundwater resources, improve and restore watersheds and beef-up water conservation programs.

“We applaud the Legislature and the Governor for coming together to place a bond on the ballot that addresses statewide water issues and is fiscally responsible,” said Sonoma County Board of Supervisors Chairman and Water Agency Director David Rabbitt. “This bond balances the need to improve the State Water Project while still providing funding for programs that will benefit Sonoma County.”

The \$7.54 billion bond replaces an \$11.1 billion bond that was approved by the Legislature in 2009 (before the recession) but was delayed being placed on the ballot until this November. The new bond includes \$810 million for regional water programs, to create drought resiliency and new supplies, including \$510 million for Integrated Regional Water Management, of which the North Coast would receive \$26.5 million and the Bay Area would receive \$65 million. The Water Agency includes portions of both regions, and, with its regional partners, would be eligible for grants from this funding.

“Thanks to the Legislature and the Governor, Sonoma County will benefit from this bond,” said Supervisor and Water Agency Director Mike McGuire. “This bond could help make us less vulnerable in future droughts by potentially funding local storage projects, implementing successful recycled water initiatives and moving conservation and habitat enhancement projects forward which will benefit endangered fish.”

The bond provides \$900 million for groundwater clean-up and sustainability and \$200 million for projects to capture stormwater to recharge groundwater aquifers or to be stored for future use.

“Our groundwater is a precious resource,” said Supervisor and Water Agency Director Shirlee Zane. “We’re excited about this bond, including possible funding for pilot projects that could help recharge groundwater levels.”

The measure includes \$1.495 billion for rivers, streams, lakes and coastal watershed improvements, to help protect water quality and enhance or preserve instream flows.

“The Russian River has three fish that are on the endangered species list. Our local water supply is dependent on enhancing our watershed to provide habitat and safe passage for coho, Chinook and steelhead. The bond will provide funding that could help us meet these goals.” Said Supervisor and Water Agency Director Efren Carrillo.

The bond includes \$725 million for recycled water projects, including for treatment, storage and distribution. The Water Agency operates eight sanitation facilities countywide, including three that provide recycled water for irrigation.

“Recycled water is a tremendous underused resource. This bond could help us expand our use of recycled water to farms, playing fields, parks and golf courses,” said Supervisor and Water Agency Director Susan Gorin.

In addition to the funding mentioned above, the bond provides \$520 million to clean-up drinking water and beef-up small water systems, \$2.7 billion for Delta storage and ecosystem improvements and \$395 million for flood management.

More information:

To view the specific provisions of the water bond, go to http://www.leginfo.ca.gov/pub/13-14/bill/asm/ab_1451-1500/ab_1471_bill_20140813_enrolled.pdf

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