

# **COASTSIDE COUNTY WATER DISTRICT**

**766 MAIN STREET**

**HALF MOON BAY, CA 94019**

## **SPECIAL MEETING OF THE BOARD OF DIRECTORS**

**Tuesday, January 13, 2015 - 6:00 p.m.**

### **AGENDA**

**1) ROLL CALL**

**2) PUBLIC COMMENT**

Members of the public may address the Board of Directors on the items on the agenda for this special meeting. The Chair requests that each person addressing the Board complete and submit a speaker slip, and limit their comments to three (3) minutes.

**3) CLOSED SESSION**

**A. Public Employee Performance Evaluation**  
(Cal. Govt. Code §54957): Title: General Manager

**4) RECONVENE TO OPEN SESSION**

**A. Public report of closed session action**

**5) ADJOURNMENT**

***Accessible Public Meetings** - Upon request, the Coastside County Water District will provide written agenda materials in appropriate alternative formats, or disability-related modification or accommodation, including auxiliary aids or services, to enable individuals with disabilities to participate in public meetings. Please send a written request, including your name, mailing address, telephone number and brief description of the requested materials and preferred alternative format or auxiliary aid or service at least two (2) days before the meeting. Requests should be sent to: Coastside County Water District, Attn: Alternative Agenda Request, 766 Main Street, Half Moon Bay, CA 94019.*

# COASTSIDE COUNTY WATER DISTRICT

766 MAIN STREET

HALF MOON BAY, CA 94019

## REGULAR MEETING OF THE BOARD OF DIRECTORS

Tuesday, January 13, 2015 - 7:00 p.m.

### AGENDA

The Coastside County Water District (CCWD) does not discriminate against persons with disabilities. Upon request, the agenda and agenda packet materials can be provided in a format to accommodate special needs. If you require a copy of the agenda or related materials in an alternative format to accommodate a disability, or if you wish to attend this public meeting and will require special assistance or other special equipment, please call the District at (650) 726-4405 in advance and we will make every reasonable attempt to provide such an accommodation.

All public records relating to an open session item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at the CCWD District Office, located at 766 Main Street, Half Moon Bay, CA at the same time that the public records are distributed or made available to the legislative body.

*This agenda and accompanying materials can be viewed on Coastside County Water District's website located at: [www.coastsidewater.org](http://www.coastsidewater.org).*

**The Board of the Coastside County Water District reserves the right to take action on any item included on this agenda.**

- 1) ROLL CALL
- 2) PLEDGE OF ALLEGIANCE
- 3) PUBLIC COMMENT

*At this time members of the public may address the Board of Directors on issues not listed on the agenda which are within the purview of the Coastside County Water District. Comments on matters that are listed on the agenda may be made at the time the Board is considering each item. Each speaker is allowed a maximum of three (3) minutes and must complete and submit a speaker slip. The President of the Board will recognize each speaker, at which time the speaker should proceed to the podium, give their name and address and provide their comments to the Board.*

**4) SPECIAL ORDER OF BUSINESS**

- A. Resolution 2015-01 - A Resolution of the Board of Directors of the Coastside County Water District Expressing Gratitude to James S. Teter for his Fifty-Four Years of Dedicated Engineering Services ([attachment](#))

**5) BRIEF RECESS FOR REFRESHMENTS**

**6) CONSENT CALENDAR**

The following matters before the Board of Directors are recommended for action as stated by the General Manager. All matters listed hereunder constitute a Consent Calendar, are considered as routine by the Board of Directors, and will be acted upon by a single vote of the Board. There will be no separate discussion of these items unless a member of the Board so requests, in which event the matter shall be removed from the Consent Calendar and considered as a separate item.

- A. Approval of disbursements for the month ending December 31, 2014:  
Claims: \$685,749.28; Payroll: \$76,978.97 for a total of \$762,728.25  
([attachment](#))
  - *December 2014 Monthly Financial Claims reviewed by Director Flint*
- B. Acceptance of Financial Reports ([attachment](#))
- C. Approval of Minutes of December 9, 2014 Special and Regular Board of Directors Meetings ([attachment](#))
- D. Installed Water Connection Capacity and Water Meters Report ([attachment](#))
- E. Total CCWD Production Report ([attachment](#))
- F. CCWD Monthly Sales by Category Report - December 2014 ([attachment](#))
- G. December 2014 Leak Report ([attachment](#))
- H. Rainfall Reports ([attachment](#))
- I. San Francisco Public Utilities Commission Hydrological Conditions Report for November 2014 ([attachment](#))

**7) MEETINGS ATTENDED / DIRECTOR COMMENTS**

**8) GENERAL BUSINESS**

- A. Main Street Bridge Pipeline Replacement Project - 30% Design ([attachment](#))
- B. Approval of Guiding Principles for Recycled Water Project Between Sewer Authority Mid-Coastside (SAM), Coastside County Water District (CCWD), and Montara Water and Sanitary District (MWSD) ([attachment](#))

- C. Approve Resolution Formalizing Policy for Paying and Reporting the Value of Employer Paid Member Contributions to the California Public Employees' Retirement System (CalPERS) ([attachment](#))
- D. Quarterly Financial Review ([attachment](#))
- E. Coastside County Water District Board Committees ([attachment](#))

9) **GENERAL MANAGER'S REPORT - INCLUDING MONTHLY INFORMATIONAL REPORTS ([attachment](#))**

- SFPUC Water Supply Status

- A. Operations Report ([attachment](#))
- B. Water Resources Report ([attachment](#))

10) **DIRECTOR AGENDA ITEMS - REQUESTS FOR FUTURE BOARD MEETINGS**

11) **ADJOURNMENT**

## **STAFF REPORT**

**To:** Coastside County Water District Board of Directors

**From:** David Dickson, General Manager

**Agenda:** January 13, 2015

Report

Date: January 9, 2015

**Subject: A Resolution of the Board of Directors of the Coastside County Water District Expressing its Gratitude to James S. Teter for his Fifty-Four Years of Dedicated Engineering Services**

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### **Recommendation:**

Approve the attached Resolution 2015-01 recognizing District Engineer James Teter for his service to the District.

### **Background:**

Virtually everything that defines Coastside County Water District, from the Denniston and Nunes Water Treatment Plants to the Crystal Springs Project to the District's transmission and distribution network, bears the stamp of Jim Teter's work in over 54 years of service to the District. Jim became District Engineer in 1974, and his role in designing key infrastructure projects for the District continues today.

I would like to thank and recognize Jim Teter for his contributions to the District over his extraordinary tenure and to express the staff's desire to continue our excellent working relationship in the future. We have prepared for the Board's consideration a resolution summarizing the highlights of Jim's accomplishments and expressing the District's gratitude.

RESOLUTION NO. 2015 - 01

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE  
COASTSIDE COUNTY WATER DISTRICT EXPRESSING  
GRATITUDE TO JAMES S. TETER FOR HIS FIFTY-FOUR  
YEARS OF DEDICATED ENGINEERING SERVICES

**WHEREAS**, James Teter first began working for Coastside County Water District (CCWD) while employed with Kennedy Engineers in 1961; and

**WHEREAS**, the first project that James Teter designed for CCWD in 1961 was a one block pipeline replacement project on Purissima Street (right behind the District Office), and he continued to perform all of the District's design work until he left Kennedy Engineers in 1972; and

**WHEREAS**, in 1973 while James Teter was employed with Tudor Engineering, Coastside County Water District requested that he be assigned to serve in the capacity as CCWD's District Engineer; and

**WHEREAS**, in 1974 James Teter formed his own consulting engineering firm, and on May 16, 1974 took on the Coastside County Water District as his first and most important client; and

**WHEREAS**, over the course of James Teter's fifty-four years of commitment and dedication in providing excellent and professional engineering services to the District, many projects were successfully executed, including:

- ❖ Design of the Denniston Water Treatment Plant, including construction management services
- ❖ Design of the Nunes Water Treatment Plant and construction management services and design of the Nunes Water Treatment Plant Improvements Project
- ❖ Design of the Denniston and Alves Pump Stations
- ❖ Design of new water storage tanks including Denniston, Carter Hill No. 3, Alves and the Miramontes Storage Tank
- ❖ Rehabilitation of existing water storage tanks, including the El Granada Tanks 1, 2, and 3
- ❖ Design of major treated water transmission pipelines, including Denniston, Carter Hill and the El Granada Pipeline
- ❖ Design of approximately 100 separate water distribution pipelines and pipeline replacement projects, totaling an estimated 20+ miles of pipeline throughout the District; and

**WHEREAS**, James Teter's invaluable work on the Crystal Springs Project included:

- ❖ A comprehensive evaluation of all potential water supply expansion projects, with the recommendation of the Crystal Springs Project
- ❖ Preparation of the concept design report
- ❖ Preparation of the Coastal Development Permit (CDP) application and participation in the CDP hearings
- ❖ Serving on the District's design review committee; and

**WHEREAS**, the CCWD Board of Directors commended James Teter in December of 2003 for the exceptional accuracy of his hydraulic analysis of the El Granada Pipeline Project, noting that his original calculations and predictions concerning the sizing of the pipeline, presented sixteen years previously and executed without the use of any computer modeling, though challenged several times over the years, had proven to be precise and accurate, and

**WHEREAS**, over the years as the District's Engineer, James Teter has prepared engineering designs, requests for proposals, and qualifications, and scopes of work for countless District projects, and

**WHEREAS**, James Teter has prepared numerous studies and reports, including Water Supply Evaluation Reports, the Preliminary Economic Feasibility Study for Water Reclamation Program, Urban Water Management Plans, the Potential Water Supply Expansion Alternatives Report, , and others; and

**WHEREAS**, James Teter has worked to support a total of six General Managers and Acting General Managers over the span of fifty-four years working with the District; and

**NOW, THEREFORE BE IT RESOLVED** that the Board of Directors of the Coastside County Water District hereby proclaims its thanks to and appreciation of James S. Teter for his loyal service, expertise, commitment, experience, and contributions to the Coastside County Water District and to the community over the past fifty-four years and CCWD hereby looks forward to continued achievements and successful projects engineered by Mr. James Teter in the years ahead.

**PASSED AND ADOPTED** this \_\_\_\_ day of \_\_\_\_\_, 2015, by the following votes of the Board of Directors:

AYES:

NOES:

ABSENT:

ATTEST:

\_\_\_\_\_  
David Dickson, General Manager  
Secretary of the Board

\_\_\_\_\_  
Chris Mickelsen, President  
Board of Directors

# Accounts Payable

## Checks by Date - Summary by Check Number

User: GBRAZIL  
Printed: 1/2/2015 9:04 AM



Check No	Vendor No	Vendor Name	Check Date	Void Checks	Check Amount
20855	ALL04	ALLIED WASTE SERVICES #925	12/05/2014	0.00	353.95
20856	CHE01	CHEVRON/TEXACO UNIVERSAL CAR	12/05/2014	0.00	1,840.31
20857	COM02	COMCAST	12/05/2014	0.00	174.92
20858	GUI01	JOE GUISTINO	12/05/2014	0.00	1,202.80
20859	HAS01	HASSETT HARDWARE	12/05/2014	0.00	2,495.18
20860	ICM01	VANTAGEPOINT TRANSFER AGENTS	12/05/2014	0.00	40.00
20861	KAI01	KAISER FOUNDATION HEALTH PLAN	12/05/2014	0.00	13,894.00
20862	MAS01	MASS MUTUAL FINANCIAL GROUP	12/05/2014	0.00	1,919.68
20863	PAC01	PACIFIC GAS & ELECTRIC CO.	12/05/2014	0.00	45.47
20864	PUB01	PUB. EMP. RETIRE SYSTEM	12/05/2014	0.00	21,312.79
20865	SAN20	SAN FRANCISCO FIRE CREDIT UNION	12/05/2014	0.00	300.00
20866	VAL01	VALIC	12/05/2014	0.00	1,945.00
20867	ADP01	ADP, INC.	12/23/2014	0.00	906.60
20868	ADV02	FRANK YAMELLO	12/23/2014	0.00	1,690.57
20869	AME09	AMERICAN WATER WORKS ASSOC.	12/23/2014	0.00	695.00
20870	ANA01	ANALYTICAL ENVIRONMENTAL SER	12/23/2014	0.00	12,266.30
20871	AND01	ANDREINI BROS. INC.	12/23/2014	0.00	82,490.41
20872	ASS01	HEALTH BENEFITS ACWA-JPIA/CB&T	12/23/2014	0.00	22,057.94
20873	ATT02	AT&T	12/23/2014	0.00	2,265.33
20874	ATT03	AT&T LONG DISTANCE	12/23/2014	0.00	310.16
20875	AVI01	BOB AVILA	12/23/2014	0.00	319.06
20876	AZT01	AZTEC GARDENS, INC.	12/23/2014	0.00	190.00
20877	BAL04	BALANCE HYDROLOGICS, INC	12/23/2014	0.00	2,697.04
20878	BAR01	BARTKIEWICZ, KRONICK & SHANAH	12/23/2014	0.00	862.30
20879	BAY10	BAY ALARM COMPANY	12/23/2014	0.00	862.89
20880	BIG01	BIG CREEK LUMBER	12/23/2014	0.00	142.66
20881	BOR01	BORGES & MAHONEY, INC.	12/23/2014	0.00	712.06
20882	BRU02	JON BRUCE	12/23/2014	0.00	214.98
20883	CAB02	CABRILLO FARMS, INC.	12/23/2014	0.00	300.00
20884	CAL08	CALCON SYSTEMS, INC.	12/23/2014	0.00	21,532.76
20885	CAR02	CAROLYN STANFIELD	12/23/2014	0.00	485.00
20886	CAR08	REGISTER TAPES UNLIMITED, INC.	12/23/2014	0.00	600.00
20887	COA19	COASTSIDE COUNTY WATER DIST.	12/23/2014	0.00	135.10
20888	CUL01	CULLIGAN SANTA CLARA, CA	12/23/2014	0.00	160.20
20889	CUS01	D/B/A CUSTOM TRUCK CUSTOM TOP!	12/23/2014	0.00	925.41
20890	DAT01	DATAPROSE, LLC	12/23/2014	0.00	955.59
20891	DEL07	DEL GAVIO GROUP	12/23/2014	0.00	21,967.29
20892	DIC01	DAVID DICKSON	12/23/2014	0.00	771.45
20893	EKI01	EKI INC.	12/23/2014	0.00	31,892.62
20894	EME01	EMERGENCY VEHICLE EQUIPMENT	12/23/2014	0.00	687.28
20895	ENR01	ENRIQUEZ MD, JOSEFINA	12/23/2014	0.00	125.00
20896	EVA01	JOHN W. EVANS	12/23/2014	0.00	8,345.65
20897	FIR06	FIRST NATIONAL BANK	12/23/2014	0.00	4,765.01
20898	FLO01	CHARLES & TRULA FLOYD, TRS	12/23/2014	0.00	48.20
20899	GEM01	GEMPLER'S, INC.	12/23/2014	0.00	1,752.00
20900	GRA03	GRAINGER, INC.	12/23/2014	0.00	249.84
20901	GRA07	THE GRAPHIC WORKS	12/23/2014	0.00	972.32

Check No	Vendor No	Vendor Name	Check Date	Void Checks	Check Amount
20902	GRE01	GREG JONES	12/23/2014	0.00	450.00
20903	GRE05	BROOKE GREEN	12/23/2014	0.00	150.00
20904	HAL01	HMB BLDG. & GARDEN INC.	12/23/2014	0.00	113.64
20905	HAL04	HALF MOON BAY REVIEW	12/23/2014	0.00	1,854.00
20906	HAL24	H.M.B.AUTO PARTS	12/23/2014	0.00	113.65
20907	HAN01	HANSONBRIDGETT. LLP	12/23/2014	0.00	6,542.10
20908	HEA01	U.S. HEALTHWORKS MEDICAL GROU	12/23/2014	0.00	50.00
20909	HOM01	HOME DEPOT	12/23/2014	0.00	979.91
20910	ICM01	VANTAGEPOINT TRANSFER AGENTS	12/23/2014	0.00	40.00
20911	IRO01	IRON MOUNTAIN	12/23/2014	0.00	390.12
20912	IRV01	IRVINE CONSULTING SERVICES, INC.	12/23/2014	0.00	2,309.00
20913	IRV02	IRVINE CONSULTING SERVICES, INC.	12/23/2014	0.00	820.00
20914	JJA01	JJACPA, INC	12/23/2014	0.00	8,710.00
20915	JOH03	JOHN'S SALT SERVICE, INC	12/23/2014	0.00	3,452.40
20916	KOF01	KANEKO AND KRAMMER CORP	12/23/2014	0.00	8,969.98
20917	LOM01	GLENNA LOMBARDI	12/23/2014	0.00	86.00
20918	MAS01	MASS MUTUAL FINANCIAL GROUP	12/23/2014	0.00	1,919.68
20919	MET06	METLIFE GROUP BENEFITS	12/23/2014	0.00	1,532.19
20920	MIS01	MISSION UNIFORM SERVICES INC.	12/23/2014	0.00	272.84
20921	MOB01	MOBILE MODULAR MGMT CORP	12/23/2014	0.00	779.65
20922	MON07	MONTEREY COUNTY LAB	12/23/2014	0.00	1,036.00
20923	MON10	OSVALDO MONTEIRO	12/23/2014	0.00	100.00
20924	MOS01	MOSSA DAVID S.	12/23/2014	0.00	610.65
20925	OFF01	OFFICE DEPOT	12/23/2014	0.00	1,263.19
20926	ONT01	ONTRAC	12/23/2014	0.00	415.42
20927	PAC01	PACIFIC GAS & ELECTRIC CO.	12/23/2014	0.00	32,092.66
20928	PAC06	PACIFICA COMMUNITY TV	12/23/2014	0.00	250.00
20929	PAP03	PAPE MACHINERY EXCHANGE	12/23/2014	0.00	2,326.72
20930	PAR01	PARSONS ANDERSEN CPAs, LLP	12/23/2014	0.00	5,875.00
20931	PAU01	PAULO'S AUTO CARE	12/23/2014	0.00	851.41
20932	PIC01	WILLIAM PICTH	12/23/2014	0.00	50.00
20933	PIT04	PITNEY BOWES	12/23/2014	0.00	198.00
20934	POL01	POLLARDWATER.COM	12/23/2014	0.00	2,325.08
20935	PSI01	PSI-PROCESS SOLUTIONS, INC	12/23/2014	0.00	1,085.81
20936	PUB01	PUB. EMP. RETIRE SYSTEM	12/23/2014	0.00	21,327.89
20937	PUM01	PUMP REPAIR SERVICE CO. INC.	12/23/2014	0.00	70,622.09
20938	PVS01	PVS MINIBULK, INC	12/23/2014	0.00	2,594.74
20939	RIC01	RICOH USA, INC.	12/23/2014	0.00	272.30
20940	RIC02	RICOH USA INC	12/23/2014	0.00	530.50
20941	ROB01	ROBERTS & BRUNE CO.	12/23/2014	0.00	3,908.20
20942	SAN03	SAN FRANCISCO WATER DEPT.	12/23/2014	0.00	141,975.80
20943	SAN05	SAN MATEO CTY PUBLIC HEALTH LA	12/23/2014	0.00	940.00
20944	SAN07	SM CTY ENVIRONMENTAL HEALTH	12/23/2014	0.00	1,283.00
20945	SAN20	SAN FRANCISCO FIRE CREDIT UNION	12/23/2014	0.00	300.00
20946	SHA02	WILSON SHARIF	12/23/2014	0.00	40.60
20947	SMI03	CHRISTOPHER SMITH	12/23/2014	0.00	1,381.00
20948	SRT01	SRT CONSULTANTS	12/23/2014	0.00	7,971.25
20949	STR02	STRAWFLOWER ELECTRONICS	12/23/2014	0.00	32.80
20950	SWI01	MATTHEW SWIFT	12/23/2014	0.00	100.00
20951	TEA01	TEAMWRKX CONSTRUCTION, INC.	12/23/2014	0.00	65,112.60
20952	TEA02	TEAMSTERS LOCAL UNION #856	12/23/2014	0.00	903.00
20953	TEI01	LEROY TEIXEIRA	12/23/2014	0.00	50.00
20954	TET01	JAMES TETER	12/23/2014	0.00	613.50
20955	UPS01	UPS STORE	12/23/2014	0.00	16.43
20956	VAL01	VALIC	12/23/2014	0.00	1,945.00
20957	VER01	VERMEER PACIFIC/RDO EQUIPMENT	12/23/2014	0.00	316.54
20958	VER02	VERIZON WIRELESS	12/23/2014	0.00	40.01



Check No	Vendor No	Vendor Name	Check Date	Void Checks	Check Amount
20959	VSS01	VSS INTERNATIONAL	12/23/2014	0.00	375.97
20960	CHE01	CHEVRON/TEXACO UNIVERSAL CAR	12/26/2014	0.00	1,743.04
20961	COU05	RECORDER'S OFFICE	12/26/2014	0.00	50.00
20962	UNI12	UNION BANK OF CALIFORNIA	12/26/2014	0.00	874.50
20963	VER02	VERIZON WIRELESS	12/26/2014	0.00	1,535.30
Report Total (109 checks):				0.00	685,749.28

**COASTSIDE COUNTY WATER DISTRICT - PERIOD BUDGET ANALYSIS**  
**31-Dec-14**

ACCOUNT	DESCRIPTION	CURRENT ACTUAL	CURRENT BUDGET	B/(W) VARIANCE	B/(W) % VAR	YTD ACTUAL	YTD BUDGET	B/(W) VARIANCE	B/(W) % VAR
<b>OPERATING REVENUE</b>									
1-0-4120-00	Water Revenue -All Areas	579,312.58	663,134.98	(83,822.40)	-12.6%	4,412,535.61	4,882,977.28	(470,441.67)	-9.6%
<b>TOTAL OPERATING REVENUE</b>		<b>579,312.58</b>	<b>663,134.98</b>	<b>(83,822.40)</b>	<b>-12.6%</b>	<b>4,412,535.61</b>	<b>4,882,977.28</b>	<b>(470,441.67)</b>	<b>-9.6%</b>
<b>NON-OPERATING REVENUE</b>									
1-0-4170-00	Water Taken From Hydrants	4,037.95	2,083.33	1,954.62	93.8%	24,401.02	12,500.02	11,901.00	95.2%
1-0-4180-00	Late Notice -10% Penalty	5,197.41	5,833.33	(635.92)	-10.9%	44,971.09	35,000.02	9,971.07	28.5%
1-0-4230-00	Service Connections	465.88	666.66	(200.78)	-30.1%	5,183.06	4,000.04	1,183.02	29.6%
1-0-4920-00	Interest Earned	0.00	0.00	0.00	0.0%	1,158.01	1,272.00	(113.99)	-9.0%
1-0-4930-00	Tax Apportionments/Cnty Checks	301,126.95	300,000.00	1,126.95	0.0%	386,613.16	365,000.00	21,613.16	5.9%
1-0-4950-00	Miscellaneous Income	938.61	3,083.33	(2,144.72)	-69.6%	16,091.99	18,500.02	(2,408.03)	-13.0%
1-0-4955-00	Cell Site Lease Income	11,603.73	11,240.00	363.73	3.2%	69,101.40	67,440.00	1,661.40	2.5%
1-0-4965-00	ERAF REFUND -County Taxes	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.0%
1-0-4990-00	Water Sales Refunded	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.0%
<b>TOTAL NON-OPERATING REVENUE</b>		<b>323,370.53</b>	<b>322,906.65</b>	<b>463.88</b>	<b>0.1%</b>	<b>547,519.73</b>	<b>503,712.10</b>	<b>43,807.63</b>	<b>8.7%</b>
<b>TOTAL REVENUES</b>		<b>902,683.11</b>	<b>986,041.63</b>	<b>(83,358.52)</b>	<b>-8.5%</b>	<b>4,960,055.34</b>	<b>5,386,689.38</b>	<b>(426,634.04)</b>	<b>-7.9%</b>
<b>OPERATING EXPENSES</b>									
1-1-5130-00	Water Purchased	141,975.80	167,432.00	25,456.20	15.2%	1,164,439.60	1,429,920.00	265,480.40	18.6%
1-1-5230-00	Pump Exp, Nunes T P	2,034.26	1,750.00	(284.26)	-16.2%	14,628.98	12,950.00	(1,678.98)	-13.0%
1-1-5231-00	Pump Exp, CSP Pump Station	25,629.50	5,000.00	(20,629.50)	-412.6%	264,601.07	120,910.00	(143,691.07)	-118.8%
1-1-5232-00	Pump Exp, Trans. & Dist.	1,001.93	959.00	(42.93)	-4.5%	6,673.80	7,096.00	422.20	5.9%
1-1-5233-00	Pump Exp, Pilarcitos Can.	1,459.59	4,754.00	3,294.41	69.3%	2,724.32	10,208.00	7,483.68	73.3%
1-1-5234-00	Pump Exp. Denniston Proj.	1,109.22	11,280.00	10,170.78	90.2%	10,271.50	27,060.00	16,788.50	62.0%
1-1-5235-00	Denniston T.P. Operations	790.95	2,425.00	1,634.05	67.4%	16,839.28	6,051.00	(10,788.28)	-178.3%
1-1-5236-00	Denniston T.P. Maintenance	4,436.92	3,875.00	(561.92)	-14.5%	12,387.08	29,250.00	16,862.92	57.7%
1-1-5240-00	Nunes T P Operations	6,682.38	2,646.00	(4,036.38)	-152.5%	31,284.09	23,601.00	(7,683.09)	-32.6%
1-1-5241-00	Nunes T P Maintenance	2,812.90	2,542.00	(270.90)	-10.7%	15,132.48	22,252.00	7,119.52	32.0%
1-1-5242-00	CSP Pump Station Operations	980.81	700.00	(280.81)	-40.1%	5,035.84	4,200.00	(835.84)	-19.9%
1-1-5243-00	CSP Pump Station Maintenance	9,318.82	3,300.00	(6,018.82)	-182.4%	16,018.40	19,800.00	3,781.60	19.1%
1-1-5250-00	Laboratory Services	2,391.42	3,333.00	941.58	28.3%	16,082.11	19,998.00	3,915.89	19.6%
1-1-5318-00	Studies/Surveys/Consulting	8,969.98	20,000.00	11,030.02	55.2%	10,372.48	120,000.00	109,627.52	91.4%
1-1-5321-00	Water Conservation	4,834.84	3,250.00	(1,584.84)	-48.8%	22,517.14	19,500.00	(3,017.14)	-15.5%
1-1-5322-00	Community Outreach	250.00	3,475.00	3,225.00	92.8%	8,191.95	20,850.00	12,658.05	60.7%
1-1-5325-00	Water Shortage Program	0.00	0.00	0.00	0.0%	18,555.01	0.00	(18,555.01)	0.0%
1-1-5411-00	Salaries & Wages -Field	81,287.82	81,005.08	(282.74)	-0.3%	527,875.77	526,532.98	(1,342.79)	-0.3%
1-1-5412-00	Maintenance -General	23,076.08	17,625.00	(5,451.08)	-30.9%	92,537.45	105,750.00	13,212.55	12.5%

ACCOUNT	DESCRIPTION	CURRENT ACTUAL	CURRENT BUDGET	B/(W) VARIANCE	B/(W) % VAR	YTD ACTUAL	YTD BUDGET	B/(W) VARIANCE	B/(W) % VAR
1-1-5414-00	Motor Vehicle Expense	8,707.66	4,221.00	(4,486.66)	-106.3%	28,405.44	25,326.00	(3,079.44)	-12.2%
1-1-5415-00	Maintenance -Well Fields	0.00	0.00	0.00	0.0%	0.00	10,000.00	10,000.00	0.0%
1-1-5610-00	Salaries/Wages-Administration	50,446.00	62,250.92	11,804.92	19.0%	326,782.96	404,631.02	77,848.06	19.2%
1-1-5620-00	Office Supplies & Expense	8,148.86	13,152.08	5,003.22	38.0%	60,887.75	78,912.52	18,024.77	22.8%
1-1-5621-00	Computer Services	3,388.87	7,650.00	4,261.13	55.7%	23,729.09	45,900.00	22,170.91	48.3%
1-1-5625-00	Meetings / Training / Seminars	4,300.97	1,916.66	(2,384.31)	-124.4%	18,479.11	11,500.04	(6,979.07)	-60.7%
1-1-5630-00	Insurance	6,010.66	6,250.00	239.34	3.8%	45,088.11	57,500.00	12,411.89	21.6%
1-1-5635-00	EE/Ret. Medical Insurance	35,262.60	40,191.33	4,928.73	12.3%	206,770.64	241,148.02	34,377.38	14.3%
1-1-5640-00	Employees Retirement Plan	39,975.28	40,299.16	323.88	0.8%	257,019.41	261,944.46	4,925.05	1.9%
1-1-5645-00	SIP 401K Plan	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.0%
1-1-5681-00	Legal	5,938.10	5,000.00	(938.10)	-18.8%	30,716.20	30,000.00	(716.20)	-2.4%
1-1-5682-00	Engineering	360.00	1,166.66	806.66	69.1%	2,520.00	7,000.04	4,480.04	64.0%
1-1-5683-00	Financial Services	14,585.00	9,000.00	(5,585.00)	0.0%	14,585.00	24,000.00	9,415.00	39.2%
1-1-5684-00	Payroll Tax Expense	7,852.09	10,354.15	2,502.06	24.2%	57,965.68	67,302.04	9,336.36	13.9%
1-1-5687-00	Membership, Dues, Subscript.	885.99	5,256.16	4,370.17	83.1%	32,442.66	31,537.04	(905.62)	-2.9%
1-1-5688-00	Election Expenses	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.0%
1-1-5689-00	Labor Relations	0.00	500.00	500.00	100.0%	0.00	3,000.00	3,000.00	100.0%
1-1-5700-00	San Mateo County Fees	1,283.00	1,475.00	192.00	13.0%	10,834.56	8,850.00	(1,984.56)	-22.4%
1-1-5705-00	State Fees	0.00	1,333.33	1,333.33	100.0%	8,035.27	8,000.02	(35.25)	-0.4%
<b>TOTAL OPERATING EXPENSES</b>		<b>506,188.30</b>	<b>545,367.53</b>	<b>39,179.23</b>	<b>7.2%</b>	<b>3,380,430.23</b>	<b>3,842,480.18</b>	<b>462,049.95</b>	<b>12.0%</b>
<b>CAPITAL ACCOUNTS</b>									
1-1-5711-00	Debt Srvc/Existing Bonds 1998A	0.00	0.00	0.0%	0.0%	0.00	0.00	0.00	0.0%
1-1-5712-00	Debt Srvc/Existing Bonds 2006B	874.50	0.00	0.0%	0.0%	350,866.38	349,992.00	(874.38)	-0.2%
1-1-5715-00	Debt Srvc/CIEDB 11-099 (I-BANK)	0.00	0.00	0.0%	0.0%	257,971.45	257,971.00	(0.45)	0.0%
<b>TOTAL CAPITAL ACCOUNTS</b>		<b>874.50</b>	<b>0.00</b>	<b>874.50</b>	<b>0.0%</b>	<b>608,837.83</b>	<b>607,963.00</b>	<b>(874.83)</b>	<b>-0.1%</b>
<b>TOTAL EXPENSES</b>		<b>507,062.80</b>	<b>545,367.53</b>	<b>38,304.73</b>	<b>7.0%</b>	<b>3,989,268.06</b>	<b>4,450,443.18</b>	<b>461,175.12</b>	<b>10.4%</b>
<b>NET INCOME</b>		<b>395,620.31</b>				<b>970,787.28</b>			

**COASTSIDE COUNTY WATER DISTRICT  
MONTHLY INVESTMENT REPORT  
December 31, 2014**

**RESERVE BALANCES**

CAPITAL AND OPERATING RESERVE	\$2,193,010.92
RATE STABILIZATION RESERVE	\$250,000.00

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<b>TOTAL DISTRICT RESERVES</b>	<b>\$2,443,010.92</b>
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**ACCOUNT DETAIL**

ACCOUNTS WITH FIRST NATIONAL BANK (FNB)	
CHECKING ACCOUNT	\$812,667.32
CSP T & S ACCOUNT	\$610,284.73

LOCAL AGENCY INVESTMENT FUND (LAIF) BALANCE	\$1,019,428.87
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DISTRICT CASH ON HAND	\$630.00
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<b>TOTAL ACCOUNT BALANCES</b>	<b>\$2,443,010.92</b>
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*This report is in conformity with CCWD's Investment Policy.*

**Legal Cost Tracking Report  
12 Months At-A-Glance**

**Acct. No.5681  
Patrick Miyaki - HansonBridgett, LLP  
Legal**

<b>Month</b>	<b>Admin (General Legal Fees)</b>	<b>Water Supply Develpmnt</b>	<b>Transfer Program</b>	<b>CIP</b>	<b>Personnel</b>	<b>Water Shortage</b>	<b>Lawsuits</b>	<b>Infrastructure Project Review  (Reimbursable)</b>	<b>TOTAL</b>
<b>Jan-14</b>	1,344	588		224					2,156
<b>Feb-14</b>	2,752	140							2,892
<b>Mar-14</b>	6,214								6,214
<b>Apr-14</b>	2,096		604					1,487	4,187
<b>May-14</b>	2,519			257				286	3,063
<b>Jun-14</b>	2,252		220	858					3,330
<b>Jul-14</b>	6,604		269	772	550				8,196
<b>Aug-14</b>	2,145			715	1,494	3,752			8,105
<b>Sep-14</b>	4,054		314	143	5,092	1,516			11,119
<b>Oct-14</b>	2,571	1,087			2,034				5,691
<b>Nov-14</b>	3,277			114	4,111			429	7,931
<b>Dec-14</b>	2,460		290		3,793				6,542
<b>TOTAL</b>	<b>38,288</b>	<b>1,815</b>	<b>1,698</b>	<b>3,084</b>	<b>17,073</b>	<b>5,267</b>	<b>0</b>	<b>2,202</b>	<b>69,426</b>

**Engineer Cost Tracking Report  
12 Months At-A-Glance**

**Acct. No. 5682  
JAMES TETER  
Engineer**

<b>Month</b>	<b>Admin &amp; Retainer</b>	<b>CIP</b>	<b>Studies &amp; Projects</b>	<b>TOTAL</b>	<b>Reimbursable from Projects</b>
<b>Jan-14</b>	480		1,521	<b>2,001</b>	1,521
<b>Feb-14</b>	480		423	<b>903</b>	423
<b>Mar-14</b>	480	1,606	930	<b>3,015</b>	930
<b>Apr-14</b>	480	2,005	169	<b>2,654</b>	169
<b>May-14</b>	480	5,463	2,907	<b>8,850</b>	2,907
<b>Jun-14</b>	480	9,551		<b>10,031</b>	
<b>Jul-14</b>	480	7,799	169	<b>8,448</b>	169
<b>Aug-14</b>	480	8,316		<b>8,796</b>	
<b>Sep-14</b>	240	7,445	180	<b>7,865</b>	180
<b>Oct-14</b>	480	13,394		<b>13,874</b>	
<b>Nov-14</b>	480	11,154	3,211	<b>14,845</b>	3,211
<b>Dec-14</b>	360		254	<b>614</b>	254
<b>TOTAL</b>	<b>5,400</b>	<b>66,732</b>	<b>9,762</b>	<b>81,895</b>	<b>9,762</b>







COASTSIDE COUNTY WATER DISTRICT  
 APPROVED CAPITAL IMPROVEMENT PROJECTS  
 FISCAL YEAR 2014-2015

12/31/2014

Approved CIP Budget FY 14/15	Actual To Date FY 14/15	Projected Year-End FY 14/15	Projected vs. Budget Variance	% Completed	Project Status/ Comments
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**Previous CIP Projects - paid in FY 14/15**

Nunes WTP Access Road Repaving Proj - Phase 1		\$ 78,039	\$ 80,000		Complete
El Granada Tank #2 Recoating/Repair Project		\$ 58,743	\$ 58,743		Complete
Denniston Water Supply Development		\$ 12,790	\$ 12,790		
Miramar Tank Fence Replacement		\$ 26,418	\$ 26,418		Complete
Nunes Hydropneumatic Systems Improvements		\$ 81,070	\$ 80,000		Construction complete, vendor not paid

**PREVIOUS YEAR TOTALS \$ - \$ 257,060 \$ 257,951 \$ (257,951)** In Progress

**UNSCHEDULED ITEMS (CAPITAL EXPENDITURES) FOR CURRENT FISCAL YEAR 14/15**

Sunrise Court Pipeline Replacement		\$ 34,489	\$ 34,489		Complete
Denniston Dam Repair		\$ 700			

**NON-BUDGETED TOTALS \$ - \$ 35,189 \$ 34,489 \$ (34,489)**

**CIP TOTALS \$ 2,798,000 \$ 1,243,819 \$ 1,885,440 \$ 912,560**

**COASTSIDE COUNTY WATER DISTRICT**  
**SPECIAL BOARD OF DIRECTORS MEETING**  
**CONDUCTED AT THE**  
**SAN MATEO COUNTY FARM BUREAU MEETING ROOM**  
**765 MAIN STREET, HALF MOON BAY, CA 94019**

**MINUTES OF THE SPECIAL MEETING OF THE BOARD OF DIRECTORS**

**Tuesday, December 9, 2014**

- 1) **ROLL CALL** - The Closed Session convened at 6:00 p.m. Present at roll call: Vice-President Chris Mickelsen, Directors Ken Coverdell, Steve Flint, and Arnie Glassberg. David Dickson, General Manager, and Patrick Miyaki, Legal Counsel, were also present. President Glenn Reynolds was absent due to illness.
  
- 2) **PUBLIC COMMENT** - There were no public comments.
  
- 3) **CLOSED SESSION**
  - A. **Conference with Labor Negotiator**  
Pursuant to California Government Code §54957.6  
Agency Designated Representatives: David Dickson, General Manager  
Employee Organization: Teamsters Union, Local 856
  
  - B. **Public Employee Performance Evaluation**  
(Cal. Govt. Code §54957): Title: General Manager
  
- 4) **RECONVENE TO OPEN SESSION**

The Closed Session concluded at 6:59 p.m., and the Board reconvened to open session, at which time it was reported by Patrick Miyaki, Legal Counsel, that no action was taken with regard to both items discussed during the closed session.
  
- 5) **ADJOURNMENT** - The special meeting was adjourned at 7:00 p.m.

Respectfully submitted,

\_\_\_\_\_  
David R. Dickson, General Manager  
Secretary of the District

\_\_\_\_\_  
Chris Mickelsen, President  
Board of Directors

**COASTSIDE COUNTY WATER DISTRICT**  
**BOARD OF DIRECTORS MEETING**  
**CONDUCTED AT THE**  
**SAN MATEO COUNTY FARM BUREAU MEETING ROOM**  
**765 MAIN STREET, HALF MOON BAY, CA 94019**

**MINUTES OF THE BOARD OF DIRECTORS MEETING**

**Tuesday, December 9, 2014**

- 1) **ROLL CALL:** Vice-President Chris Mickelsen called the meeting to order at 7:02 p.m. Present at roll call: Directors Steve Flint, Arnie Glassberg and Ken Coverdell. President Glenn Reynolds was absent due to illness.

Also present were: David Dickson, General Manager; Patrick Miyaki, Legal Counsel; Joe Guistino, Superintendent of Operations; JoAnne Whelen, Administrative Assistant/Recording Secretary; Cathleen Brennan, Water Resources Analyst; and Gina Brazil, Office Manager. Water Treatment Supervisor, Sean Donovan, was also in the audience.

- 2) **PLEDGE OF ALLEGIANCE**

- 3) **PUBLIC COMMENT** - There were no public comments.

- 4) **CONSENT CALENDAR**

- A. Approval of disbursements for the month ending November 30, 2014:  
Claims: \$953,353.16; Payroll: \$81,384.97 for a total of \$1,034,738.13  
➤ *November 2014 Monthly Financial Claims reviewed by Director Coverdell*
- B. Acceptance of Financial Reports
- C. Approval of Minutes of November 12, 2014, Regular Board of Directors Meeting
- D. Monthly Water Transfer Report
- E. Installed Water Connection Capacity and Water Meters Report
- F. Total CCWD Production Report
- G. CCWD Monthly Sales by Category Report - November 2014
- H. November 2014 Leak Report
- I. Rainfall Reports
- J. San Francisco Public Utilities Commission Hydrological Conditions Report for October 2014
- K. Notice of Completion - Nunes Water Treatment Plant Access Road Improvement Project

Director Coverdell reported that he had reviewed the financial claims and petty cash expenditures for the month of November 2014 and found all to be in order.

**ON MOTION BY Director Glassberg and seconded by Director Flint, the Board voted as follows, to accept and approve the Consent Calendar in its entirety:**

<b>Vice-President Mickelsen</b>	<b>Aye</b>
<b>Director Coverdell</b>	<b>Aye</b>
<b>Director Flint</b>	<b>Aye</b>
<b>Director Glassberg</b>	<b>Aye</b>
<b>President Reynolds</b>	<b>Absent</b>

**5) MEETINGS ATTENDED / DIRECTOR COMMENTS**

Director Coverdell shared some highlights from his recent tour of China, and expressed his appreciation of the water quality on the coastside.

Vice-President Mickelsen reported on a recent Bay Area Water Supply and Conservation Agency (BAWSCA) meeting.

**6) GENERAL BUSINESS**

**A. Approval of Memorandum of Understanding Between Coastside County Water District and Teamsters Local 856**

Mr. Dickson introduced this item, noting that he has been working with Sean Donovan, Water Treatment Supervisor, on these negotiations over the past several months. He commented that he has appreciated Sean's role as the Union Representative, and also recognized Sean's efforts in working with him and with the bargaining unit employees. He then outlined the key changes in the recently negotiated Memorandum of Understanding (MOU). He explained that the employees have voted to approve the MOU as presented and the Teamsters Local 856 representative has executed the document.

Director Glassberg prefaced his comments by advising that he has participated in the management side of labor negotiations for seven different public agencies over his career and stated that he was very impressed with the maturity and professionalism in the way that the Union approached the issues presented by the Board during the negotiations. Director Coverdell commented that he felt the negotiated MOU was fair and reasonable and he looked forward to the District

moving ahead, adding that he appreciated the field crew's hard work, dedication, and loyalty, and their commitment to maintaining the District's infrastructure, as well as their excellent response skills to emergency situations. Director Flint agreed that he felt the MOU was a fair and generous package and that he was happy to be a part of the District. Vice-President Mickelsen agreed that the negotiations were handled in a fair and professional manner and that he felt everyone came away as a winner.

**ON MOTION BY Director Coverdell and seconded by Vice-President Mickelsen, the Board voted as follows, to authorize the General Manager to execute the Memorandum of Understanding between the District and Teamsters Local 856 covering the period July 1, 2014 through June 30, 2017:**

<b>Vice-President Mickelsen</b>	<b>Aye</b>
<b>Director Coverdell</b>	<b>Aye</b>
<b>Director Flint</b>	<b>Aye</b>
<b>Director Glassberg</b>	<b>Aye</b>
<b>President Reynolds</b>	<b>Absent</b>

Mr. Dickson concluded discussion of this agenda item by stating that he appreciated the excellent assistance provided by Patrick Miyaki and Kurt Franklin, Legal Counsel from Hanson Bridgett.

**B. Adjusting the Fiscal Year 2015 Financial Plan in Response to Drought-Related Revenue Shortfall**

Mr. Dickson distributed hand-outs for this agenda item, which contained information related to ten-year cash flow projections, CCWD Rate Increases needed to meet revenue requirements for fiscal year 2014-2015 to 2023-2024, water production and costs for this period, and potential adjustments to the Capital Improvement Program (CIP) for fiscal year 2014-2015 through 2023-2024. Mr. Dickson proceeded with a presentation exploring scenarios for CIP adjustments, rate increases, and borrowing, which could be considered to address the projected revenue loss. He advised that over the next several months, staff would be working on the new financing plan and fiscal year 2015-2016 budget and that some of the proposed options would be explored in greater detail at that time. Following the presentation, the Board members shared their comments with respect to the District borrowing money, as well as methods to generate income, and Mr. Dickson answered a few questions.

**B. Election of Coastside County Water**

Director Coverdell nominated Vice-President Mickelsen to serve as President; the nomination was seconded by Director Glassberg.

**Director Coverdell then made a motion that Vice-President Mickelsen serves as the District's Board President by acclamation, which was seconded by Director Glassberg and affirmed by Director Flint:**

<b>Vice-President Mickelsen</b>	<b>Aye</b>
<b>Director Coverdell</b>	<b>Aye</b>
<b>Director Flint</b>	<b>Aye</b>
<b>Director Glassberg</b>	<b>Aye</b>
<b>President Reynolds</b>	<b>Absent</b>

Director Coverdell then nominated Director Glassberg to serve as the Board's Vice-President, which was seconded by President Mickelsen.

**Director Coverdell moved that Director Glassberg serves as the Board's Vice President, and it was seconded by President Mickelsen.**

<b>Vice-President Mickelsen</b>	<b>Aye</b>
<b>Director Coverdell</b>	<b>Aye</b>
<b>Director Flint</b>	<b>Aye</b>
<b>Director Glassberg</b>	<b>Aye</b>
<b>President Reynolds</b>	<b>Absent</b>

**7) GENERAL MANAGER'S REPORT -INCLUDING MONTHLY INFORMATIONAL REPORTS**

**Magellan Pipeline Leak and Boil Water Advisory** - Mr. Dickson recognized the competence, dedication, and professionalism of the District staff, on all levels, in dealing with the pipeline break and the subsequent boil water advisory, noting that every District employee was involved and worked together effectively to address the response efforts, repairs, and communication with this incident.

**Administration Building Remodeling Project** - Mr. Dickson reported that the remodeling project is progressing on schedule, with the move back into the administration building expected to take place approximately the second week of January 2015.

A. **Operations Report** - Mr. Guistino explained further details of the Magellan Main Break, advising that the bacteriological sampling indicated that no water contamination had occurred. He also updated the Board on the situation with the communications improvements at the Crystal Springs Pump Station. Additionally, he reported on the progress of the operation of the Denniston Water Treatment Plant.

B. **Water Resources Report**  
Ms. Brennan reviewed details contained in the informational report on the water savings for the period of March through November 2014.

8) **DIRECTOR AGENDA ITEMS - REQUESTS FOR FUTURE BOARD MEETINGS**

There were no requests for future Board meetings expressed.

9) **ADJOURNMENT** - The meeting was adjourned at 8:29 p.m.

Respectfully submitted,

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David R. Dickson, General Manager  
Secretary of the District

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Chris Mickelsen, President  
Board of Directors





**TOTAL CCWD PRODUCTION (MG) ALL SOURCES- FY 2015**

	PILARCITOS WELLS	PILARCITOS LAKE	DENNISTON WELLS	DENNISTON RESERVOIR	CRYSTAL SPRINGS RESERVOIR	RAW WATER TOTAL	UNMETERED WATER	TREATED TOTAL
JUL	0.00	0.00	0.48	2.32	71.96	74.76	0.85	73.92
AUG	0.00	0.00	0.10	0.82	73.97	74.89	0.09	74.80
SEPT	0.00	0.00	0.05	0.60	59.58	60.23	0.45	59.78
OCT	0.00	0.00	0.00	0.00	57.13	57.13	0.13	57.00
NOV	4.43	0.00	0.01	0.93	41.00	46.37	0.72	45.65
DEC	10.67	9.68	0.20	2.19	16.37	39.11	0.35	38.76
JAN								
FEB								
MAR								
APR								
MAY								
JUN								
<b>TOTAL</b>	<b>15.10</b>	<b>9.68</b>	<b>0.84</b>	<b>6.86</b>	<b>320.01</b>	<b>352.49</b>	<b>2.58</b>	<b>349.91</b>
% MONTHLY TOTAL	27.28%	24.74%	0.51%	5.60%	41.86%	100.00%	0.88%	99.12%
% ANNUAL TO DATE TOTAL	4.3%	2.7%	0.2%	1.9%	90.8%	100.0%	0.73%	99.3%

12 Month Running Treated Total **683.77**

**TOTAL CCWD PRODUCTION (MG) ALL SOURCES- FY 2014**

	PILARCITOS WELLS	PILARCITOS LAKE	DENNISTON WELLS	DENNISTON RESERVOIR	CRYSTAL SPRINGS RESERVOIR	RAW WATER TOTAL	UNMETERED WATER	TREATED TOTAL
JUL	0.00	0.00	0.00	0.00	75.61	75.61	0.40	75.21
AUG	0.00	0.00	0.00	0.00	84.56	84.56	-0.18	84.74
SEPT	0.00	0.00	0.00	0.00	66.04	66.04	0.21	65.83
OCT	0.00	0.00	0.00	0.00	68.72	68.72	-0.09	68.81
NOV	1.82	0.00	0.00	0.00	56.17	57.99	0.13	57.86
DEC	0.76	0.00	0.00	0.00	55.12	55.88	0.07	55.81
JAN	0.00	0.00	0.00	0.46	57.17	57.63	1.10	56.53
FEB	2.97	0.00	0.00	2.33	35.25	40.55	1.61	38.94
MAR	1.78	0.00	0.25	8.86	31.25	42.14	-0.38	42.52
APR	0.00	19.89	0.92	12.58	19.70	53.09	0.21	52.88
MAY	0.00	16.79	0.83	7.89	50.40	75.91	-0.06	75.97
JUN	0	0.00	0.00	1.22	66.61	67.83	0.81	67.02
<b>TOTAL</b>	<b>7.33</b>	<b>36.68</b>	<b>2.00</b>	<b>33.34</b>	<b>666.60</b>	<b>745.95</b>	<b>3.82</b>	<b>742.12</b>
% TOTAL	1.0%	4.9%	0.3%	4.5%	89.4%	100.0%	0.51%	99.5%

 denotes estimated due to faulty SFPUC meter

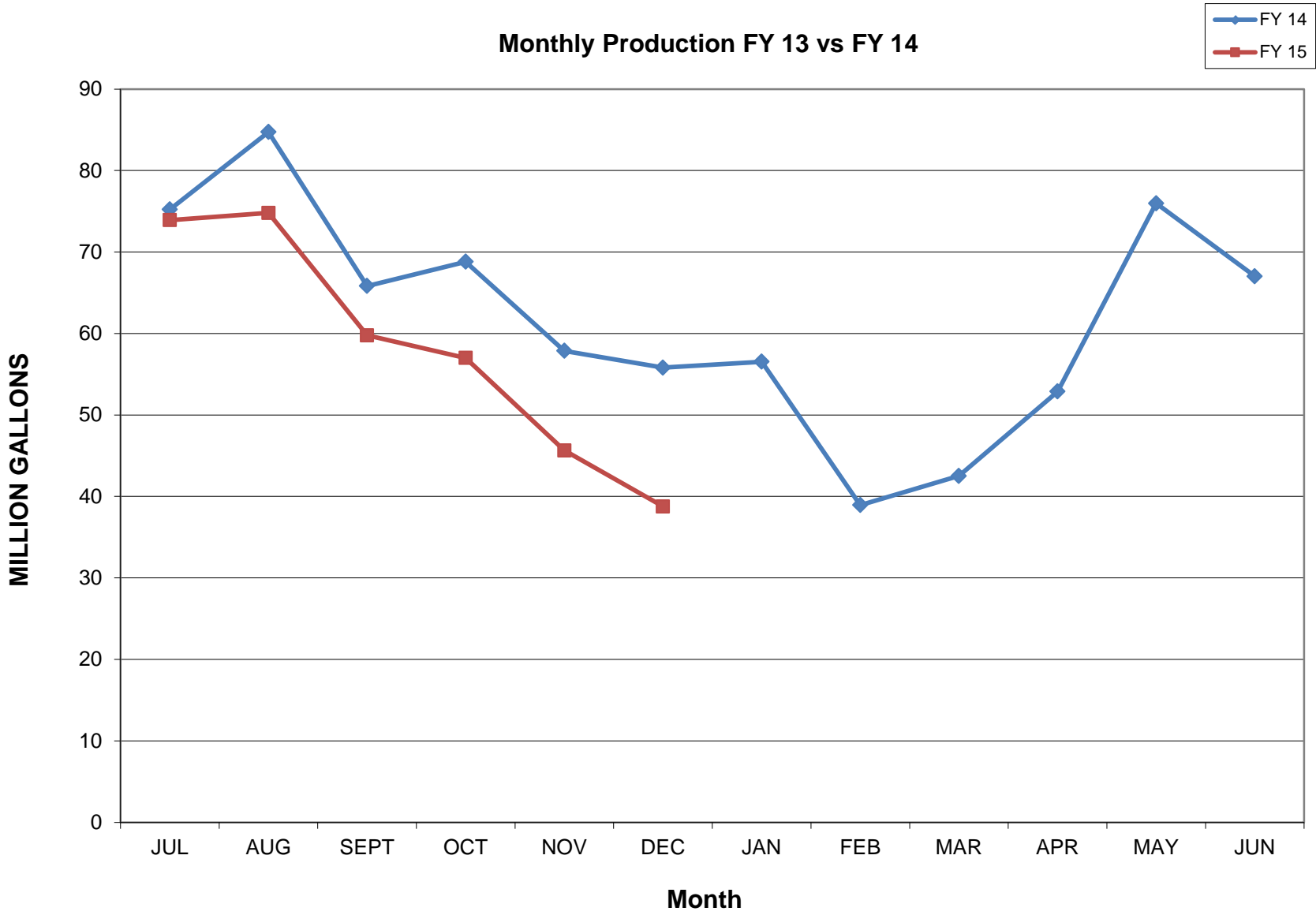
**COASTSIDE COUNTY WATER DISTRICT**

**Predicted vs Actual Production - All Sources FY 15**

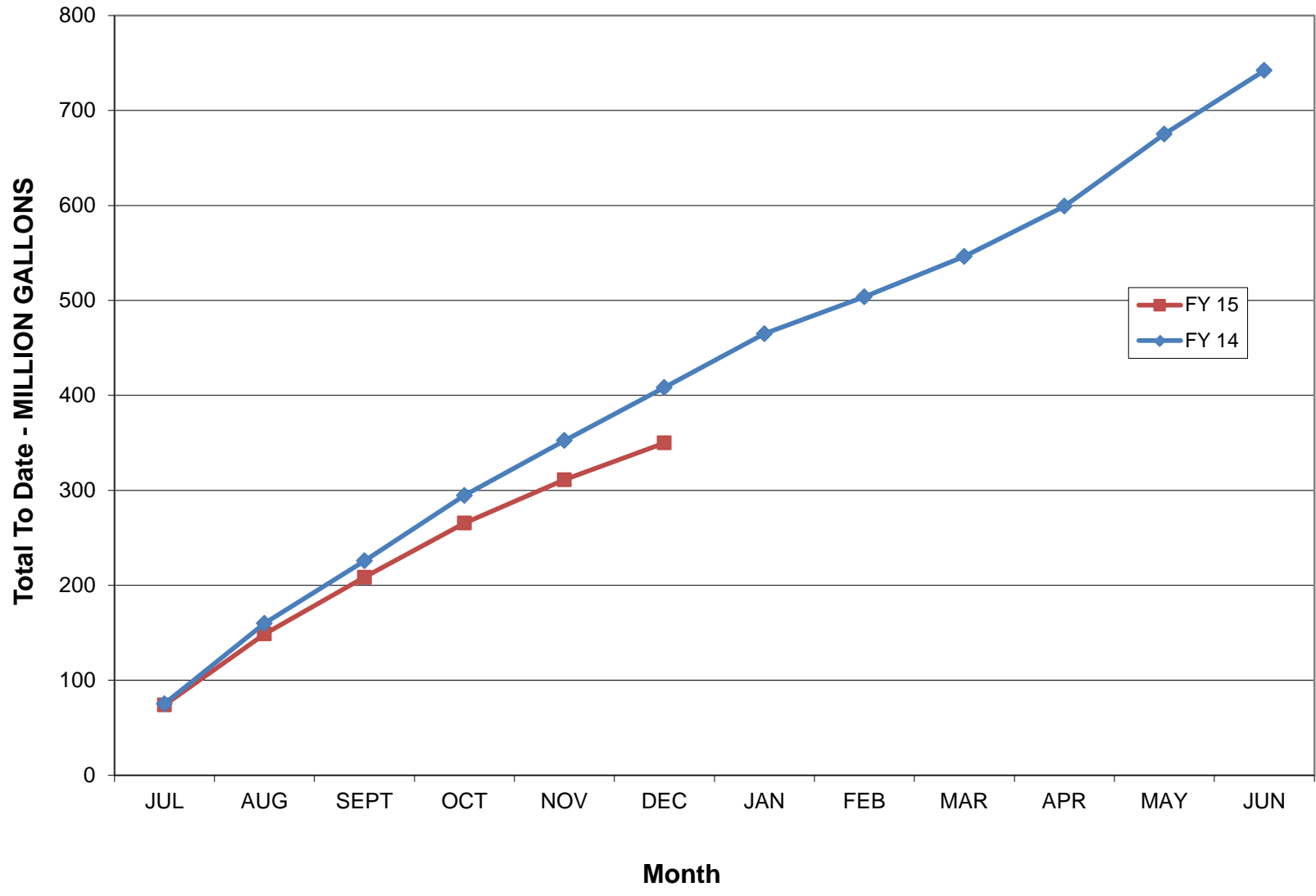
	Denniston Surface			Denniston Wells			Pilarcitos Wells			Pilarcitos Surface			SFWD CSP			SFWD Total	
	Actual MG	Predicted MG	pred-act	Actual MG	Predicted	pred-act	Actual MG	Predicted MG	pred-act	Actual MG	Predicted MG	pred-act	Actual MG	Predicted MG	pred-act	Actual MG	Predicted MG
Jul-14	2.32	5.34	3.02	0.48	0.00	-0.48	0.00	0.00	0.00	0.00	31.42	31.42	71.96	34.44	-37.52	71.96	65.86
Aug-14	0.82	0.00	-0.82	0.10	0.00	-0.10	0.00	0.00	0.00	0.00	47.40	47.40	73.97	32.50	-41.47	73.97	79.90
Sep-14	0.60	0.00	-0.60	0.05	0.00	-0.05	0.00	0.00	0.00	0.00	27.24	27.24	59.58	35.18	-24.40	59.58	62.42
Oct-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.36	36.36	57.13	29.25	-27.88	57.13	65.61
Nov-14	0.93	6.34	5.41	0.01	0.00	-0.01	4.43	1.87	-2.56	0.00	46.19	46.19	41.00	0.00	-41.00	41.00	46.19
Dec-14	2.19	11.53	9.34	0.20	0.00	-0.20	10.67	1.12	-9.55	9.68	39.52	29.85	16.37	0.00	-16.37	26.05	39.52
Jan-15			#VALUE!			#VALUE!			#VALUE!			#VALUE!			#VALUE!	0.00	36.19
Feb-15			#VALUE!			#VALUE!			#VALUE!			#VALUE!			#VALUE!	0.00	19.64
Mar-15			#VALUE!			#VALUE!			#VALUE!			#VALUE!			#VALUE!	0.00	19.00
Apr-15			#VALUE!			#VALUE!			#VALUE!			#VALUE!			#VALUE!	0.00	43.53
May-15			#VALUE!			#VALUE!			#VALUE!			#VALUE!			#VALUE!	0.00	63.20
Jun-15			#VALUE!			#VALUE!			#VALUE!			#VALUE!			#VALUE!	0.00	60.46
<b>MG Totals</b>	<b>6.86</b>	<b>23.21</b>	<b>16.35</b>	<b>0.84</b>	<b>0.00</b>	<b>-0.84</b>	<b>15.10</b>	<b>2.99</b>	<b>-12.11</b>	<b>9.68</b>	<b>228.13</b>	<b>218.46</b>	<b>320.01</b>	<b>131.37</b>	<b>-188.64</b>	<b>329.69</b>	<b>601.52</b>

	Actual non SFPUC	Predicted non SFPUC	Actual SFPUC	Predicted SFPUC	TOTAL		
					Actual	Predicted	Pred-act
	22.80	26.20	329.69	359.50	352.49	385.71	33.22
<b>% Total</b>	<b>6.47%</b>	<b>6.79%</b>	<b>93.53%</b>	<b>93.21%</b>	<b>91.39%</b>		

Monthly Production FY 13 vs FY 14



Cumulative Production FY 13 vs.FY14



Plant Water Use*			Unmetered Water						2014		MG	
	Denniston Plant	Nunes Plant	Total	Main Flushing	Detector Checks*	Main Breaks	Fire Dept	Miscellaneous	Tank Level Difference	Total		
JAN	0.110	0.000	0.110	0.973	0.017	0.020	0.000	0.014	-0.258	1.097		
FEB	0.270	0.000	0.270	0.000	0.009	0.216	0.002	0.014	0.562	1.613		
MAR	0.000	0.000	0.000	0.000	0.009	0.007	0.002	0.014	-0.416	-0.384		
APR	0.000	0.000	0.000	0.000	0.004	0.000	0.000	0.014	0.193	0.211		
MAY	0.000	0.000	0.000	0.000	0.006	0.005	0.000	0.014	-0.084	-0.059		
JUN	0.103	0.000	0.103	0.000	0.005	0.067	0.000	0.014	0.412	0.807		
JUL	0.230	0.000	0.230	0.054	0.010	0.046	0.000	0.014	0.032	0.845		
AUG	0.000	0.000	0.000	0.000	0.004	0.023	0.000	0.114	-0.055	0.086		
SEP	0.000	0.000	0.000	0.000	0.003	0.347	0.000	0.014	0.088	0.452		
OCT	0.000	0.000	0.000	0.013	0.012	0.050	0.000	0.140	-0.087	0.128		
NOV	0.000	0.000	0.000	0.000	0.006	0.758	0.000	0.039	-0.080	0.723		
DEC	0.000	0.000	0.000	0.018	0.005	0.050	0.000	0.014	0.257	0.345		
<b>TOTAL</b>	<b>0.71</b>	<b>0.00</b>	<b>0.71</b>	<b>1.06</b>	<b>0.09</b>	<b>1.59</b>	<b>0.00</b>	<b>0.42</b>	<b>0.56</b>	<b>5.86</b>		



0.28 residential change	0.10	0.16	0.24	0.19	0.13	0.15	1.00
0.23 non residential change	0.17	-0.02	0.19	-0.01	-0.07	0.35	1.00
0.26 Total	0.14	0.09	0.21	0.13	0.04	0.21	1.00
sum fy 14	331.53						
sum fy 13	448.07						
	0.26						

## Coastside County Water District Monthly Leak Report

ID	Date Reported Discovered	Date Repaired	Location	Pipe Class	Pipe Size & Type	Estimated Water Loss (Gallons)*	Equipment Costs	Material Costs	Employee hours		Labor Costs	Total Costs
									Staff	Hours		
1	12/5/2014	12/10/14	HWY 92 at Winery	M	12"WS	50,000	\$400.00	\$1,075.00	4	12	\$7,580	\$9,055.42
2												\$0.00
3												\$0.00
4												\$0.00
5												\$0.00
6												\$0.00
7												\$0.00
8												\$0.00

<b>Totals</b>						<b>50,000</b>	<b>\$400.00</b>	<b>\$1,075.00</b>	<b>4</b>	<b>12</b>	<b>\$7,580</b>	<b>\$9,055.42</b>
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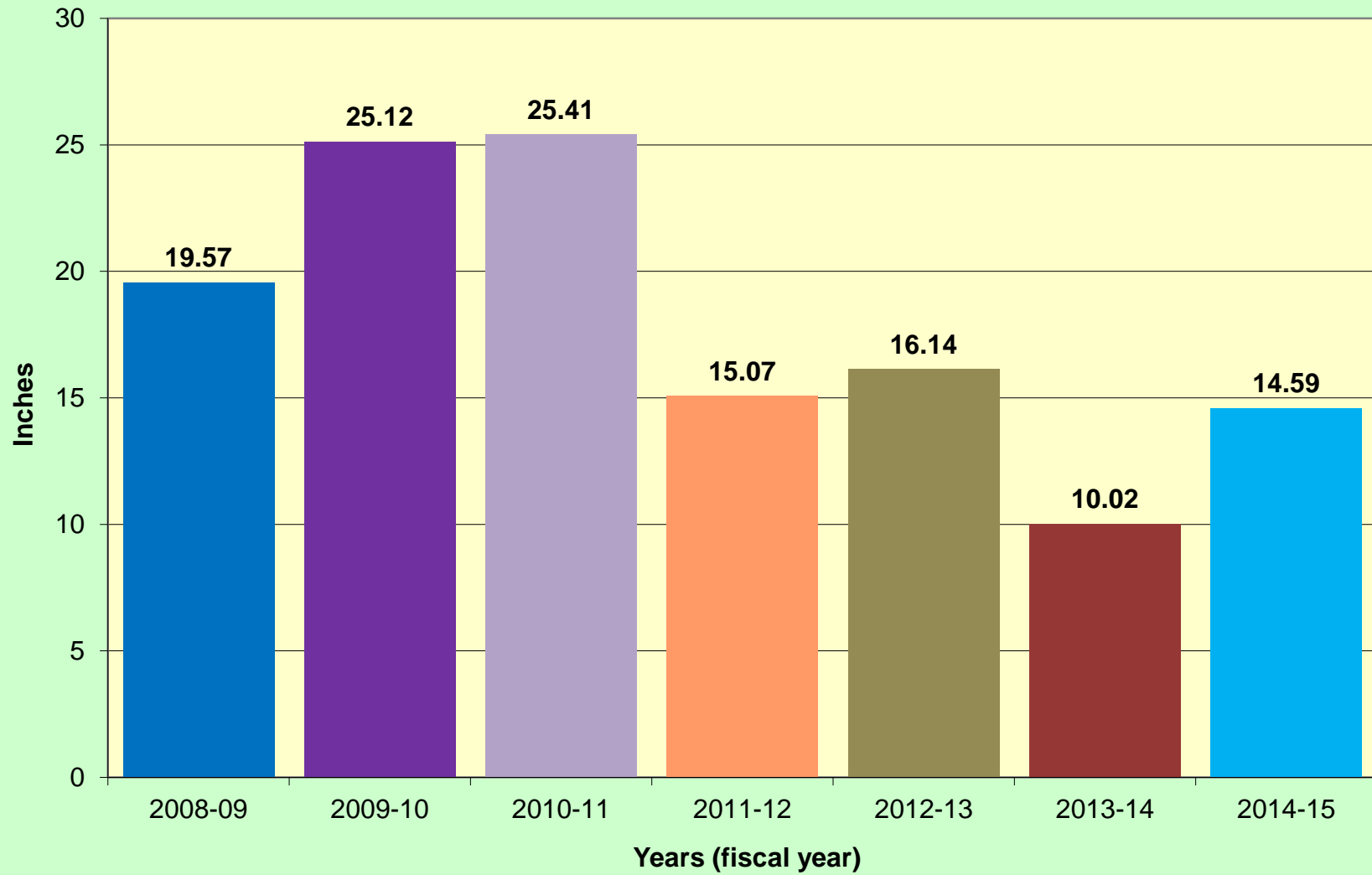
*includes 1,000 gallons for mains to daylight plus 1,000 gallons to flush mains or 100 gallons to flush services	<b>Staff x hours = 48</b>
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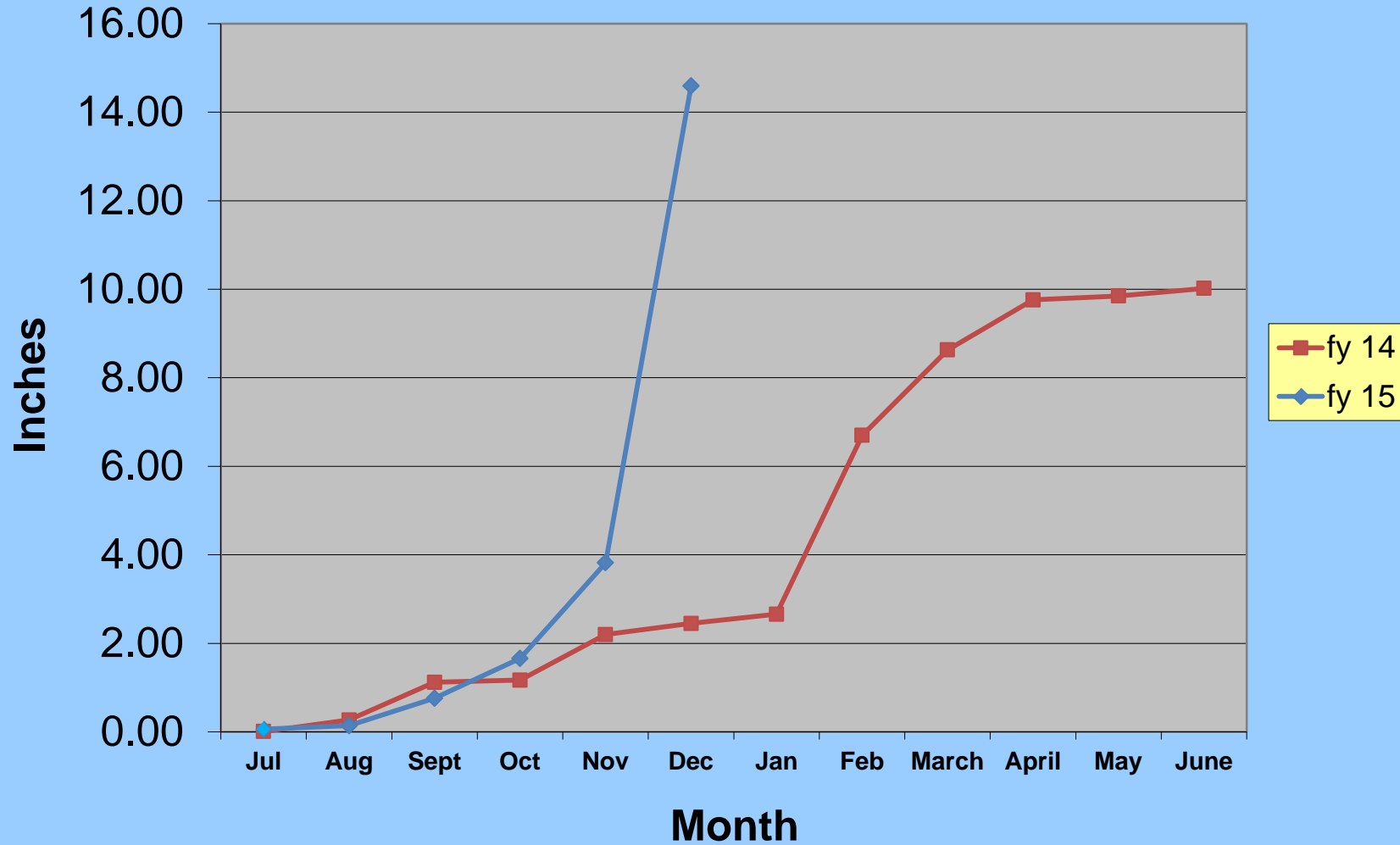


# Rain Totals

## Fiscal Years 09 - 15



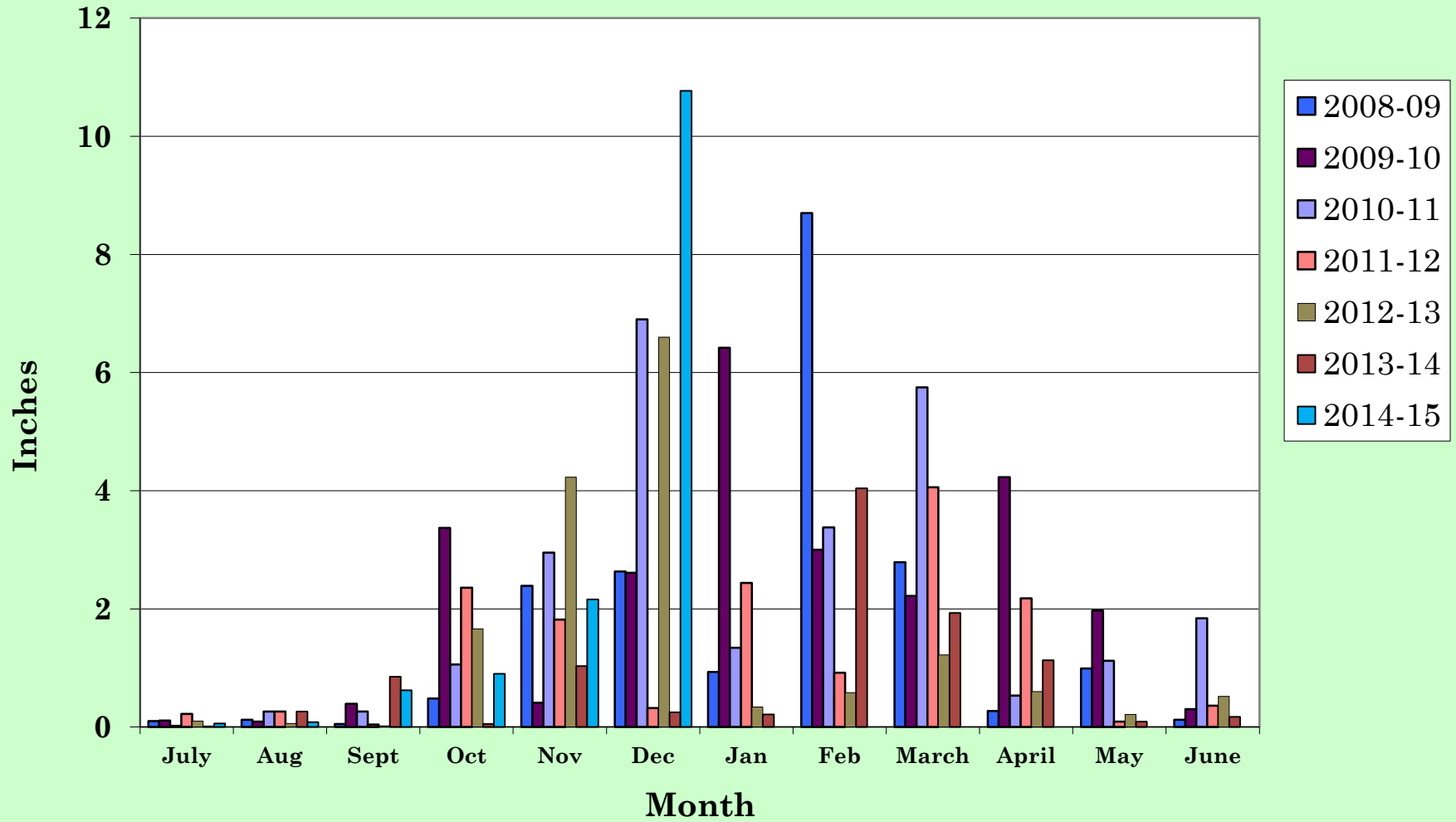
## Rainfall Total Comparison Fiscal Years 14 and 15



# Coastside County Water District

## Rainfall by Month

Fiscal Years 08 - 14



MONTHLY CLIMATOLOGICAL SUMMARY for DEC. 2014

NAME: CCWD weather station CITY: STATE:  
 ELEV: 80 ft LAT: 37° 18' 00" N LONG: 122° 18' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	61.6	70.8	1:00p	55.1	9:00p	4.5	1.0	0.00	1.5	16.0	1:30p	S
2	59.2	64.1	10:30p	55.6	6:30a	5.8	0.0	1.33	3.7	19.0	11:00p	E
3	61.9	65.4	3:30p	59.7	2:30a	3.1	0.0	1.95	4.5	27.0	10:00a	S
4	60.6	67.2	1:00p	54.8	9:00p	4.5	0.2	0.12	1.2	12.0	12:00p	WSW
5	61.9	66.1	12:00p	57.6	2:00a	3.2	0.1	0.11	2.1	16.0	6:00p	S
6	61.1	67.9	1:30p	54.1	12:00m	4.2	0.2	0.13	1.0	11.0	1:00a	WSW
7	56.9	65.9	4:30p	51.4	7:00a	8.1	0.0	0.01	0.6	15.0	1:00p	E
8	60.4	69.9	1:30p	54.0	12:30a	5.5	0.8	0.01	0.6	9.0	2:00p	E
9	58.7	64.3	1:00p	53.8	3:00a	6.3	0.0	0.00	0.3	7.0	12:00p	W
10	60.1	65.4	1:00p	53.8	3:30a	4.9	0.0	0.00	2.8	23.0	10:30p	S
11	56.5	64.5	5:00a	49.7	12:00m	8.5	0.0	3.46	4.5	35.0	6:30a	S
12	51.7	58.3	2:30p	48.1	3:00a	13.3	0.0	0.35	0.4	8.0	2:30p	ESE
13	50.9	59.3	1:30p	45.0	3:30a	14.1	0.0	0.01	1.1	9.0	9:00a	E
14	55.2	64.4	1:30p	48.7	12:30a	9.8	0.0	0.16	2.0	14.0	2:30p	S
15	53.6	57.0	1:30p	50.1	5:30a	11.4	0.0	0.98	2.5	23.0	6:00a	S
16	54.4	63.1	12:00p	48.9	12:00m	10.6	0.0	1.20	2.3	23.0	5:30p	S
17	52.4	59.1	12:30p	47.3	3:30a	12.6	0.0	0.16	0.8	14.0	1:00p	E
18	56.4	63.9	12:30p	52.4	2:00a	8.6	0.0	0.00	1.2	11.0	1:30a	WSW
19	57.0	58.5	12:30p	55.0	6:30a	8.0	0.0	0.50	2.1	16.0	11:00a	S
20	58.0	62.2	12:30p	54.6	8:00a	7.0	0.0	0.10	0.6	8.0	8:30p	WSW
21	59.3	61.6	3:30p	55.3	12:00m	5.7	0.0	0.13	1.0	11.0	4:30p	NE
22	57.2	64.2	12:00p	52.4	8:30p	7.8	0.0	0.01	0.8	10.0	1:00p	NE
23	58.7	70.4	1:30p	48.7	11:00p	7.1	0.8	0.01	1.6	14.0	7:30a	NE
24	54.2	61.0	12:30p	44.6	12:00m	10.8	0.0	0.04	2.8	23.0	5:00p	NE
25	49.1	58.6	3:00p	37.9	8:00a	15.9	0.0	0.00	2.4	19.0	11:00a	NE
26	49.4	59.0	3:00p	38.7	11:00p	15.6	0.0	0.00	1.9	21.0	12:00p	ENE
27	47.2	57.3	2:30p	38.5	2:00a	17.8	0.0	0.00	1.8	15.0	2:00p	ENE
28	50.1	61.2	1:30p	42.9	12:30a	14.9	0.0	0.00	1.7	14.0	8:30a	E
29	49.0	55.5	1:00p	38.8	7:30a	16.0	0.0	0.00	2.1	17.0	6:30p	NE
30	48.2	55.7	2:00p	38.3	7:30a	16.8	0.0	0.00	6.0	28.0	8:00p	NE
31	46.9	57.6	3:00p	36.9	11:30p	18.1	0.0	0.00	4.3	25.0	6:30a	E
	55.4	70.8	1	36.9	31	300.5	3.1	10.77	2.0	35.0	11	E

Max >= 90.0: 0

Max <= 32.0: 0

Min <= 32.0: 0

Min <= 0.0: 0

Max Rain: 3.46 ON 12/11/14

Days of Rain: 15 (>.01 in) 13 (>.1 in) 4 (>1 in)

Heat Base: 65.0 Cool Base: 65.0 Method: Integration

STATION (Climatological) Half Moon Bay		(River Station, if different)	MONTH Dec 2014
STATE CA		COUNTY San Mateo	RIVER
TIME (local) OF OBSERVATION RIVER		TEMPERATURE 16:00	STANDARD TIME IN USE
TYPE OF RIVER GAGE	ELEVATION OF RIVER GAGE ZERO	FLOOD STAGE	NORMAL POOL STAGE

WS FORM B-91 (03-09)

U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL WEATHER SERVICE

## RECORD OF RIVER AND CLIMATOLOGICAL OBSERVATIONS

DATE	TEMPERATURE			PRECIPITATION			WEATHER (Observation Day)						RIVER STAGE		REMARKS (SPECIAL OBSERVATIONS, ETC.)		
	24 HRS ENDING AT OBSERVATION		AT OBSN	24 HR AMOUNTS		AT OB	Mark 'X' for all types occurring each day						Condition	Gage reading at ___ AM		Tendency	
	MAX	MIN		Rain, melted snow, etc. (in and hundredths)	Snow, ice pellets, hail (ins. and tenths)		Snow, ice pellets, hail ice on ground (in)	A.M.			NOON						P.M.
1	70	54	66	0.36													
2	66	53	60	1.44													
3	63	56	62	1.08													
4	64	53	62	0.70													
5	64	53	64	0.02													
6	65	58	63	0.20													
7	63	51	63	T													
8	67	52	64	0.00													
9	65	53	61	0.00													
10	63	54	63	0.00													
11	65	52	53	2.11													
12	56	49	54	1.42			1	2	3	4	5	6	7	8	9	10	11
13	59	44	55	0.08													
14	63	46	60	T													
15	60	49	58	1.16													
16	61	47	55	0.39													
17	57	47	54	1.05													
18	61	50	60	0.10													
19	60	52	59	0.29													
20	62	53	59	0.12													
21	62	56	61	0.24													
22	64	52	61	T			1	2	3	4	5	6	7	8	9	10	11
23	69	49	65	0.00													
24	65	48	56	0.03													
25	58	37	57	0.01													
26	58	43	57	0.00													
27	58	35	55	0.00													
28	60	40	55	0.00													
29	58	38	54	0.00													
30	55	37	54	0.00													
31																	

62.0	48.7	SUM	10.80	CHECK BAR (for wire weight) NORMAL CHECK BAR												Fog		Ice pel		Glaze		Thund		Hail		Dam winds		Condition		Gage reading at		Tendency	
CONDITION OF RIVER AT GAGE				READING						DATE						OBSERVER																	
A. Obstructed by rough ice				E. Ice gorge below gage						SUPERVISING OFFICE						STATION INDEX NO.																	
B. Frozen, but open at gage				F. Shore ice						MTR San Francisco						04-3714-04																	
C. Upper surface smooth ice				G. Floating ice																													
D. Ice gorge above gage				H. Pool stage																													

# San Francisco Public Utilities Commission Hydrological Conditions Report For November 2014

J. Chester, C. Graham, A. Mazurkiewicz, & M. Tsang, December 9, 2014



The *Lower Cherry Aqueduct* has had major repair and maintenance work completed over the past 6 months. Water was diverted through the canal and tunnel system during the first week of December 2014 for project commissioning purposes. The canal allows the Hetch Hetchy Regional Water System to access water stored in Lake Eleanor and Cherry Reservoir during periods of extended or severe drought to augment water supply.

Current Tuolumne System and Local Bay Area storage conditions are summarized in Table 1.

Table 1 Current Storage As of December 1, 2014							
Reservoir	Current Storage		Maximum Storage		Available Capacity		Percentage of Maximum Storage
	Acre-Feet	Millions of Gallons	Acre-Feet	Millions of Gallons	Acre-Feet	Millions of Gallons	
<b>Tuolumne System</b>							
Hetch Hetchy <sup>1</sup>	237,210		340,830		103,620		69.6%
Cherry <sup>2</sup>	170,466		268,810		98,344		63.4%
Lake Eleanor <sup>3</sup>	14,575		21,495		6,920		67.8%
Water Bank	259,134		570,000		310,866		45.5%
Tuolumne Storage	681,385		1,201,135		519,750		58.2%
<b>Local Bay Area Storage</b>							
Calaveras <sup>4</sup>	15,569	5,073	96,824	31,550	81,255	26,477	16.1%
San Antonio	42,964	14,000	50,496	16,454	7,532	2,454	85.1%
Crystal Springs	54,883	17,884	58,377	19,022	3,494	1,138	94.0%
San Andreas	16,086	5,242	18,996	6,190	2,911	948	84.7%
Pilarcitos	1,866	608	2,995	976	1,128	368	62.3%
Total Local Storage	131,368	42,806	227,688	74,192	96,320	31,386	57.7%
<b>Total System</b>	<b>812,753</b>		<b>1,428,823</b>		<b>616,070</b>		<b>56.9%</b>

<sup>1</sup> Maximum Hetch Hetchy Reservoir storage with drum gates deactivated.

<sup>2</sup> Maximum Cherry Reservoir storage with flash-boards removed.

<sup>3</sup> Maximum Lake Eleanor storage with flash-boards removed.

<sup>4</sup> Available capacity does not take into account current DSOD storage restrictions.

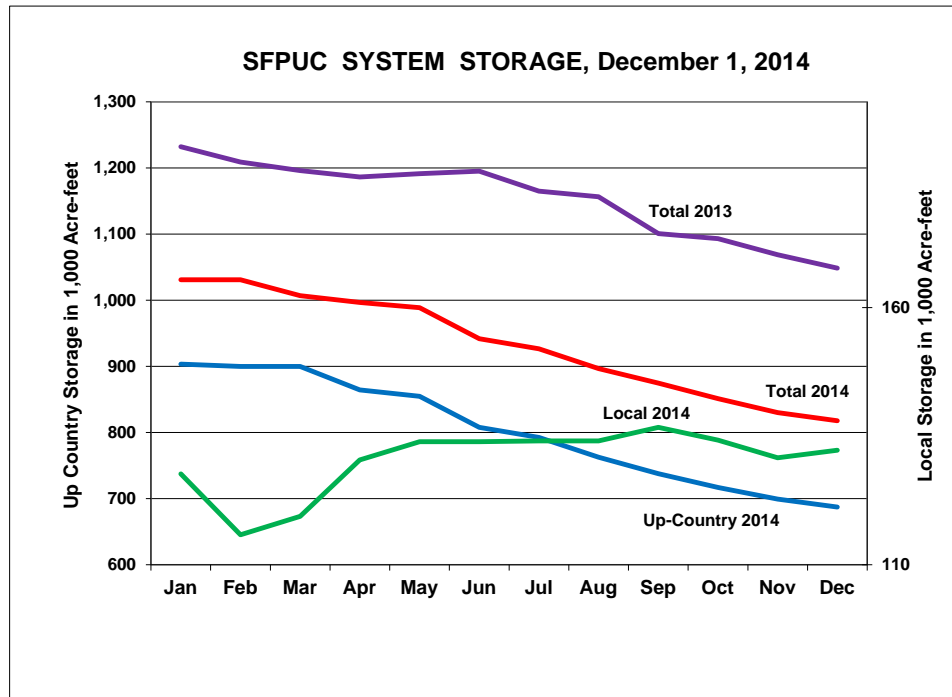
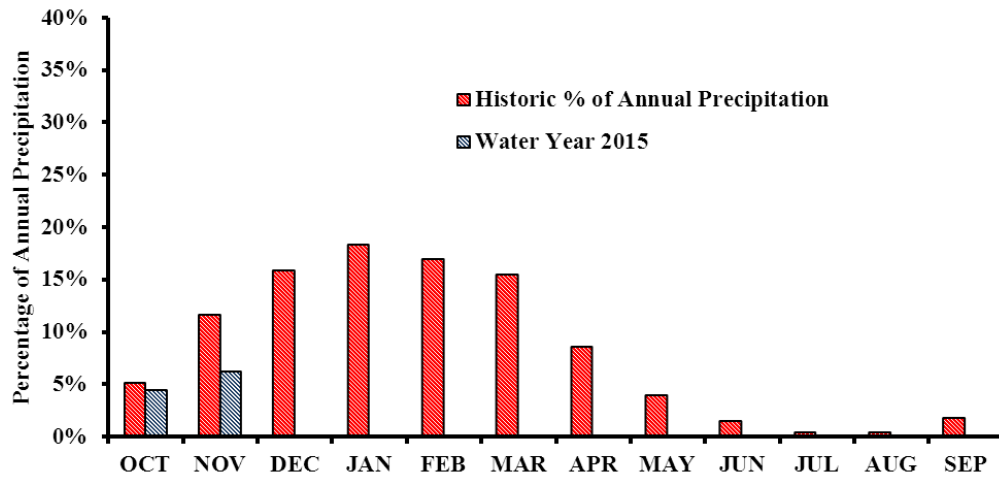


Figure 1: Monthly system storage for WY 2014



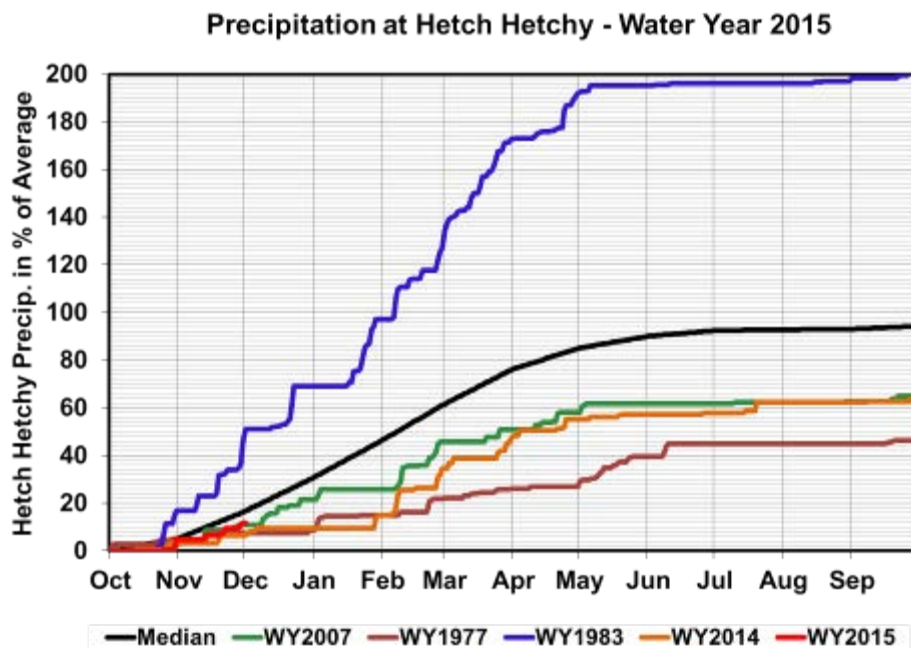
## Hetch Hetchy System Precipitation Index <sup>5/</sup>

*Current Month:* The November six-station precipitation index was 2.24 inches, or 53.3% of the average index for the month.



**Figure 2:** Monthly distribution of the Hetch Hetchy Six-station precipitation index as percent of the annual average precipitation.

*Cumulative Precipitation to Date:* The accumulated six-station precipitation index for water year 2015 is 3.74 inches, which is 10.5% of the average annual water year total, or 63.3% of the annual-to-date. Hetch Hetchy received 2.43 inches of precipitation in November, for a water year total of 4.12 inches. The cumulative Hetch Hetchy precipitation is shown in Figure 3 in red.



**Figure 3.** Water year 2015 cumulative precipitation measured at Hetch Hetchy Reservoir through November 30<sup>th</sup>, 2015. Precipitation at the Hetch Hetchy gauge for wet, dry, median, and WY 2014 are included for comparison purposes.

<sup>5/</sup>The precipitation index is computed using six Sierra precipitation stations and is an indicator of the wetness of the basin for the water year to date. The index is computed as the average of the six stations and is expressed in inches and in percent.

## Tuolumne Basin Unimpaired Inflow

Unimpaired inflow to SFPUC reservoirs and the Tuolumne River at La Grange as of November 30<sup>th</sup> is summarized below in Table 2.

<b>Table 2 Unimpaired Inflow Acre-Feet</b>								
	November 2014				October 1, 2014 through November 30, 2014			
	Observed Flow	Median <sup>6</sup>	Average <sup>6</sup>	Percent of Average	Observed Flow	Median <sup>6</sup>	Average <sup>6</sup>	Percent of Average
Inflow to Hetch Hetchy Reservoir	2,640	5,976	13,711	19.3%	3,471	10,442	19,735	17.9%
Inflow to Cherry Reservoir and Lake Eleanor	2,658	7,439	15,774	16.9%	2,214	11,983	21,064	10.5%
Tuolumne River at La Grange	8,981	21,393	45,630	19.7%	13,339	39,104	62,555	21.3%
Water Available to the City	0	0	13,353	0.0%	0	0	15,333	0.0%

<sup>6</sup> Hydrologic Record: 1919 – 2010

### Hetch Hetchy System Operations

Draft and releases from Hetch Hetchy Reservoir in the month of November totaled 23,988 acre-feet to meet SJPL deliveries and instream release requirements. The instream release schedule at Hetch Hetchy Reservoir for the month of November was year type C (below normal conditions). This year type is based upon accumulated runoff in water year 2014, starting October 1<sup>st</sup>, 2013 through July 31, 2014. The instream release requirement from Hetch Hetchy Reservoir was 35 cfs for November. Releases for the month of December are 35 cfs under the type C water year condition. The water year type will be re-assessed on January 1<sup>st</sup> based observed precipitation during water year 2015 to-date.

A power draft of 8,065 acre-feet was made from Cherry Reservoir during the month of November to meet District inflow obligations. No water was transferred from Lake Eleanor to Cherry Reservoir in November. The required minimum instream release from Lake Eleanor for November was 5 cfs. Required instream releases from Cherry Reservoir during November were 5 cfs. During the month of December, the instream release requirements from Lake Eleanor and Cherry Reservoir are 5 cfs.

### Local System Treatment Plant Production

The Harry Tracy Water Treatment Plant was out-of-service for the month of November. The Sunol Valley Water Treatment Plant production rate for the month was 8 MGD.

### Local System Water Delivery

The average November delivery rate was 179 MGD which is a 12% decrease below the October rate of 204 MGD.

## Local Precipitation

November precipitation was recorded across the local watersheds. The November rainfall summary is presented in Table 3.

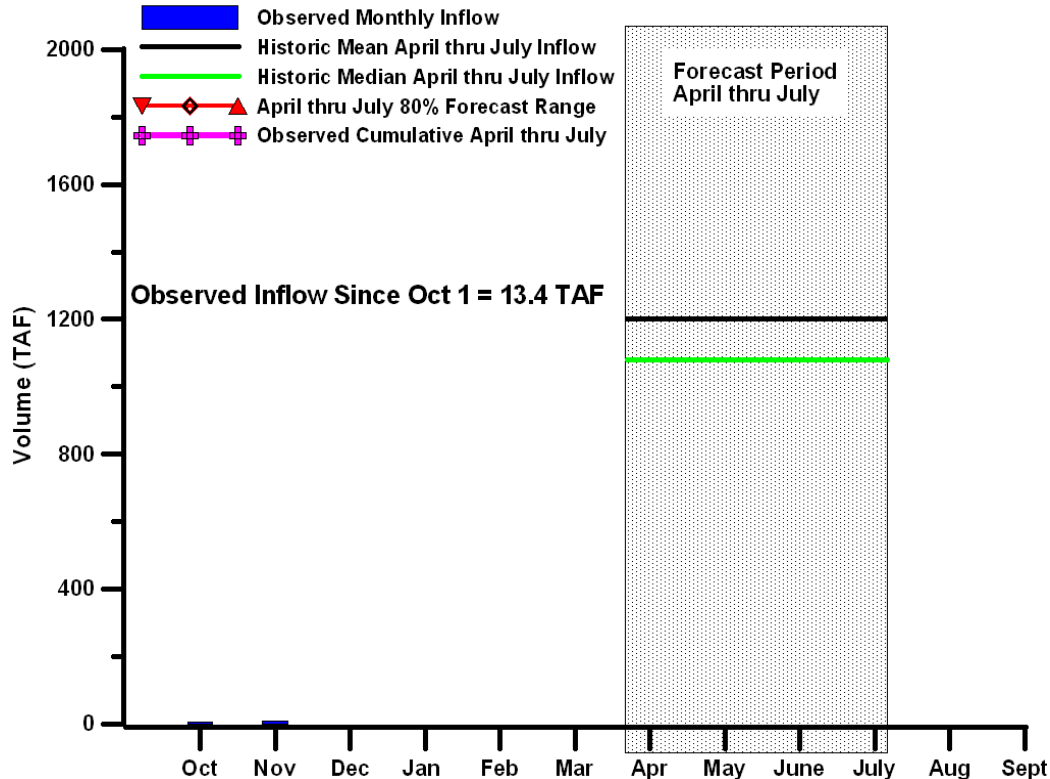
Reservoir	Month Total (inches)	Percentage of Average for the Month	Water Year to Date <sup>7</sup> (inches)	Percentage of Average for the Year-to-Date <sup>7</sup>
Pilarcitos	4.62	96%	5.58	79%
Lower Crystal Springs	2.65	77%	3.35	69%
Calaveras	2.07	78%	2.25	60%

<sup>7</sup> WY 2015: Oct. 2014 through Sep. 2015.

## Snowmelt and Water Supply

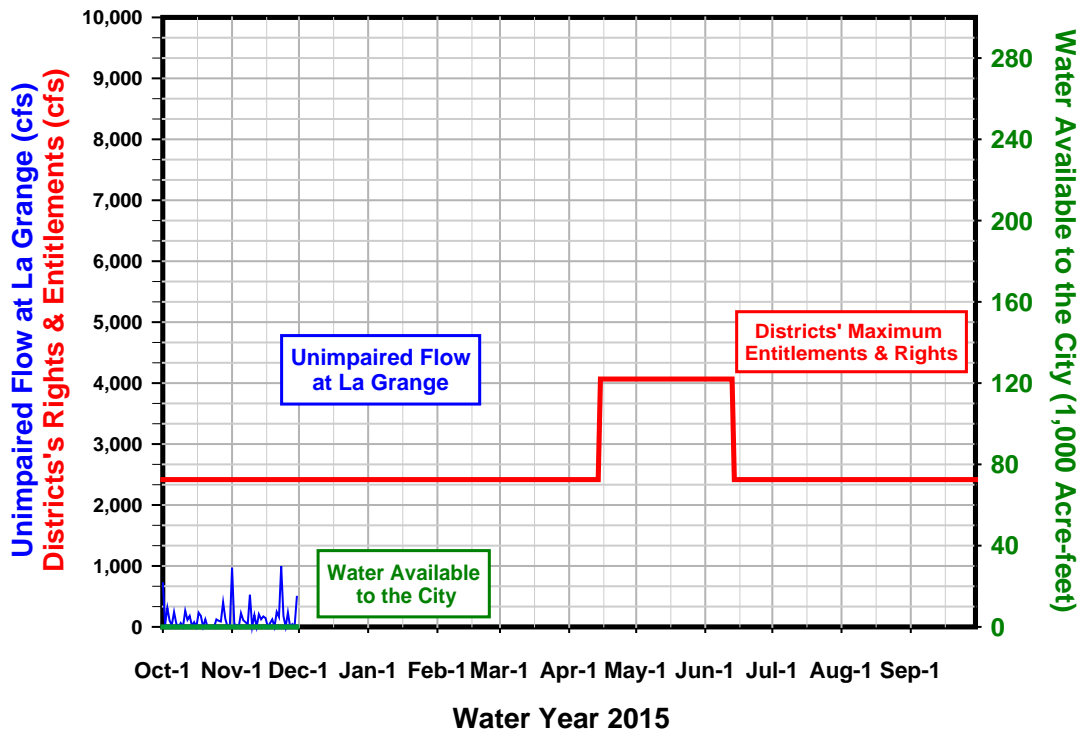
The current system storage levels reflect three-years of continued dry conditions. However, water conservation efforts have been met which has resulted in lower system demands and the storage level in Hetch Hetchy Reservoir to be approximately 22,000 acre-feet higher on December 1, 2014 then December 1, 2013. While precipitation has lagged thus far in water year 2015, the months of October and November have a wide range of historical variability. The National Weather Service is predicting above normal precipitation conditions during the month of December. The seasonal outlook for the first three months of winter is for above normal precipitation. This is a change in the seasonal outlook since November 1<sup>st</sup>.

Given the limited precipitation during October and November, inflows have been below normal (Figure 4) and there has not been water available to the City (Figure 5).



**Figure 4:** Water Year conditions for the Tuolumne River at La Grange

### Unimpaired Flow at La Grange & Water Available to the City



**Figure 5:** Calculated unimpaired flow at La Grange and the allocation of flows between the Districts and the City. No water was available to the City for water year 2015.

cc	HHWP Records	Gibson, Bill	Levin, Ellen	Rydstrom, Todd
	Briggs, David	Graham, Chris	Mazurkiewicz, Adam	Sandkulla, Nicole
	Carlin, Michael	Hale, Barbara	Meier, Steve	Tsang, Michael
	Chester, John	Hannaford, Margaret	Moses, Matt	Williams, Mike
	DeGraca, Andrew	Kelly, Harlan	Patterson, Mike	
	Dhakai, Amod	Jue, Tyrone	Nelson, Chris	
	Dufour, Alexis	Kehoe, Paula	Ramirez, Tim	
	Gambon, Paul	Lehr, Dan	Ritchie, Steve	

## **STAFF REPORT**

**To:** Coastside County Water District Board of Directors

**From:** David Dickson, General Manager

**Agenda:** January 13, 2015

Report

Date: January 8, 2015

**Subject:** Main Street Bridge Pipeline Replacement Project 30% Design

---

### **Recommendation:**

None. The Board may wish to provide direction to staff regarding next steps in the Main Street Bridge Pipeline Replacement Project.

### **Background:**

At the May 13, 2014 meeting, staff informed the Board about the need to replace the deteriorated section of welded steel pipeline attached to the Main Street Bridge and proposed having EKI perform an evaluation of replacement options. These options included keeping the pipeline on the bridge and following an alternative, off-bridge alignment that would involve running the pipe underneath the creek. Based on the Board's strongly expressed preference for proceeding immediately with design of the off-bridge option, EKI returned with a design proposal, which the Board approved on June 10. EKI's proposal presented a "conceptual" project cost estimate of \$1,540,000.

Project cost estimates included in EKI's 30% design report (attached) are significantly higher than the conceptual estimate, indicating that the initially preferred microtunneling approach could cost as much as \$3.2 million. A substantial portion of the increase is associated with subsurface conditions revealed by EKI's geotechnical investigation.

The design report identifies an alternative horizontal directional drilling (HDD) approach that would eliminate the need for the deep excavations required for microtunneling, potentially reducing construction costs. It should be noted, however, that EKI has not evaluated HDD options in any detail and that total HDD project costs, including temporary and permanent easements, would be significantly greater than the conceptual estimates presented in the report.

Staff and EKI will discuss the 30% design report and cost estimate and address the Board's questions.



16 December 2014

**MEMORANDUM**

To: Dave Dickson (Coastside County Water District)

From: Jonathan Sutter, P.E. (Erler & Kalinowski, Inc.)  
Jeffrey Tarantino, P.E. (Erler & Kalinowski, Inc.)

Subject: 30% Design Submittal  
Main Street Bridge Water Main Replacement Project  
(EKI A90031.06)

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Erler & Kalinowski, Inc. (“EKI”) is pleased to submit to the Coastside County Water District (“District”) the 30% Design Submittal for the Main Street Bridge Water Main Replacement Project. Our submittal includes the following attachments:

1. **Draft Preliminary Design Report for Trenchless Crossing of Pilarcitos Creek**, prepared by Bennett Trenchless Engineers, Inc. (“BTE”). Note that this report focuses on a trenchless crossing of Pilarcitos Creek using microtunneling, although other technologies are discussed. However, because the opinion of probable costs for microtunneling has increased based on a fuller picture of the needed scope, the EKI Team also prepared conceptual alignments, including conceptual opinions of probable costs, for horizontal direction drilling (“HDD”) as an alternative, potentially lower-cost construction method. These additional tables are included as Attachment 5.
2. **Plans** for the Project that include crossing Pilarcitos Creek by microtunneling. Call-outs are shown where additional detail will be developed as part of the 75% submittal, in particular for:
  - a. The tie in at Main Street north of the Main Street Bridge, which is contingent upon the construction of the emergency tie-in;
  - b. The tie in at Main Street and Mill Street, which requires further discussion with District staff, although better definition of this tie-in will likely not impact the alignment; and
  - c. The vertical pipeline connections within the tunneling shafts to the trenchless section of the alignment, which requires further design consideration.

Further discussion with the District regarding the following items is also required for the 75% submittal:

- a. Size of existing water meters on Purissima Street, and whether the District wants to replace the meter boxes in addition to the services;
- b. Potential locations for blowoffs and air release valves; and
- c. The District’s requirements for cathodic protection.



The orientation of background text in the plan views, which is shown upside-down in certain locations, will be modified in the 75% submittal to match the drawing orientation.

As described below, there may be significant advantages to HDD in lieu of the assumed microtunneling approach. If directed by the District to implement HDD based on an evaluation as discussed in Attachment 5, the plans would be revised for the 75% submittal to reflect the chosen technology for the Pilarcitos Creek crossing.

3. **Technical Specification Outline** for the Project, assuming crossing Pilarcitos Creek by microtunneling.
4. **Opinion of Probable Cost** for the Project, assuming crossing Pilarcitos Creek by microtunneling. The attachment includes the following:
  - An Opinion of Probable Construction Cost (Table 4-1);
  - A comparison of the 30% Opinion of Probable Construction Cost with the Conceptual Opinion of Probable Construction Cost that EKI presented to the District on 4 June 2014 (Table 4-2); and
  - An Opinion of Probable Total Project Cost (Table 4-3).

Based on the increase in costs shown in Table 4-2 compared with earlier estimates, for discussion purposes EKI took a quick look at potential HDD alignments on Purissima and Church Streets and prepared rough opinions of probable costs (see Attachment 5).

5. **Conceptual Evaluation of HDD** for the Project, including an initial look at potential alignments on Purissima and Church Streets and initial opinions of probable costs for each alternative alignment. Note that further evaluation would be required to confirm the technical feasibility of HDD and to better define costs.

Please call either Jon or Jeff with any questions or comments at 650-292-9100.

CC: Joe Guistino (Coastside County Water District)  
John Davis (Coastside County Water District)  
Steve Tarantino (EKI)



**ATTACHMENT 1**

**TRENCHLESS CROSSING OF PILARCITOS CREEK  
DRAFT PRELIMINARY DESIGN REPORT**

**Prepared by**

**Bennett Trenchless Engineers, Inc.**



# TECHNICAL MEMORANDUM



90 Blue Ravine Road, Suite 165  
Folsom, CA 95630  
Ph 916.294.0095  
Fx 916.294.0098

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**Date:** December 15, 2014

**To:** Jeffrey Tarantino, PE  
Jonathan Sutter, PE  
Erler & Kalinowski, Inc.

**Prepared By:** Matthew Wallin, PE  
Kathryn Wallin

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**COASTSIDE COUNTY WATER DISTRICT**  
**Main Street Bridge Pipeline Replacement Project**  
Trenchless Crossing of Pilarcitos Creek

**DRAFT PRELIMINARY DESIGN REPORT**

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## 1. Executive Summary

After review of the project requirements, geotechnical conditions, and site constraints, we recommend using a combination of microtunneling and watertight shafts (likely steel sheetpiles) to complete the Coastside County Water District's crossing of Pilarcitos Creek for the Main Street Bridge Pipeline Replacement Project. Microtunneling is necessary to safely complete the crossing due to highly permeable soils combined with high groundwater conditions that could result in the flooding of a non-watertight tunneling method. Microtunneling is proposed to install approximately 210 feet of steel casing between 30 and 48 inches in diameter that will house the 16-inch water line. The jacking shaft should be located on the north side of the creek where there is more available work area and there will be less disruption to residents, businesses, and traffic. The reception shaft should be located on the south side of the crossing, within the cul-de-sac of Purissima Street. Although the site constraints on the south side of the crossing are challenging, we believe it is feasible to construct a shaft of the required size. Both jacking and reception shafts should be constructed with watertight construction methods due to the permeable soils and high groundwater conditions present. We recommend that the bore profile provide 8 feet of clearance beneath the deepest portion of the Pilarcitos Creek channel. We also recommend installing the casing at a 3% positive grade to balance the depths of the jacking and reception shafts. The anticipated construction cost and duration of the trenchless crossing are estimate to be

approximately \$1.5 million and approximately 84 working days, respectively. The estimated cost includes shaft construction and backfill, installation of the steel casing pipe, and the 16-inch carrier pipe within the casing. It does not include manhole or riser construction or tie-ins to the open-cut construction. The cost and duration estimates do not include a preliminary design-level contingency allowance.

## 2. Background

Bennett Trenchless Engineers (BTE) was contracted by Erler & Kalinowski, Inc. (EKI) to analyze the feasibility of, and make recommendations for, a trenchless crossing beneath Pilarcitos Creek in Half Moon Bay, CA for a 16-inch water line, as part of the Coastside County Water District's (CCWD) Main Street Bridge Pipeline Replacement Project. This Technical Memorandum (TM) addresses the feasibility of a trenchless crossing beneath Pilarcitos Creek, including an analysis of the geotechnical conditions, trenchless construction alternatives, and available work space on both sides of the crossing. A preferred trenchless construction method is recommended, based on evaluation of technical feasibility, relative construction risks, and Owner concerns. Figure 1 shows an aerial view of the project site and tentative crossing location.



Figure 1 – Site Map for Proposed Trenchless Crossing of Pilarcitos Creek

### 3. Site Conditions

#### 3.1. Surface Conditions and Existing Utilities

The north end of the proposed crossing is located southwest of the intersection of Main Street and Stone Pine Road, in a parking and storage area behind Tom & Pete's Produce, as shown in Figure 2. There are additional businesses to the north, and overgrowth associated with Pilarcitos Creek to the south and west. To protect the riparian habitat along the creek, there is a 15-foot wide buffer zone along the top of the creek bank where we understand work will not be allowed during the project. The remaining area is relatively flat and open due to its use as a storage site for the produce business. The area is partially paved for parking and truck traffic, and the remainder is either gravel or grasses. There are no overhead utilities in the vicinity and the only underground utility appears to be a storm drain.

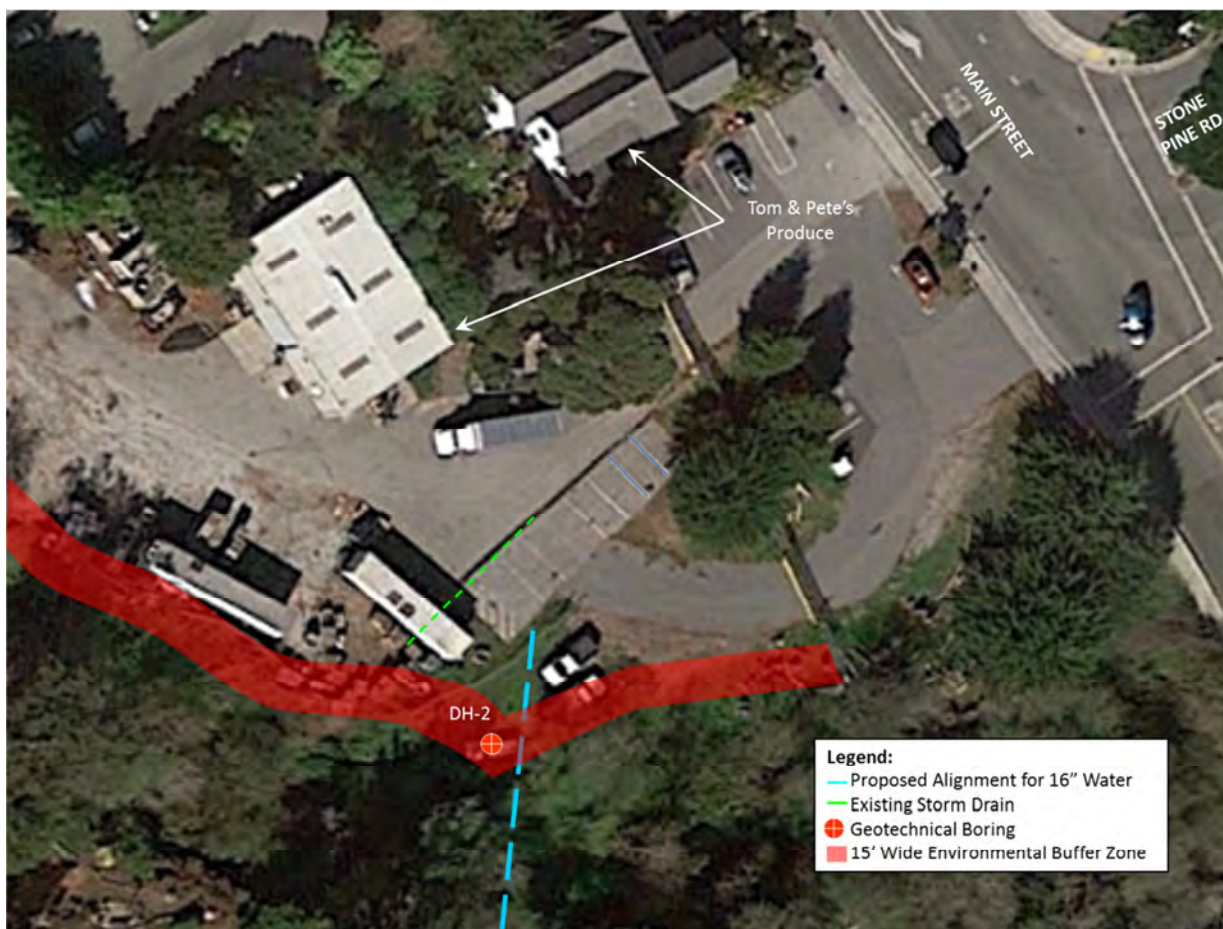


Figure 2 – Trenchless Crossing Site North of Pilarcitos Creek

The south end of the proposed crossing is located at the cul-de-sac of Purissima Street, just north of the intersection with Mill Street. This area is shown in Figure 3. Purissima Street consists of a two-lane residential street with parallel parking spaces along the west side of the street and perpendicular parking spaces along the east side. The west side is occupied by a mixture of private residences and small businesses, including two auto body shops and a nursery and gardening center. Driveways for these buildings are located almost continuously



along the west side of Purissima. The east side of the street is occupied by two parking lots that serve large mixed-use buildings located between Purissima Street and Main Street. The northern parking lot has two driveways onto Purissima and the southern parking lot has one driveway. They are separated by a narrow median with landscaping trees. Additional, mature landscaping trees are located in a median along the east side of the street. The north end of Purissima Street slopes slightly downhill toward the creek.



Figure 3 – Trenchless Crossing Site South of Pilarcitos Creek

There are several utilities located within Purissima Street that will affect the trenchless construction. An existing six-inch sanitary sewer runs west from Main Street, through the north parking lot, to the north end of Purissima. Two connections enter the sewer at this point and an eight-inch sewer carries the flow south down the approximate center of the street. A two-

inch gas distribution line runs north up Purissima on the east side of the street, providing gas services to the residences and businesses. At the cul-de-sac a ½-inch service extends to the west and a 1-inch service extends to the east. Additional utilities include a two-inch water line and services; buried electric beneath the sidewalk on each side of the street; overhead electric and telecom along the west side of the street; and a catch basin at the end of the cul-de-sac with a storm drain that flows north into the creek.

The elevation across the proposed crossing location varies from approximately 86 feet on the north side of Pilarcitos Creek to approximately 96 feet in Purissima Street south of the creek, and as low as 73 feet within the creek channel. The length of the proposed crossing is approximately 200 feet. The main creek channel is only approximately 35 feet wide, with the remaining crossing length consisting of flood plain that is especially wide on the south side. The area within the creek channel and flood plain is heavily vegetated with mature trees and other riparian undergrowth.

### *3.2. Geotechnical Conditions*

Pacific Geotechnical Engineering advanced two geotechnical borings to evaluate the ground conditions to be expected along the trenchless crossing beneath Pilarcitos Creek (Pacific Geotechnical, 2014). Boring DH-1 was drilled within the Purissima Street cul-de-sac, south of the creek (see Figure 3). From the ground surface at approximate elevation 96 feet down to elevation 78 feet (17 feet below ground surface [bgs]) DH-1 encountered stiff to hard fat clay with sand. Below this layer, the boring encountered alternating layers of stiff fat clay and medium dense to dense sand with clay and clayey sand to the maximum elevation explored of approximately 36 feet (60 feet bgs). These layers varied in thickness from 3.5 feet to 9 feet each, and showed a significant increase in relative consistency below approximate elevation 54 feet. The boring log indicates that the soil samples became wet at approximate elevation 62 feet, but is likely that groundwater could be encountered as high as elevation 75 to 80 feet, coincident with the water level in the creek.

Boring DH-2 was drilled in the open area behind Tom & Pete's Produce, immediately north of the north creek bank (see Figure 2). This boring also encountered a surface layer of clay soil extending from the ground surface at elevation 85 feet down to elevation 70 feet (15 feet bgs). The upper portion consisted of stiff sandy lean clay and the lower portion, below the encountered groundwater table at elevation 77 feet, consisted of medium stiff sandy fat clay. Below elevation 70 feet, DH-2 encountered sandy soils down to elevation 33 feet (52 feet bgs). These soils consisted primarily of clean, well-graded and poorly-graded sands with relative consistency of medium dense to very dense, with one five-foot layer of very dense clayey sand. Like in DH-1, the soils showed a significant increase in relative consistency below elevation 54 feet. The last 2.5 feet of the boring, from elevation 33 feet to elevation 30.5 feet, encountered soft clayey sandstone bedrock. Groundwater was encountered at elevation 76 feet.

The ground conditions encountered present a challenge for trenchless construction in terms of groundwater control. Both borings encountered significant layers of highly permeable sandy soils; especially DH-2 on the north side of the creek. Additionally, DH-2 encountered groundwater at elevation 76 feet, approximately coincident with the water level in Pilarcitos Creek. It is very likely that the surface water in the creek is directly connected to the

groundwater encountered in the sandy soils. The connection of immediate surface water recharge to highly permeable soils means that dewatering along the crossing alignment would be very difficult to achieve. Additionally, the quantity of groundwater generated would present a significant discharge problem. Discharge needs for two shafts could exceed 800 gallons per minute or more. We assume that surface discharge of this quantity of water could not be practically permitted, and that such volume would overwhelm the City of Half Moon Bay's sanitary transmission and/or treatment capacity. For these reasons, we believe that watertight shaft and/or trenchless construction methods will be necessary to complete the proposed crossing.

#### **4. Evaluation of Trenchless Construction Alternatives**

Several trenchless construction alternatives were initially identified as potential candidates for completing the trenchless crossing along the proposed alignment. These methods are:

- Horizontal Directional Drilling
- Non-Watertight Pipejacking Methods (such as auger boring, pipe ramming, open-shield pipejacking, etc.)
- Microtunneling

The feasibility of each method has been evaluated for the proposed crossing of Pilarcitos Creek for the Coastside County Water District Main Street Bridge Replacement Project.

##### *4.1. Horizontal Directional Drilling*

Horizontal directional drilling (HDD) is a trenchless construction method whereby a pipe is installed along an arcing drill path, beginning and ending at the ground surface, and passing under the conflicting feature in between. HDD can be used in soils with high groundwater, and is often used to cross rivers. A drill rig is set up on one side of the crossing and commences drilling a pilot bore to the exit point. The pilot bore is then reamed in one or more passes to obtain the required diameter needed for pullback of the prefabricated pipe string. Once reaming is complete, the pre-fabricated product pipe string is pulled into place in one operation. Because there are no shafts required, HDD installations often minimize impacts to nearby residents and businesses, have shorter construction durations, and are less expensive than other types of trenchless construction. However, the surface-launched nature of HDD typically requires a longer overall crossing length, and a long, narrow work area is required on one side of the crossing to pre-fabricate the pipe string.

Horizontal directional drilling is considered a feasible construction method for this project. The product pipe diameter and length of crossing are well within the methods capabilities without requiring the extra expense of a casing. However, because of the geometry constraints of the method, as well as the work area required on the receiving side of the bore to layout the pipe string, the alignment would need to be shifted west from Purissima Street to Church Street and extended north behind Half Moon Bay Fish Market. We understand that the District is not comfortable relocating the alignment due to recent construction on Church Street. Therefore, further evaluation of HDD was dismissed.

#### *4.2. Non-Watertight Pipejacking Methods*

The methods in this group have open excavation faces and therefore do not provide a watertight construction method. Non-watertight pipejacking methods include auger boring, guided boring (also known as the pilot tube method), pipe ramming, and open-shield pipejacking. In general, pipejacking is a trenchless construction method whereby pipes are sequentially jacked through the ground horizontally from a jacking shaft to a reception shaft. For all pipejacking methods, jacking and reception shafts are required at the ends of individual drives. A casing pipe is typically jacked initially, and the product pipe placed inside after the drive is completed. In some instances the product pipe can be jacked into place directly. The method of excavation at the face is dependent on the specific construction method; excavation may be accomplished by auger, road header, rotary tunnel boring machine (TBM), or by hand mining. For all of these methods, the excavation face is not fully supported or sealed from water intrusion, and is prone to over-excavation and flooding in unstable ground and high groundwater conditions.

These methods are not considered feasible construction methods for this project beneath Pilarcitos Creek. The high hydrostatic head due to the shallow groundwater and depth of the crossing present high risk of flowing ground and flooding with an open-faced, non-watertight pipejacking method. In addition, the risks due to the high groundwater head are compounded by the presence of highly permeable poorly-graded sands. Finally, since the face of the excavation is not fully supported, non-watertight pipejacking methods have a higher risk of over-excavation in unstable soils than microtunneling, and therefore higher risk of surface settlement.

#### *4.3. Microtunneling*

The elimination of HDD and non-watertight pipejacking methods leaves microtunneling as the remaining feasible trenchless construction method for the Pilarcitos Creek crossing.

Microtunneling is a remotely-controlled, guided, pipejacking process that provides continuous positive control of earth and groundwater pressures at the face of the excavation. The microtunneling machine (MTBM) and jacking pipes are pushed into the ground from a jacking shaft to a reception shaft on opposite sides of the crossing as shown in Figure 4. The carrier or product pipe may be jacked directly or installed inside an oversized casing in a separate operation. Pipe materials that can be jacked directly into place include reinforced concrete pipe (RCP), polymer concrete pipe (PCP), reinforced concrete cylinder pipe (RCCP/AWWA C300), and centrifugally cast fiberglass reinforced polymer mortar pipe (CCFRPMP/Hobas).

A cutterwheel excavates material at the face as the machine is jacked forward. The excavated material is mixed with clean slurry and pumped to the surface for separation and spoil removal. Due to this slurry removal system and remote control operation, the microtunneling process does not require routine personnel entry into the pipe.

Microtunneling machines have a closed face, as shown in Figure 5, which provides support to unstable soils and limits groundwater infiltrations. Microtunneling is the preferred construction method when high groundwater pressures are anticipated and when surface settlements must

be minimized. Slurry pressure and mechanical face pressure are used to support the face of the excavation when ground conditions are loose or soft. In high groundwater conditions the slurry excavation system prevents inflow of water into the pipeline. Microtunneling is typically used in a wide variety of soil types, including rock and stable soils to loose, flowing, or otherwise unstable soils.

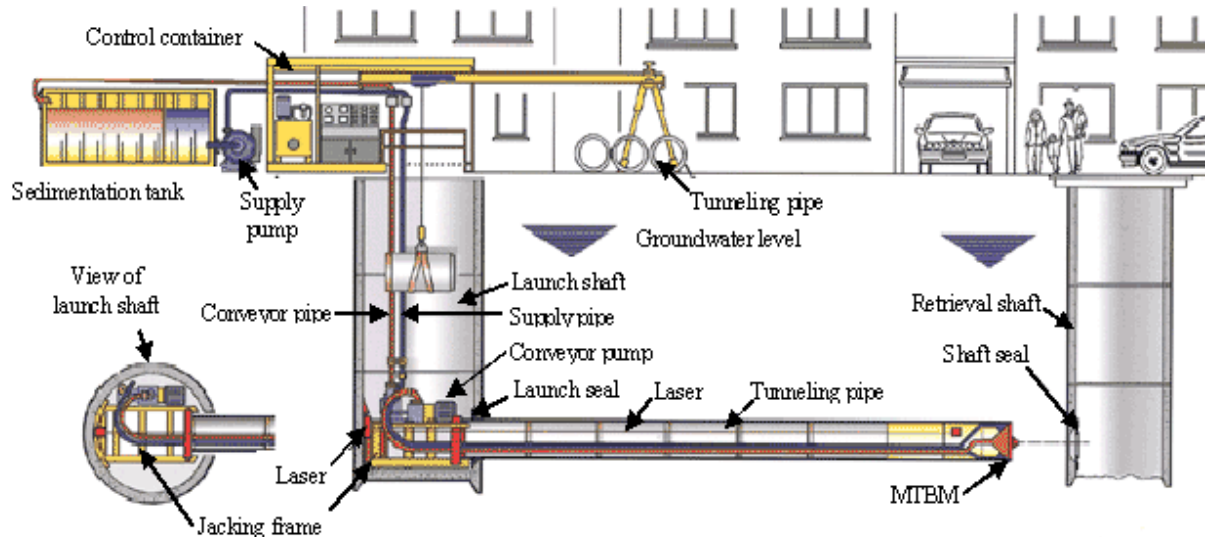


Figure 4 – Schematic of a Typical Microtunneling Operation (Courtesy of Herrenknecht)



Figure 5 – 72-inch Akkerman Microtunneling Machine (MTBM)

Pipes from 24 to approximately 108 inches in diameter have been installed using microtunneling. Drive lengths of over 3,000 feet have been completed, though typical drive lengths are 800 feet or less. This is due to the fact that jacking forces increase with drive distance, and may limit practically achievable drive distances. When installing pipe larger than approximately 30 inches, intermediate jacking stations can be used to achieve longer drive distances. However, for pipes smaller than 30 inches, intermediate jacking stations cannot be used.



Microtunneling provides continuous control of line and grade by use of a guidance system and steering jacks. The guidance system typically consists of a reference laser mounted in the jacking shaft that transmits its beam onto a target mounted inside the articulated section of the MTBM. This information and other operational performance information are transmitted through wire cables to the MTBM control cabin at the surface where the MTBM is remotely controlled. Through continuous monitoring and control of the MTBM, tolerances of plus or minus one to two inches are typically achievable.

Shaft sizes for microtunneling are similar to open-shield pipejacking. Jacking shafts are typically 12 to 16 feet wide by 24 to 32 feet long. Longer shafts allow for the jacking of 20-foot sections of pipe, increasing efficiency and reducing installation cost. Reception shafts are typically 14 to 16 feet square. A work area of approximately 10,000 to 20,000 square feet is required at the jacking shaft. The work area at the reception shaft can be smaller, but are typically a minimum of 6,000 square feet. Off-site staging areas can be used to reduce the work area necessary at the jacking shaft somewhat.

Microtunneling is a feasible construction method for this project. The excavation face is fully supported, which reduces the risk of overexcavation which could lead to settlement. Microtunneling uses mechanical and slurry pressure to counterbalance earth and groundwater pressures, so the anticipated high groundwater pressures do not pose a risk of flooding the machine. Microtunneling is well-suited to the anticipated ground conditions. However, the small diameter of the product pipe does not allow for direct installation. Instead, the MTBM will install a steel casing of approximately 30 inches in minimum diameter, and the water line will be installed inside.

#### *4.4. Shaft Considerations*

The construction of the trenchless component of the Main Street Bridge Pipeline Replacement Project will require vertical shaft excavations at both ends of the crossing to accommodate the jacking and receiving of the microtunneling equipment, and to allow for the construction of the tie-ins to the open-cut portions of the project. The jacking shaft should be large enough to allow for the jacking of 20-foot joints of pipe. Specifically, the jacking shaft will likely have interior dimensions of 16 feet wide by 32 feet long to allow for efficient jacking operations. The length of the jacking shaft could be marginally decreased if 10-, 12-, or 16-foot long joints of casing and carrier pipe were used; however, use of shorter pipe sections would reduce the efficiency of the tunneling operations and carrier pipe installation as pipe joints would have to be made more often.

The reception shaft will need to be long enough to receive the microtunneling equipment with adequate room on both sides for worker access. Therefore, the reception shaft for this crossing will likely have interior dimensions of approximately 12 feet wide by 16 feet long. Additionally, the shoring system walls are typically 1 to 1.5 feet thick. Therefore the planned outside shaft dimensions could be 20 feet wide by 35 feet long for the jacking shaft and 16 feet wide by 20 feet long for the reception shaft.

Given the high permeability soils and high groundwater level expected at the shaft locations, a watertight shoring system is recommended for this project for both shafts. Several systems are

available for creating large watertight excavations including interlocking steel sheetpiles, secant piles or cutter soil mixing, auger drilled shafts, and sunken concrete caissons. Sunken concrete caissons, auger drilled shafts, secant piles, and cutter soil mixing shafts are all technically feasible for this project, but are complex construction methods which require a larger work area, specialized equipment that may not be readily available, and would be significantly more expensive to construct than sheetpiles. Therefore, interlocking steel sheetpile shafts are recommended as the preferred shaft construction method.

Steel sheetpile shafts are commonly used for pipejacking and microtunneling shafts. Because of their modular nature sheetpiles can be installed to almost any shape, and with the proper wales and struts, to very large sizes. Additionally, sheetpiles can be installed to provide an effectively watertight shaft in a variety of ground conditions.

Sheetpile shafts are constructed by either driving or vibrating individual sheet sections into place around the perimeter of the planned shaft. The installation of sheetpiles can be very loud and disruptive to nearby residents and businesses. For this project, sheetpile installation is anticipated to take approximately 2 to 3 weeks at the jacking shaft and 1 to 2 weeks at the reception shaft. In the anticipated medium dense to very dense and stiff to very stiff soils, it is possible that pre-drilling will be required to reach the required design depths. Once the sheets have been installed to depth, excavation can commence, typically using a hydraulic excavator. Wales and struts are installed to resist soil pressure as the excavation progresses. Struts are pre-loaded as necessary to resist inward deformation of the sheets. When the final depth is reached, a concrete working slab is typically poured to finish the excavation. Due to the high groundwater and permeable soils on this crossing, the shafts will require a thick concrete slab to be poured to prevent groundwater from entering through the bottom of the shaft and to prevent uplift of the finished shaft. The slab can be placed using grouting methods, tremie concrete placement prior to dewatering, or by dewatering the shaft and then constructing the slab in the dry if the sheetpile toes can be embedded into low permeability soils that will resist inflow through the shaft bottom.

The entry and exit portals for the shafts will need to be stabilized to prevent soil from flowing into the shaft during launch and retrieval of the microtunneling machine which can endanger workers and lead to settlement of the ground surface outside the shaft. Seals are used at the portals to prevent soil and water from flowing around the MTBM or pipe into the shaft during tunneling operations. However, removal of the shaft wall for launch and retrieval poses the highest risk for soil and groundwater inflows, and the anticipated ground conditions on this project will require additional soil stabilization to prevent excessive settlement. Portal stabilization for sheetpile shafts can be accomplished using a guillotine method or by ground improvement methods such as jet grouting. The guillotine method uses a second set of sheetpiles and contact grout installed just outside the shaft wall at the entry location to limit the amount of soil and water that can enter the shaft when the main shoring is breached to launch the MTBM. The process entails removing a portion of the main shoring at the entry location, advancing the MTBM to be seated within the seal, and then raising the outer sheets to allow the MTBM to pass. Alternatively, ground improvement can be used to create a prism of soilcrete outside the entry and exit portals to prevent unstable soil and groundwater from entering the shaft when the shaft wall is removed.

## 5. Trenchless Design Considerations

### 5.1. Carrier and Casing Pipe Diameter

As described in Section 4.3 of this report, direct installation of the carrier pipe is not feasible for this project due to the minimum size of MTBMs available and the limited pipe material options available for direct installation of pressure pipelines. Therefore, steel casing will be installed initially, with the water line carrier pipe installed in a second pass. The carrier pipe material selected, and the resulting outside diameter, will determine the required diameter of the casing pipe. It is anticipated for this project that the casing pipe will need to be a minimum of 30 inches in diameter to accommodate the 16-inch water line. We recommend that the contract documents allow a range of casing diameters from 30 inches up to 48 inches. Allowing a range of casing diameters will allow contractors to have the flexibility to use available equipment, and therefore increase the number of bidders and overall cost competitiveness. Although settlement risks are increased somewhat by using a larger casing diameter, there are only one existing utilities at risk from settlement damage and the depth of cover beneath this sanitary sewer line makes the risk very low.

### 5.2. Microtunnel Bore Profile

The depth of a microtunnel bore is typically based on settlement risks for overlying structures and utilities. For this crossing the only utility being crossed is the existing six-inch sanitary sewer at the north end of Purissima, just outside the reception shaft. The invert elevation of the sewer is approximately 85 feet. The depth necessary to pass beneath the deepest portion of the creek channel at elevation 73 feet will result in greater than 12 feet of clearance beneath the existing sewer which is enough to mitigate any significant settlement risk. Therefore, the proposed depth of the casing installation will be governed by the creek bottom elevation.

The clearance used for microtunneled crossings of water bodies typically varies between 1.5 to 3 bore diameters beneath the deepest portion of the channel, with a minimum clearance of approximately 8 feet. Given the narrow flow channel of Pilarcitos Creek and the small diameter of the planned bore, we recommend that 8 feet of clearance is appropriate for this crossing, based on considerations related to the microtunneling installation. However, an additional consideration that can affect the design clearance is the potential for creek bed scour during a flood event. Evaluation of potential flood scour is outside of BTEs' professional expertise, but if CCWD or EKI feels that there is risk of greater than 8 feet of scour during the project design flood we recommend lowering the alignment further.

Figure 6 shows the recommended bore profile with approximately 8 feet of clearance between the creek bottom and the crown of the proposed steel casing. Often, microtunneling bores are installed on a flat grade. However, grades of up to 4% can be installed with little difficulty. The proposed bore profile includes a grade of 3% to balance the depths of the two shafts given the surface elevation difference of approximately 9 feet between the two sides of the creek. While it is often advantageous to have a shallower jacking shaft, because of its larger footprint and therefore higher cost per foot of depth, we believe that reducing the depth of the reception shaft is more beneficial for this project due to the reduction of disruption to the residents and

businesses on Purissima Street from a shorter reception shaft construction duration. Because the “hinge point” beneath the creek is located at the approximate one-third point of the drive, two feet of depth can be saved in the reception shaft for every one foot of depth added the jacking shaft. The proposed invert elevation of the casing in the jacking shaft is approximately 60 feet, with the invert elevation at the reception shaft at approximately 66 feet.

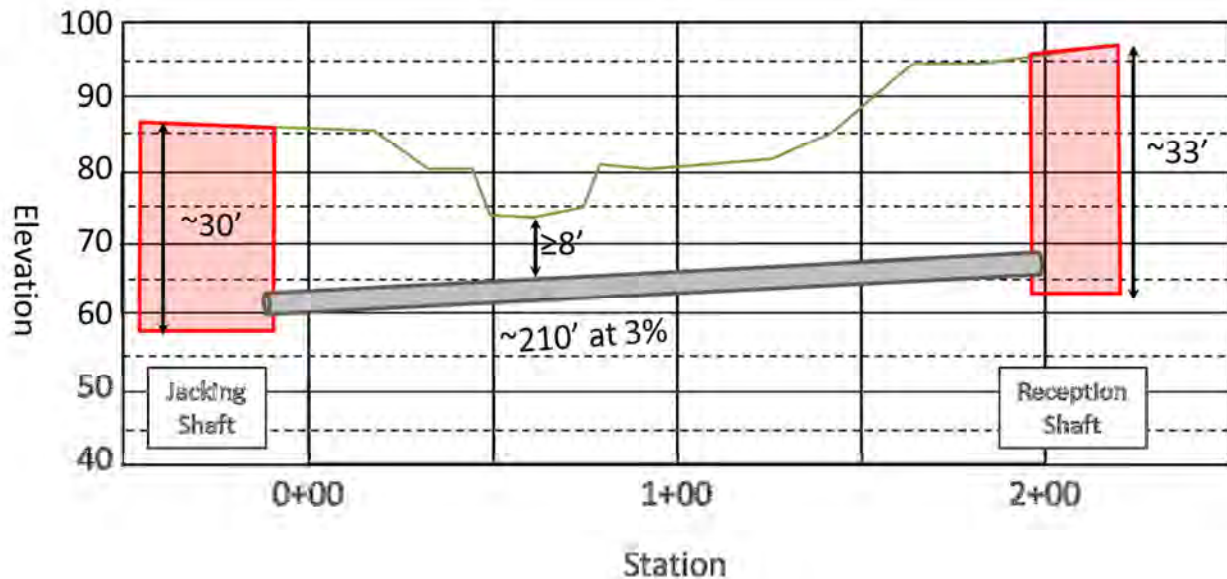


Figure 6 – Recommended Bore Profile

### 5.3. Staging and Work Area Requirements

As described in Section 4.3 of this report, a microtunneling operation requires between 10,000 and 20,000 square feet of work space near the jacking shaft. Due to the various constraints associated with existing residences, businesses, and driveways along Purissima Street, adequate space could not be provided on the south side of the proposed crossing without significant disruptions. Therefore, it is recommended that the jacking shaft be located on the north side of the crossing, behind Tom & Pete’s Produce. Figure 7 shows the proposed jacking shaft location and associated temporary construction easement (TCE) recommended for the crossing. The limits of the TCE were developed to provide the contractor adequate work space while maintaining access for delivery trucks to the produce warehouse through the northeastern gate, and from the northwest behind the buildings; while attempting to preserve adequate space for the produce operation to relocate and store trailers and other equipment; and while accommodating the 15-foot buffer zone from the top-of-bank riparian zone for Pilarcitos Creek. The staging area shown in Figure 7 measures approximately 11,000 square feet representing minimal, but adequate, space for microtunneling operations. The exact shape of the TCE necessary for the microtunneling operations is flexible and can be adjusted during final design to accommodate the preferences of Tom & Pete’s Produce operations, provided the minimum required area is maintained.

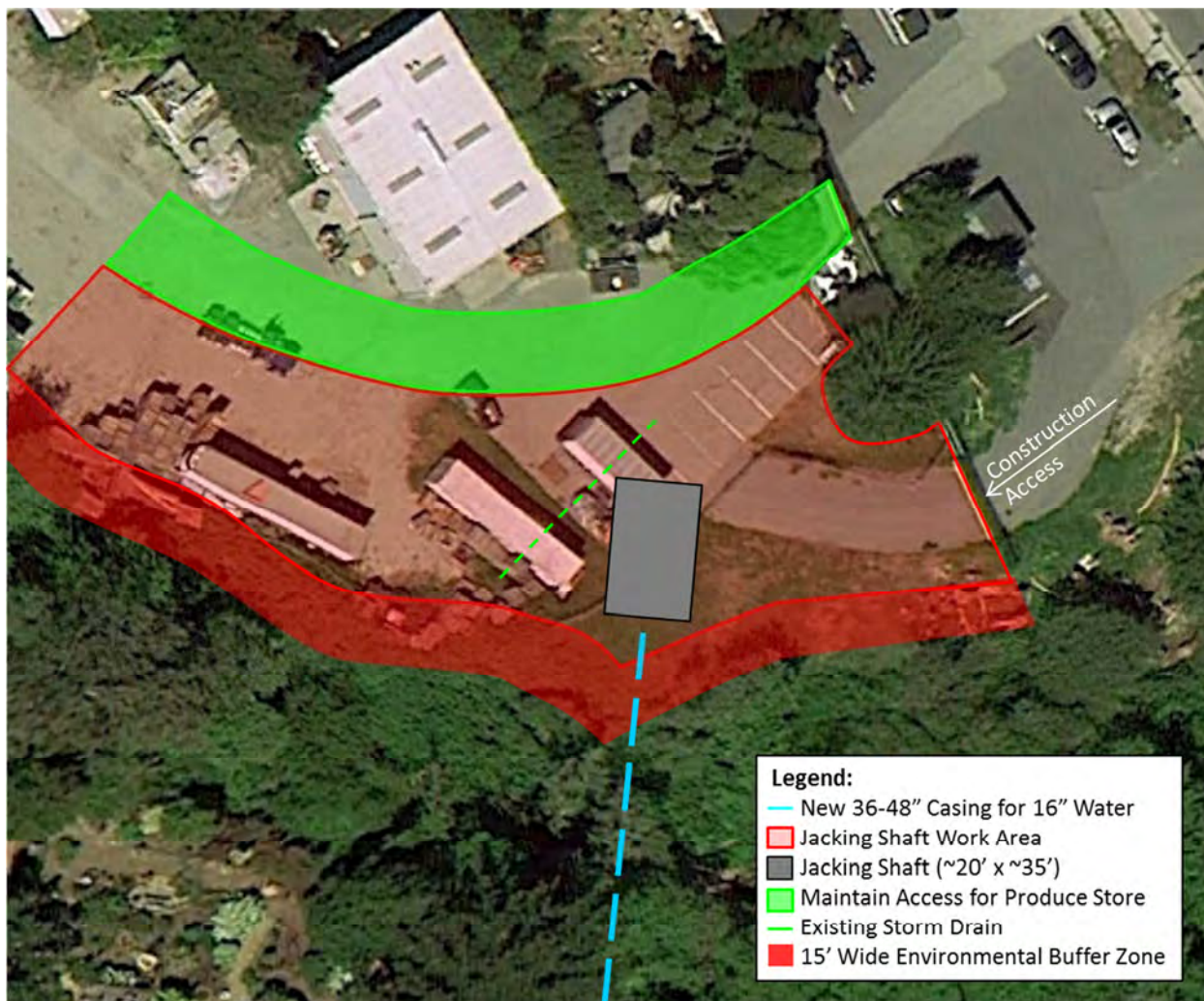


Figure 7 – Jacking Shaft Location and Proposed TCE North of Pilarcitos Creek

On the south side of the creek, the contractor will need a minimum of 6,000 square feet of TCE to construct the reception shaft. It is not possible to procure this amount of space solely within Purissima Street without blocking access to either the private driveways along the west side of the street, the three driveways of the parking lots on the east side of the street, or some of each. As an alternative, Figure 8 shows a proposed TCE layout that utilizes the northeast portion of Purissima Street and approximately half of the northern parking lot for the shaft construction. One lane of traffic is maintained along the west side of Purissima to provide access for all of the driveways on this side. Additionally, access to the southern parking lot on the east side of Purissima is maintained. While only approximately half of the northern parking lot is used for construction, both existing driveways are blocked. We recommend that a temporary driveway be added immediately south of the existing driveway, and immediately north of the median that separates the two parking lots. This would cause the loss of two of the perpendicular parking spots in Purissima and two or three of the parking spots within the northern parking lot. Additionally, a mature landscaping tree located within the existing median would have to be removed, or perhaps relocated during construction. This layout provides approximately 6,500 feet of TCE for shaft construction.



It should be noted that the TCE shown in Figure 8 is only necessary during construction of the reception shaft itself. After the shaft construction is completed, it can be covered with traffic plates and the area can be either partially or completely reopened to traffic during completion of the microtunneling work. When the microtunnel drive reaches completion, the area will be occupied again as the MTBM is recovered, and then during construction of the pipeline riser within the shaft.

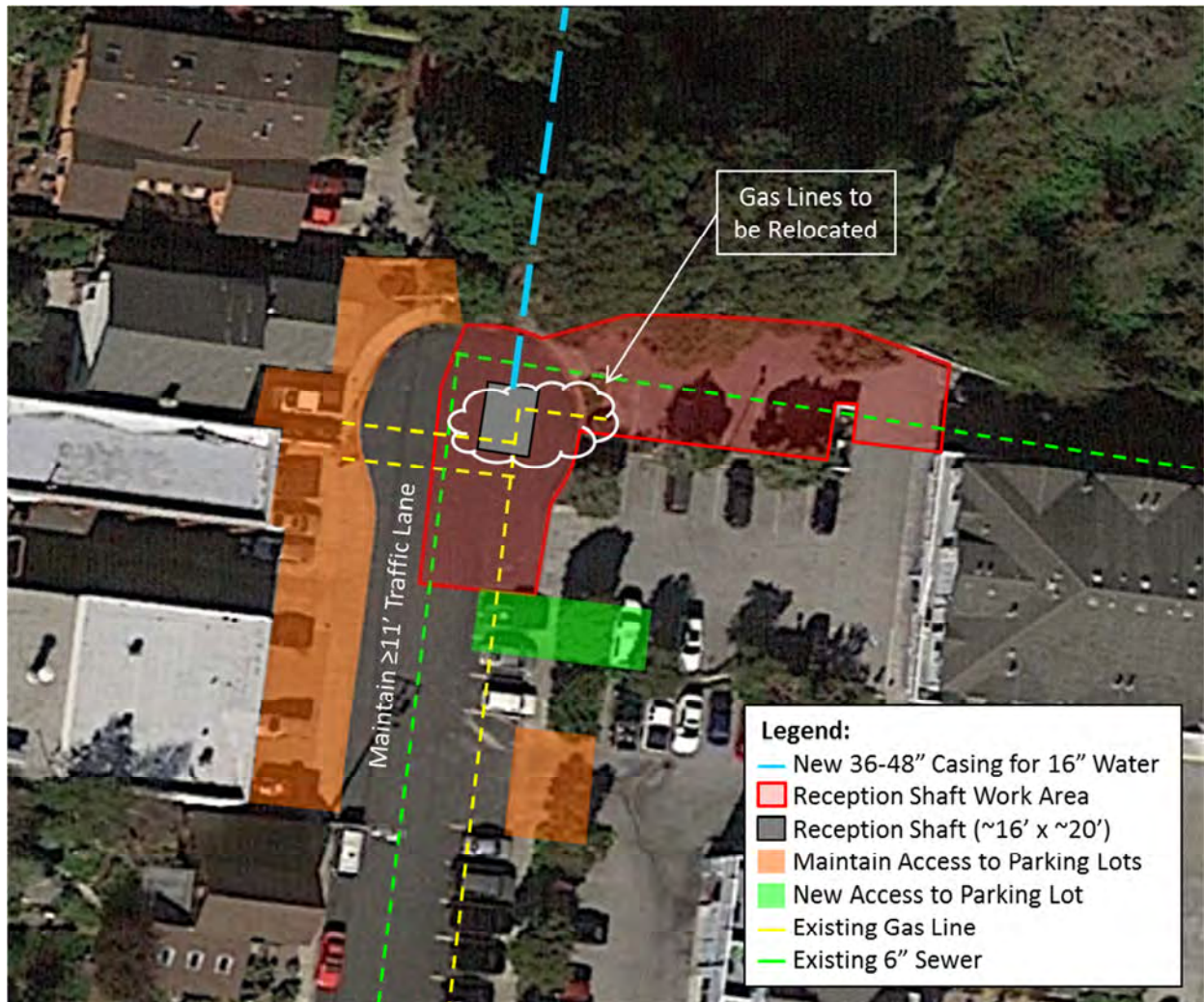


Figure 8 – Reception Shaft Location, Proposed TCE, and Existing Utilities South of Pilarcitos Creek

The proposed shaft location shown in Figure 8 conflicts with the northern end of the existing two-inch gas line and two of the smaller gas services. Due to the required size of the reception shaft and the utility congestion within the street, it will be necessary to relocate either the existing six-inch and eight-inch sanitary sewers, or portions of the existing gas lines. We have assumed that relocation of the shallower and smaller diameter gas lines will be easier to accomplish and will be less costly.

## 6. Estimate of Trenchless Construction Cost and Schedule

A preliminary estimate of project cost and schedule was prepared for the proposed microtunnel crossing of Pilarcitos Creek and is summarized in Table 1 below. The cost estimate was based on California prevailing wage rates, Caltrans' Labor Surcharge and Equipment Rental Rates, and material cost quotes from various vendors. The cost estimate was based on a 10-hour work day and a 6-day work week, as is typical for most trenchless construction.

The estimated costs described below are for the trenchless construction only, and do not include costs for utility relocations, open-cut construction, associated structure construction (such as manholes or risers), or tie-ins to the open-cut portions of the pipeline. The costs do not include the cost for the carrier pipe material across the creek, but they do include the cost of the casing pipe and the labor and equipment required to install the carrier pipe. The costs also do not include design contingency as we did not know what level of contingency CCWD is comfortable with at this stage of design. We recommend that a minimum 20% markup is appropriate for preliminary-level design. The costs do include contractor profit and overhead, and bonds.

The estimate has assumed that sheetpile shafts will be required for the crossing due to the high groundwater level and the nearby source of groundwater recharge. The shaft costs also assume that specialized methods will be necessary for stabilization of all entry/exit portals and shaft bottoms (e.g. ground improvement, structural tremie slabs, etc.). Properly installed sheetpile shafts are considered to be watertight and do not require dewatering outside the shaft. Therefore, dewatering costs are not included in the estimate.

The jacking shaft was estimated to be 20 feet wide by 32 feet long by 30 feet deep. The reception shaft was estimated to be 16 feet wide by 16 feet long by 33 feet deep. The cost for jacking shaft construction and backfilling is estimated at approximately \$630,000 and will take approximately 36 days total. The cost for reception shaft construction and backfilling is estimated at approximately \$400,000 and will take approximately 24 days total.

Given the anticipated ground conditions, it was assumed that the microtunneling system would average 35 feet of 36-inch steel casing pipe installed per shift, requiring approximately 6 days of actual tunneling for the 210-foot drive. It was also assumed that the carrier pipe installation would average 120 feet per shift, or a total of 2 shifts. The carrier pipe installation rate can depend greatly on the carrier pipe material and time required to weld/fuse/join each pipe segment. In addition, the shaft size will determine the length of carrier pipe segment, which may impact the number of joints required to install the carrier. The construction duration estimate also includes time for mobilization, contact grouting, annular space grouting, and demobilization, increasing the total time required for microtunneling operations to 24 days. The cost for the tunneling portion of the work is approximately \$2,150/foot, or a total of approximately \$450,000.

The estimated construction schedule for the recommended trenchless project alternative is 84 working days if all construction activities are completed sequentially. However, this schedule does not include time for utility relocations, tie-ins, and other open-cut work, which will extend

the estimated time period for disruptions to the residents and businesses adjacent to the trenchless work.

<b>Table 1: Estimate of Cost and Schedule for Trenchless Installation</b>		
<b>Item</b>	<b>COST</b>	<b>SCHEDULE (shifts)</b>
<b>Jacking Shaft*</b>	\$630,000	36
<b>Reception Shaft*</b>	\$400,000	24
<b>Tunneling†</b>	\$450,000	24
<b>TOTAL</b>	<b>\$1,480,000</b>	<b>84</b>

\*Includes construction, backfilling, and site restoration  
†Includes mobilization and demobilization of tunneling equipment, installation of casing pipe, carrier pipe, and both contact grouting and annular space grouting.

### 7. Recommended Trenchless Project

The recommended trenchless project for the Main Street Bridge Pipeline Replacement Project crossing of Pilarcitos Creek is a microtunneled installation of approximately 210 feet of 30- to 48-inch diameter steel casing to house the 16-inch water line. Based on work area, cost, and schedule considerations, we recommend that the jacking and reception shafts be constructed using pre-drilled interlocking steel sheetpiles to provide a watertight shaft. The jacking shaft should be located on the north side of Pilarcitos Creek in the parking lot and storage area southwest of Tom & Pete’s Produce. The jacking shaft will be approximately 20 feet wide by 35 feet long and approximately 30 feet deep. The work area for the jacking shaft will need to be at least 10,000 square feet.

The reception shaft should be located on the south side of Pilarcitos Creek in the cul-de-sac of Purissima Street. The reception shaft must be watertight and should be constructed using predrilled interlocking sheetpiles. The reception shaft will be approximately 16 feet wide by 20 feet long and approximately 33 feet deep. The work area necessary for the reception shaft is a minimum of 6,000 square feet and will require closure of approximately 60 feet of the north-bound lane of Purissima Street to accommodate shaft construction equipment. All driveways for residences and businesses will be accessible during construction, although an alternate entrance to the northern parking lot at the end of Purissima Street must be constructed as shown in Figure 8. The northern-most portions of an existing 2-inch gas line and associated services within Purissima will need to be relocated prior to construction to allow for the reception shaft construction.

The recommended bore profile is shown in Figure 6. The proposed casing invert elevation is 60 feet in the jacking shaft and the alignment continuous at a positive grade of 3%, resulting in an approximate invert elevation of 66 feet at the reception shaft. This profile provides a minimum of 8 feet of cover beneath the deepest portion of Pilarcitos Creek and approximately 16 feet beneath the existing six-inch sanitary sewer near the reception shaft.



The recommended trenchless project is estimated to cost approximately \$1.5 million and take approximately 84 working days to complete. This estimate includes trenchless installation of the casing pipe and carrier pipe as well as construction and backfill of the shafts. It does not include costs for the carrier pipe material, vertical risers within the shaft, tie-ins to the open-cut portions of the project, utility relocations, or permitting costs. The cost estimate does include markup for contractor overhead and profit, but does not include a preliminary design-level contingency allowance.

## **8. References**

“Geotechnical Investigation, Coastside County Water District, Main Street Bridge Pipeline Replacement Project, Half Moon Bay, California”, Pacific Geotechnical Engineering, November 24, 2014.



## **ATTACHMENT 2**

### **30% PLANS (MICROTUNNELING)**

# MAIN STREET BRIDGE WATER MAIN REPLACEMENT PROJECT

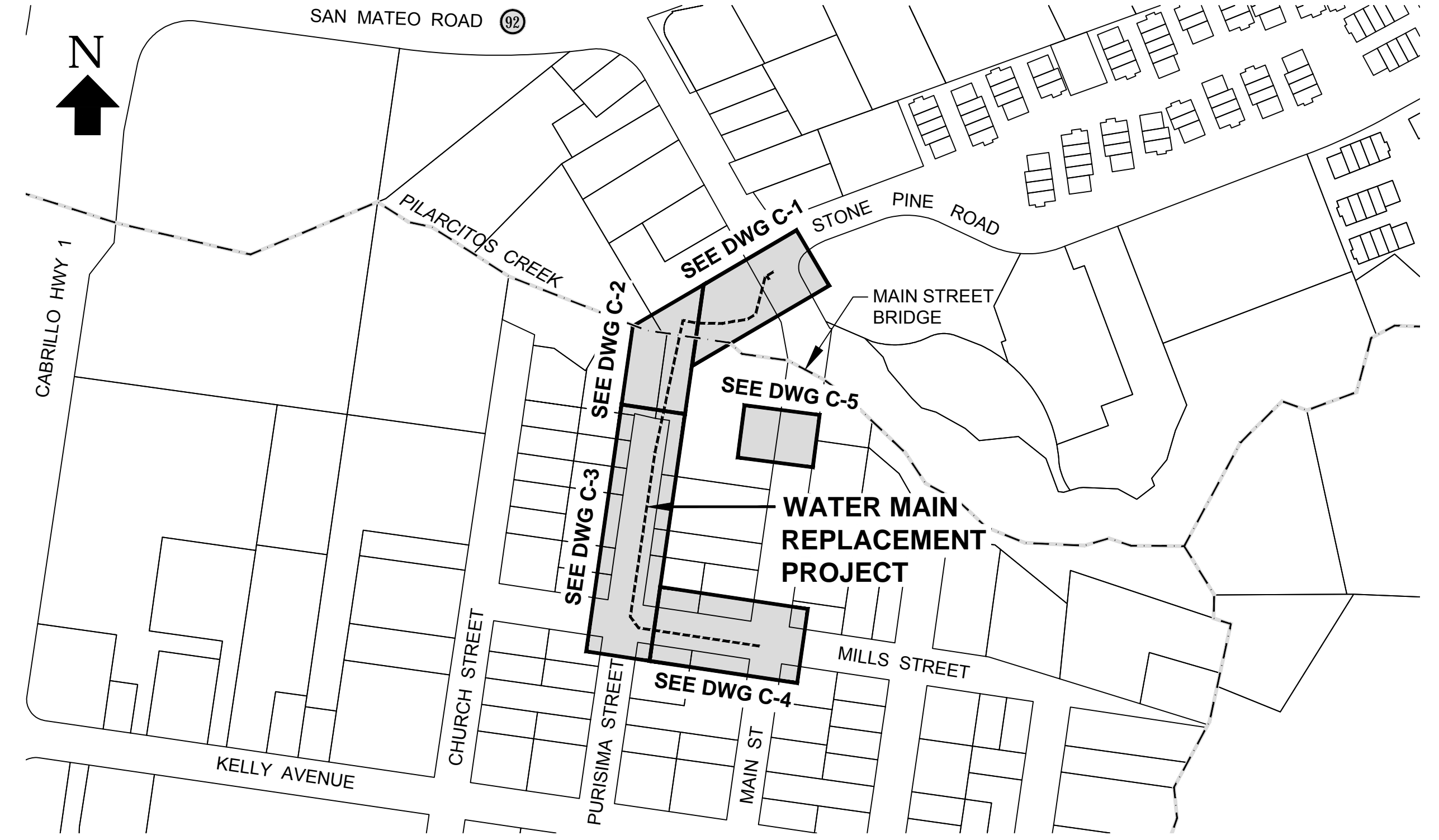
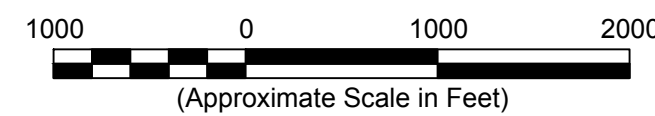
## COASTSIDE COUNTY WATER DISTRICT

### HALF MOON BAY, CALIFORNIA



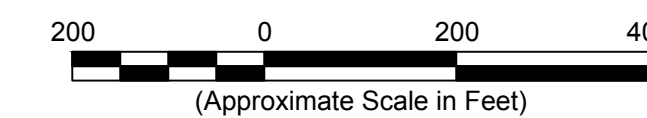
SOURCE: GOOGLE EARTH PRO, DATE OF IMAGERY MARCH 2014.

**VICINITY MAP**



SOURCE: GIS DATA, CALIFORNIA, SAN MATEO COUNTY SHP, PARCELS APN.

**PROJECT LOCATION MAP**



**LIST OF DRAWINGS**

- G-1 TITLE SHEET, VICINITY MAP, PROJECT LOCATION MAP, AND LIST OF DRAWINGS
- G-2 GENERAL NOTES, ABBREVIATIONS, AND LEGEND
- G-3 CONSTRUCTION STAGING AREAS
- C-1 PLAN AND PROFILE STA. 0+00 TO STA. 2+25
- C-2 PLAN AND PROFILE STA. 2+25 TO STA. 4+75
- C-3 PLAN AND PROFILE STA. 4+75 TO STA. 8+50
- C-4 PLAN AND PROFILE STA. 8+50 TO STA. 10+75
- C-5 WATER CONNECTION AND MISCELLANEOUS DETAILS SHEET 1 OF 2
- C-6 WATER CONNECTION AND MISCELLANEOUS DETAILS SHEET 2 OF 2

A	12/16/14	30% SUBMITTAL - FOR REVIEW	JPNS	<b>VERIFY SCALE</b>			Designed JPNS	<b>COASTSIDE COUNTY WATER DISTRICT</b> <b>HALF MOON BAY, CALIFORNIA</b>	<b>MAIN STREET BRIDGE WATER MAIN REPLACEMENT PROJECT</b>	Job No. EKI A90031.06
				BAR IS ONE INCH ON ORIGINAL DRAWING.			Drawn CR			<b>TITLE SHEET, VICINITY MAP, PROJECT LOCATION MAP, AND LIST OF DRAWINGS</b>
				0 1"			Checked JJT	Submitted: Erler & Kalinowski, Inc. Burlingame, CA	<b>1 OF 9</b>	
NO.	DATE	DESCRIPTION	BY	IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	NOT FOR CONSTRUCTION	NOT FOR CONSTRUCTION	Date 12/16/14			

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**GENERAL NOTES:**

- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE, AND ARE BASED ON RECORD INFORMATION PROVIDED BY UTILITY OWNERS. THE EXISTING ELEVATIONS AND LOCATIONS MAY VARY FROM THOSE SHOWN. ALL UNDERGROUND FACILITIES, PIPING AND UTILITIES ELEVATIONS AND LOCATIONS WHICH WILL AFFECT THE WORK SHALL BE VERIFIED BY THE CONTRACTOR BY POTHOLING.
- THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND ELEVATION OF ALL EXISTING UNDERGROUND UTILITIES AND SERVICES THAT CROSS OR PARALLEL THE NEW WATER LINES OR THAT MAY BE WITHIN THE INFLUENCE OF CONSTRUCTION ACTIVITIES INCLUDING DEWATERING, EXCAVATING, SHORING AND BACKFILLING ACTIVITIES.
- PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION. DAMAGE TO EXISTING UTILITIES RESULTING FROM THE CONTRACTOR'S CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE.
- FIELD VERIFY BY POTHOLING AND PHYSICALLY EXPOSING THE LOCATION AND ELEVATION OF ALL EXISTING UNDERGROUND UTILITY SYSTEMS AND INDIVIDUAL SERVICES CROSSING THE ALIGNMENT OF THE NEW WATER LINE AS PART OF THE POTHOLING REPORT DESCRIBED IN THE SPECIFICATIONS. CONTACT UNDERGROUND SERVICE ALERT (USA) (800) 642-2444 TO MARK UTILITIES, AT LEAST 48 HOURS PRIOR TO EXCAVATING.
- COORDINATE CONSTRUCTION WITH ALL UTILITY COMPANIES THAT MAY BE IMPACTED BY THE PERFORMANCE OF WORK.
- CONTRACTOR'S WORK INCLUDES ALL INCIDENTAL AND APPURTENANT WORK NECESSARY TO PROVIDE A COMPLETE AND FULLY-FUNCTIONING FACILITY. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR ANY ACTIVITIES OTHER THAN THOSE LISTED IN THE BID SCHEDULE WITHOUT AN AUTHORIZED CHANGE ORDER.
- THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, EQUIPMENT, APPURTENANCES, AND APPARATUS NOT SPECIFICALLY MENTIONED ON THE PLANS OR SPECIFICATIONS, BUT WHICH ARE NECESSARY TO COMPLETE THE CONTRACTED WORK AND PROVIDE A FULLY-FUNCTIONING INSTALLATION READY FOR FULL-TIME OPERATION.
- THE CONTRACTOR SHALL SUPPLY AND MAINTAIN SANITARY FACILITIES FOR WORKERS AND VISITORS AT THE CONSTRUCTION SITE. SERVICE AT LEAST TWICE WEEKLY.
- THE CONTRACTOR SHALL SATISFY ITSELF AS TO THE EXISTING CONDITIONS PRIOR TO BIDDING THE PROJECT.
- ALL EXCESS EXCAVATED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE HANDLED, TRANSPORTED, AND DISPOSED FROM THE SITE IN ACCORDANCE WITH LAWS AND REGULATIONS AT THE CONTRACTOR'S EXPENSE. CONTRACTOR MAY ASSUME, FOR BIDDING PURPOSES ONLY, THAT EXCAVATED SOIL IS NON-HAZARDOUS. HOWEVER, SUCH ASSUMPTION DOES NOT RELIEVE CONTRACTOR'S FULL AND COMPLETE RESPONSIBILITY FOR COMPLYING WITH LAWS AND REGULATIONS, INCLUDING CHARACTERIZATION OF EXCESS MATERIAL FOR MANAGEMENT AND DISPOSAL. CONTRACTOR SHALL PROMPTLY NOTIFY AND CONFER WITH ENGINEER IF ANY EVIDENCE OF SOIL CONTAMINATION IS OBSERVED.
- SAWCUT LINES SHALL BE DETERMINED BY THE WIDTH OF THE TRENCH AND DISTRICT STANDARD DETAILS OR AS SHOWN ON THE DRAWINGS.
- UNLESS OTHERWISE SHOWN ALL NEW PIPES SHALL HAVE A MINIMUM COVER OF 36 INCHES.
- UNLESS OTHERWISE NOTED, ALL PAVEMENT, GUTTERS, WALKS, FENCES AND OTHER SURFACE IMPROVEMENTS THAT ARE DISTURBED OR DAMAGED BY CONSTRUCTION SHALL BE RESTORED TO ORIGINAL CONDITIONS BY CONTRACTOR WITHOUT ADDITIONAL COST TO THE DISTRICT.
- PIPING INDICATED TO BE REMOVED OR ABANDONED SHALL BE ABANDONED IN PLACE OR REMOVED AS REQUIRED BY CONSTRUCTION. PIPES ABANDONED IN PLACE SHALL HAVE ALL ENDS CAPPED. ABANDONED PIPE OPENINGS AT STRUCTURES SHALL BE PLUGGED WITH CONCRETE. PLUG SHALL BE A MINIMUM THREE PIPE DIAMETERS LONG AND SHALL BE FINISHED FLUSH WITH CONCRETE WALL SURFACE.
- CONCRETE OR OTHER GUTTER REMOVED FOR TRENCHING IN STREETS SHALL BE REPLACED IN KIND. WHEN BRICK GUTTER OR CONCRETE GUTTER AND/OR CURB IS REMOVED FOR INSTALLATION OF SERVICE CONNECTION AND/OR WATER MAIN, REMOVE AND REPLACE IN KIND.
- CONTRACTOR TO PROVIDE A MINIMUM OF 12" CLEARANCE AT CROSSINGS BETWEEN PROPOSED WATER MAINS AND ALL UTILITIES.
- WHERE REQUIRED DUE TO UNFORESEEN OBSTRUCTIONS, CONTRACTOR MAY DEVIATE FROM PROPOSED WATER MAIN ALIGNMENT ONLY WITH PRIOR WRITTEN APPROVAL FROM THE DISTRICT.
- CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

**ABBREVIATIONS AND LEGEND**

AB	AT&T BOX	MB	MAILBOX
AC	ASPHALTIC CONCRETE	MJ	MECHANICAL JOINT
AC PAVE	ASPHALTIC CONCRETE PAVEMENT	PB	PG&E BOX
AD	AREA DRAIN	PBB	PACIFIC BELL BOX
AR	ACCESS RAMP	PE	PLAIN END
BFP	BACK FLOW PREVENTER	PHVV	PG&E HIGH VOLTAGE VAULT
BV	PROPOSED BUTTERFLY VALVE	POB	POINT OF BEGINNING
CB	CATCH BASIN	POE	POINT OF END
C/E/T	CABLE TELEVISION/ELECTRIC/TELEPHONE	PVC	POLYVINYL CHLORIDE
CO	CLEANOUT	SDMH	STORM DRAIN MANHOLE
CONC	CONCRETE	SLB	STREET LIGHT BOX
CTB	CABLE TELEVISION BOX	SS	SANITARY SEWER
Ø	DIAMETER	SSMH	SANITARY SEWER MANHOLE
DIP	DUCTILE IRON PIPE	STD.	STANDARD
DWY	DRIVEWAY	TB	TOP OF BERM
EX. OR (E)	EXISTING	TC	TOP OF CURB
EB	ELECTRIC BOX	TCD	THRU CURB DRAIN
ELEC	ELECTRIC	TG	TOP OF GRATE
EM	ELECTRIC METER	TR	TREE WELL
EP	EDGE OF PAVEMENT	TYP OR (TYP)	TYPICAL
ETR	EDGE OF TRAVELED ROAD	UB	UTILITY BOX
FDC	FIRE DEPARTMENT CONNECTION	VIF	VERIFY IN FIELD
FH	EXISTING FIRE HYDRANT	W	WATER
FH	PROPOSED FIRE HYDRANT	WB	WATER BOX
FL	FLOWLINE	WM	WATER METER
FLG	FLANGED PIPE JOINT	WS	WELDED STEEL
F.O.D.	FULL OF DEBRIS	WV	EXISTING WATER VALVE/GAS VALVE
GV	PROPOSED GATE VALVE	---	PROPERTY LINE
GA	GUY ANCHOR	—	EXISTING SIGN POST
GB	GRADE BREAK	—●—	EXISTING TREE W/ SIZE
INV.	INVERT	—X—X—	EXISTING FENCE
JP	JOINT UTILITY POLE	—E—	EXISTING UNDERGROUND ELECTRIC LINE
LG	LIP OF GUTTER	—G—	EXISTING GAS LINE
		—JT—	EXISTING JOINT TRENCH LINE
		—OH—	EXISTING OVERHEAD LINE
		—SS—	EXISTING SANITARY SEWER LINE
		—SD—	EXISTING STORM DRAIN LINE
		—W—	EXISTING WATER LINE
		—	PROPOSED WATER LINE

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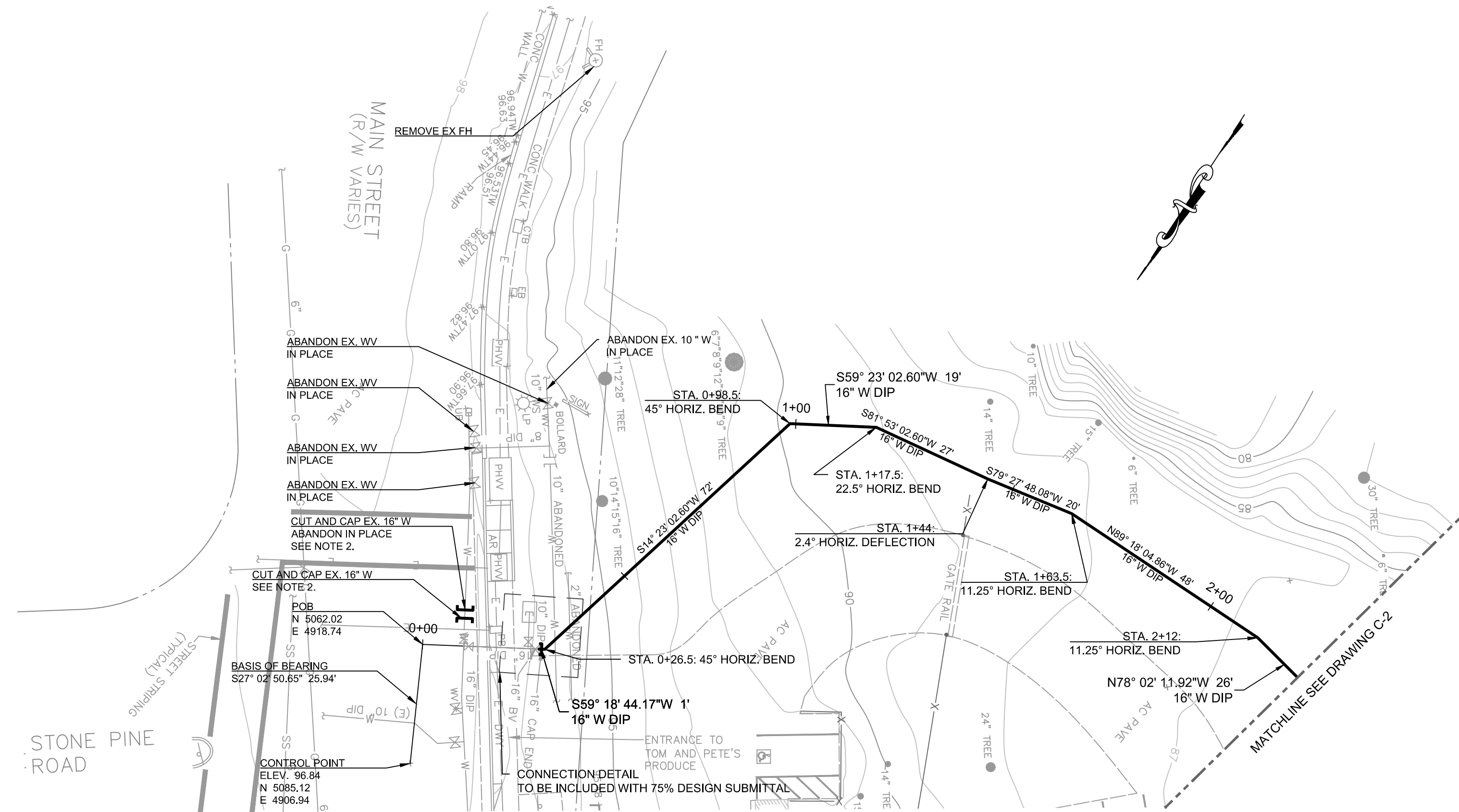
- NOTES**
1. ALL CONSTRUCTION MATERIALS AND EQUIPMENT SHALL ONLY BE STORED IN DESIGNATED STAGING AREAS SHOWN THROUGHOUT THE DURATION OF THE PROJECT. ENGINEER TO DELINEATE STAGING AREAS IN FIELD PRIOR TO CONSTRUCTION.
  2. SAFE VEHICULAR AND PEDESTRIAN ACCESS SHALL BE PROVIDED AT ALL TIMES DURING CONSTRUCTION. TEMPORARY DRIVEWAYS SHALL BE CONSTRUCTED WHERE NECESSARY TO MAINTAIN ACCESS TO ALL PROPERTIES.
  3. PROPOSED WATER MAIN ALIGNMENT SHOWN FOR ORIENTATION PURPOSES ONLY. SEE DRAWINGS C1 THROUGH C4 FOR WATER MAIN PLANS AND PROFILES.



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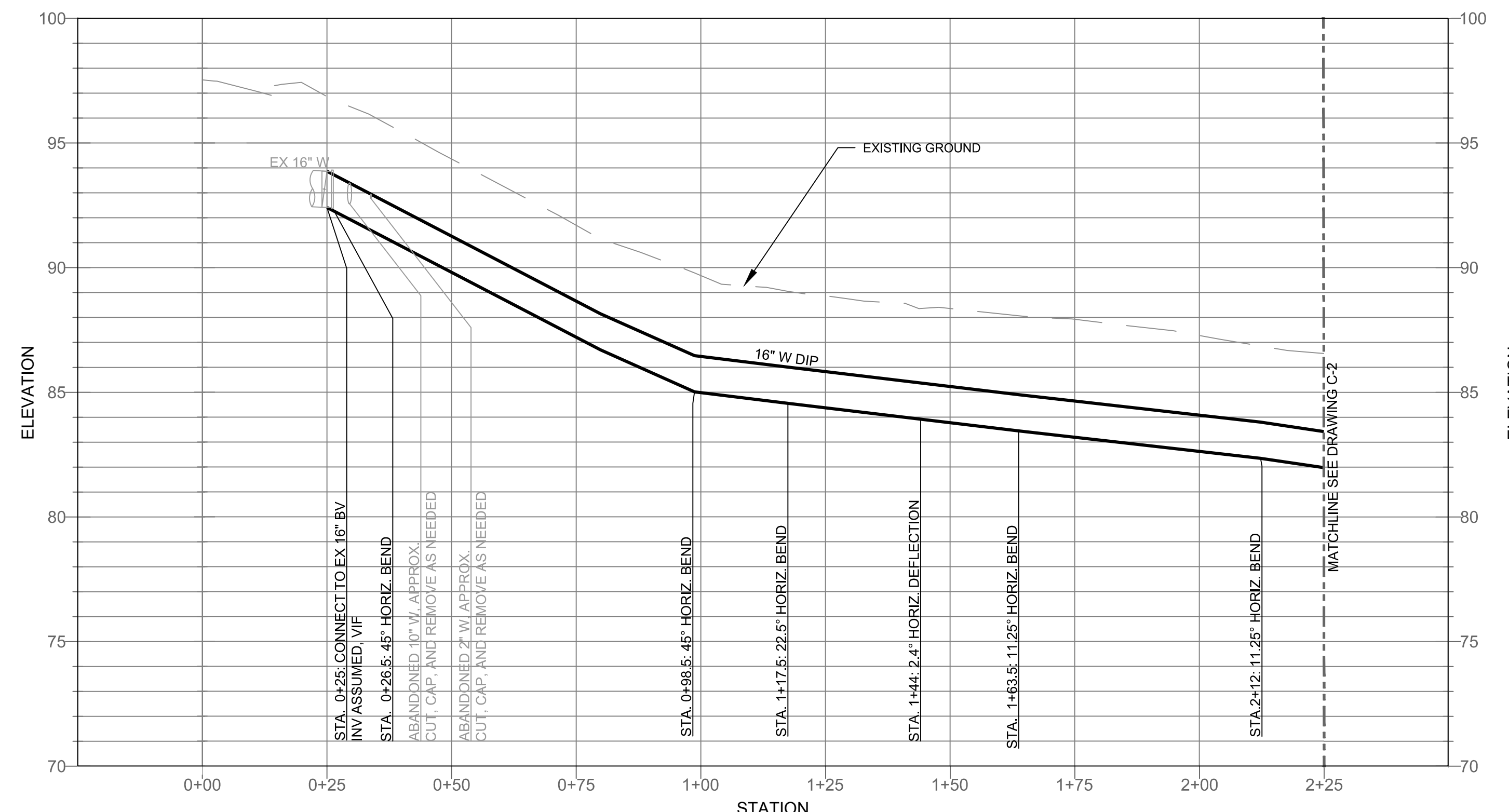
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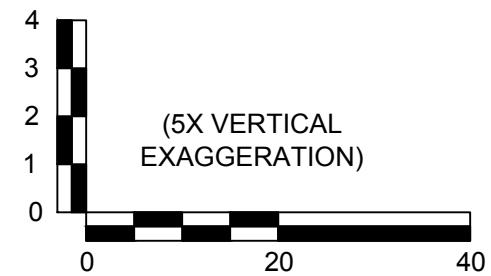
**PLAN**

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**PROFILE**

SCALE: 1" = 20' HORIZONTAL  
 1" = 4' VERTICAL



**NOTES:**

1. INSTALL NEW 16" DIP WATER MAIN BY OPEN TRENCH METHOD.
2. EXISTING MAIN STREET BRIDGE WATER MAIN SHALL BE ABANDONED IN PLACE OR REMOVED AS REQUIRED BY CONSTRUCTION. EXISTING ABANDONED UTILITIES (VERIFIED BY CONTRACTOR) SHALL BE REMOVED AS REQUIRED BY CONSTRUCTION. PIPES ABANDONED IN PLACE SHALL HAVE ALL ENDS CAPPED IN ACCORDANCE WITH GENERAL NOTE 14.
3. ALL LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND MINIMUM DEPTHS OF COVER HAVE BEEN ASSUMED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR POTHOLING AND VERIFYING SIZES, DEPTHS, AND LOCATIONS OF ALL UTILITIES. ANY CHANGES TO THESE PLANS SHALL BE APPROVED BY THE ENGINEER.
4. THRUST BLOCKS SHALL BE CONSTRUCTED AT ALL BENDS, TEES, REDUCERS, BLIND FLANGES, CAPS, AND PLUGS PER DISTRICT STANDARDS.

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**COASTSIDE COUNTY WATER DISTRICT**  
**HALF MOON BAY, CALIFORNIA**

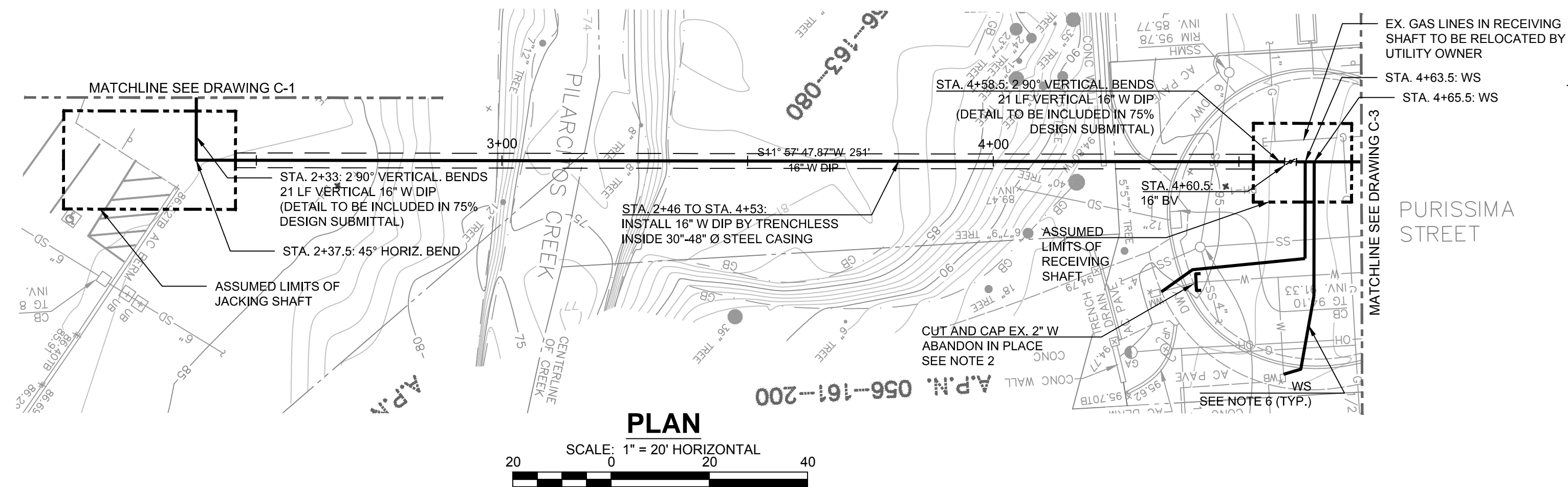
Erler & Kalinowski, Inc. Burlingame, CA

Submitted: \_\_\_\_\_

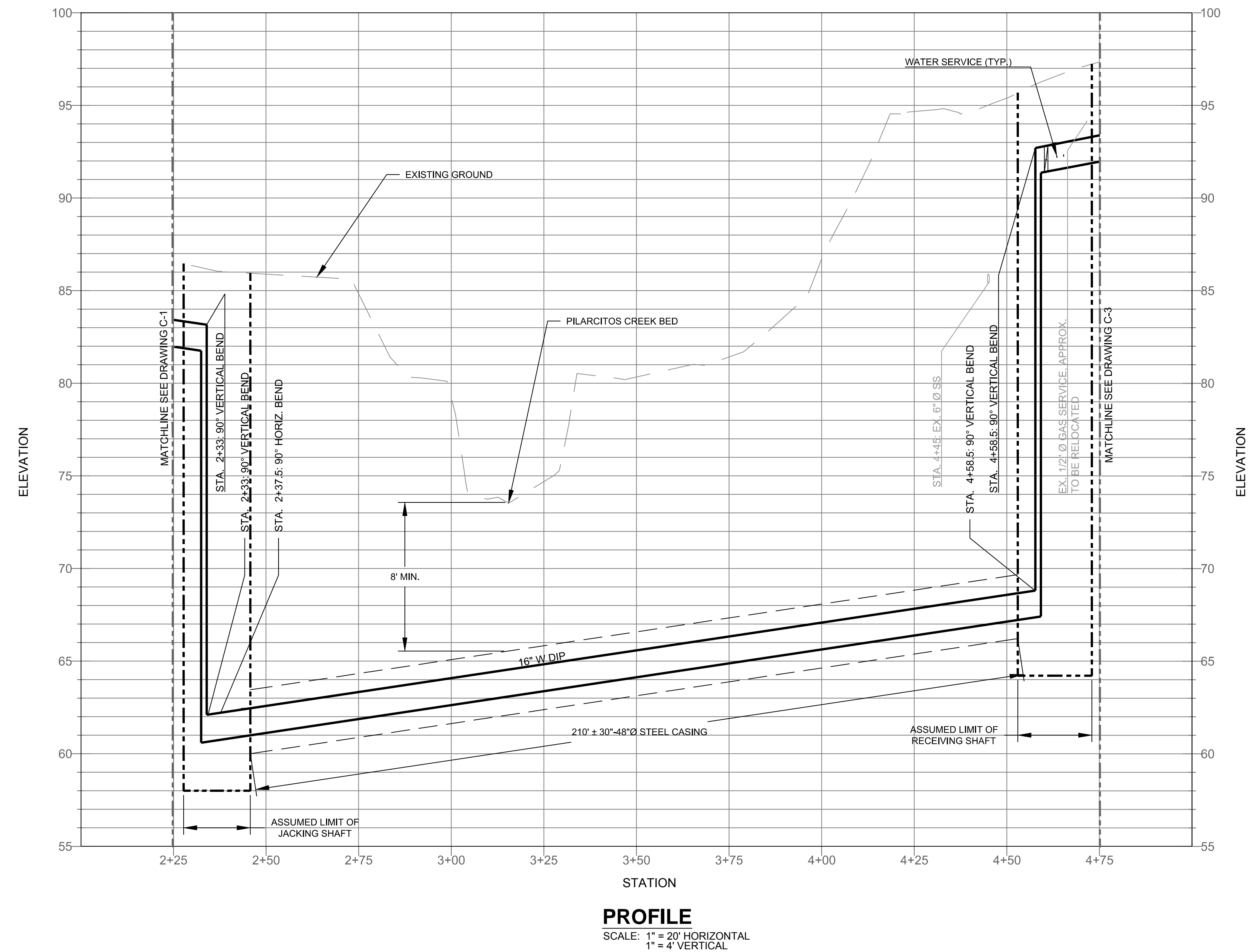
**MAIN STREET BRIDGE WATER MAIN REPLACEMENT PROJECT**

**PLAN AND PROFILE**  
**STA. 0+00 TO STA. 2+25**

Job No. EKI A90031.06  
 File No. SHEET-C1.DWG  
 Sheet 4 OF 9  
 Drawing C-1



- NOTES:**
- INSTALL NEW 16" DIP WATER MAIN BY OPEN TRENCH EXCEPT WHERE INDICATED TO INSTALL BY TRENCHLESS.
  - EXISTING PURISSIMA STREET 2" WATER MAIN SHALL BE ABANDONED IN PLACE OR REMOVED AS REQUIRED BY CONSTRUCTION. EXISTING ABANDONED UTILITIES (VERIFIED BY CONTRACTOR) SHALL BE REMOVED AS REQUIRED BY CONSTRUCTION. PIPES ABANDONED IN PLACE SHALL HAVE ALL ENDS CAPPED IN ACCORDANCE WITH GENERAL NOTE 14.
  - ALL LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND MINIMUM DEPTHS OF COVER HAVE BEEN ASSUMED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR POTHOLES AND VERIFYING SIZES, DEPTHS, AND LOCATIONS OF ALL UTILITIES. ANY CHANGES TO THESE PLANS AND SPECIFICATIONS SHALL BE APPROVED BY THE ENGINEER.
  - THRUST BLOCKS SHALL BE CONSTRUCTED AT ALL BENDS, TEES, REDUCERS, BLIND FLANGES, CAPS, AND PLUGS PER DISTRICT STANDARDS.
  - INSTALL NEW WATER SERVICES PER DETAIL 1 ON DRAWING C6. UNLESS OTHERWISE NOTED, NEW WATER SERVICES SHALL BE INSTALLED ALONG THE PROFILES OF THE EXISTING WATER SERVICES TO AVOID CONFLICTS WITH EXISTING UTILITIES. STATION CALLOUTS ARE TO CONNECTION POINT AT THE MAIN. REMOVE EXISTING WATER SERVICES FROM EXISTING WATER MAIN (TO BE ABANDONED) TO EXISTING WATER METER. REUSE EXISTING WATER BOXES. RETURN EXISTING WATER METERS TO THE DISTRICT AND INSTALL NEW, DISTRICT-FURNISHED WATER METERS. CONNECT NEW WATER SERVICE AND EXISTING CUSTOMER-SIDE WATER SERVICE TO NEW WATER METER.
  - SEWER LATERALS NOT SHOWN IN PLAN OR PROFILE. CONTRACTOR SHALL LOCATE AND PROTECT SEWER LATERALS IN THE FIELD.




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Date  
12/16/14

**COASTSIDE COUNTY WATER DISTRICT**  
**HALF MOON BAY, CALIFORNIA**

Erler & Kalinowski, Inc. Burlingame, CA

Submitted: \_\_\_\_\_

**MAIN STREET BRIDGE WATER MAIN REPLACEMENT PROJECT**

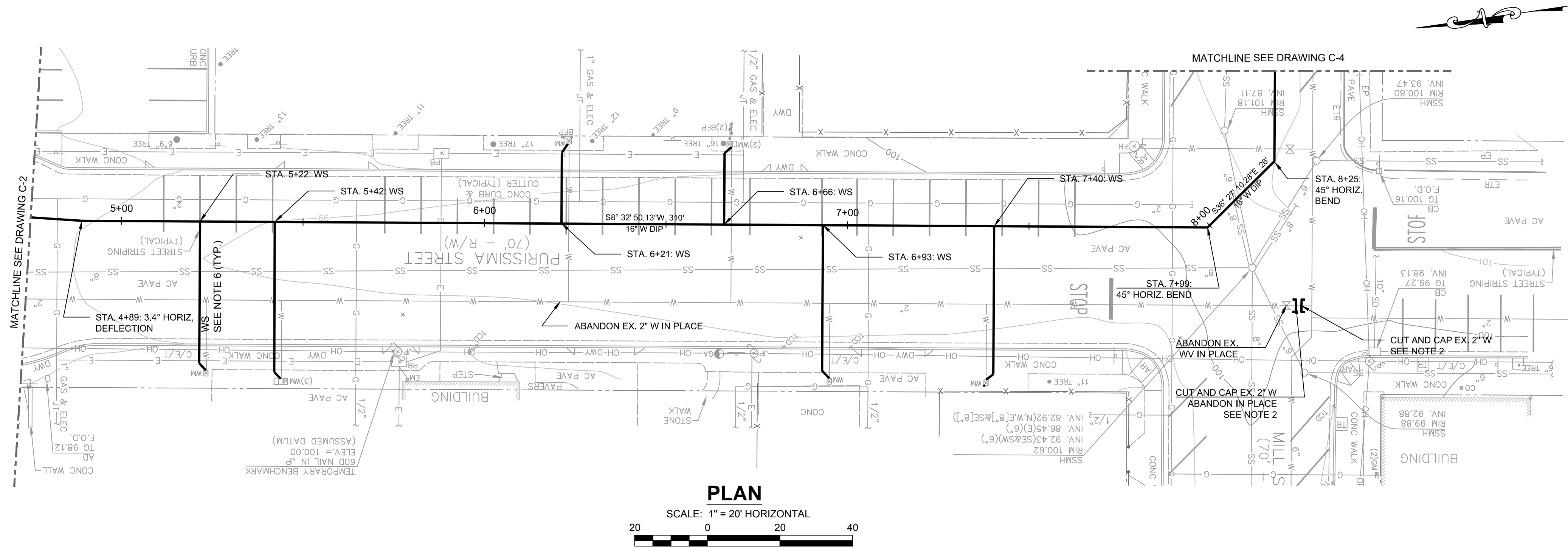
**PLAN AND PROFILE**  
**STA. 2+25 TO STA. 4+75**

Job No.  
EKI A90031.06

File No.  
SHEET-C2.DWG

Sheet  
5 OF 9

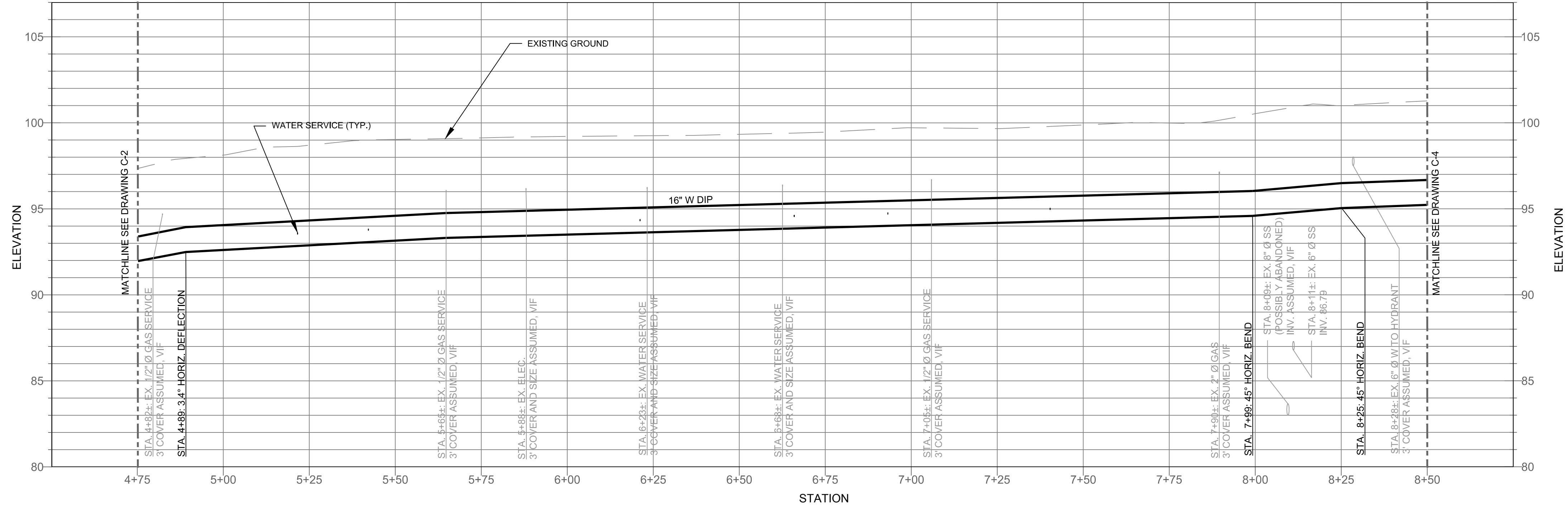
Drawing  
C-2



**PLAN**

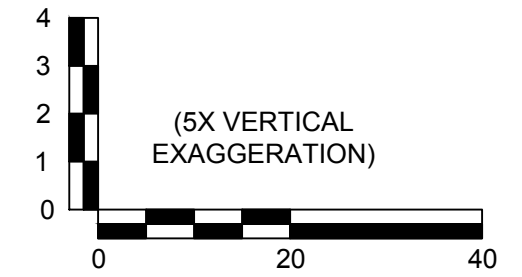
SCALE: 1" = 20' HORIZONTAL  
 20 0 20 40

- NOTES:**
- INSTALL NEW 16" DIP WATER MAIN BY OPEN TRENCH METHOD.
  - EXISTING PURISSIMA STREET 2" WATER MAIN SHALL BE ABANDONED IN PLACE OR REMOVED AS REQUIRED BY CONSTRUCTION. EXISTING ABANDONED UTILITIES (VERIFIED BY CONTRACTOR) SHALL BE REMOVED AS REQUIRED BY CONSTRUCTION. PIPES ABANDONED IN PLACE SHALL HAVE ALL ENDS CAPPED IN ACCORDANCE WITH GENERAL NOTE 14.
  - ALL LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND MINIMUM DEPTHS OF COVER HAVE BEEN ASSUMED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR POT-HOLING AND VERIFYING SIZES, DEPTHS, AND LOCATIONS OF ALL UTILITIES. ANY CHANGES TO THESE PLANS AND SPECIFICATIONS SHALL BE APPROVED BY THE ENGINEER.
  - THRUST BLOCKS SHALL BE CONSTRUCTED AT ALL BENDS, TEES, REDUCERS, BLIND FLANGES, CAPS, AND PLUGS PER DISTRICT STANDARDS.
  - INSTALL NEW WATER SERVICES PER DETAIL 1 ON DRAWING C6. UNLESS OTHERWISE NOTED, NEW WATER SERVICES SHALL BE INSTALLED ALONG THE PROFILES OF THE EXISTING WATER SERVICES TO AVOID CONFLICTS WITH EXISTING UTILITIES. STATION CALLOUTS ARE TO CONNECTION POINT AT THE MAIN. REMOVE EXISTING WATER SERVICES FROM EXISTING WATER MAIN (TO BE ABANDONED) TO EXISTING WATER METER. REUSE EXISTING WATER BOXES. RETURN EXISTING WATER METERS TO THE DISTRICT AND INSTALL NEW, DISTRICT-FURNISHED WATER METERS. CONNECT NEW WATER SERVICE AND EXISTING CUSTOMER-SIDE WATER SERVICE TO NEW WATER METER.
  - SEWER LATERALS NOT SHOWN IN PLAN OR PROFILE. CONTRACTOR SHALL LOCATE AND PROTECT SEWER LATERALS IN THE FIELD.



**PROFILE**

SCALE: 1" = 20' HORIZONTAL  
 1" = 4' VERTICAL



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NO.	DATE	DESCRIPTION	BY
A	12/16/14	30% SUBMITTAL - FOR REVIEW	JPNS

**VERIFY SCALE**

BAR IS ONE INCH ON ORIGINAL DRAWING.

0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

NOT FOR CONSTRUCTION

NOT FOR CONSTRUCTION

12/16/14

Designed: JPNS  
 Drawn: JPNS  
 Checked: JJT  
 Date: 12/16/14

**COASTSIDE COUNTY WATER DISTRICT**  
**HALF MOON BAY, CALIFORNIA**

Erler & Kalinowski, Inc. Burlingame, CA

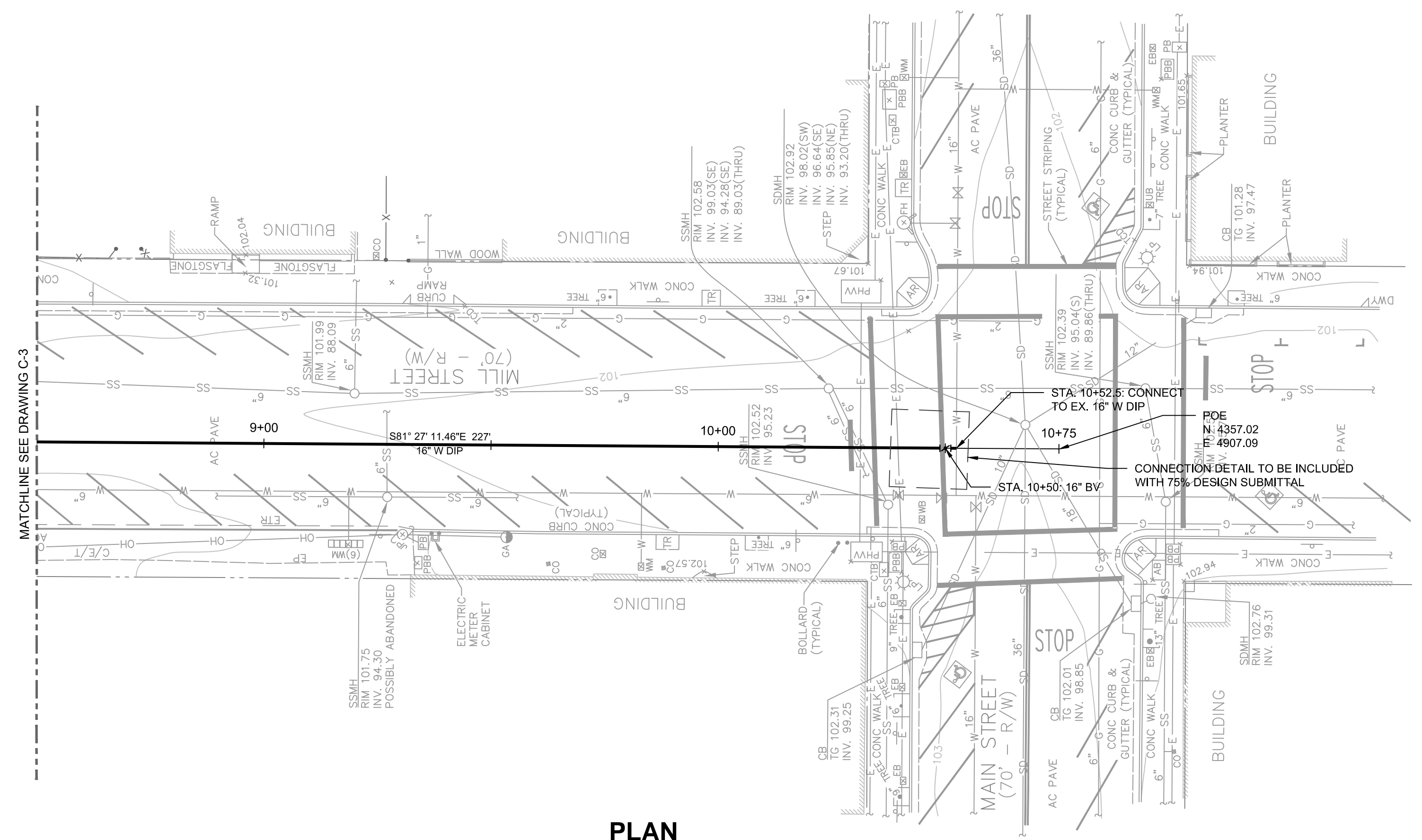
Submitted: \_\_\_\_\_

**MAIN STREET BRIDGE WATER MAIN REPLACEMENT PROJECT**

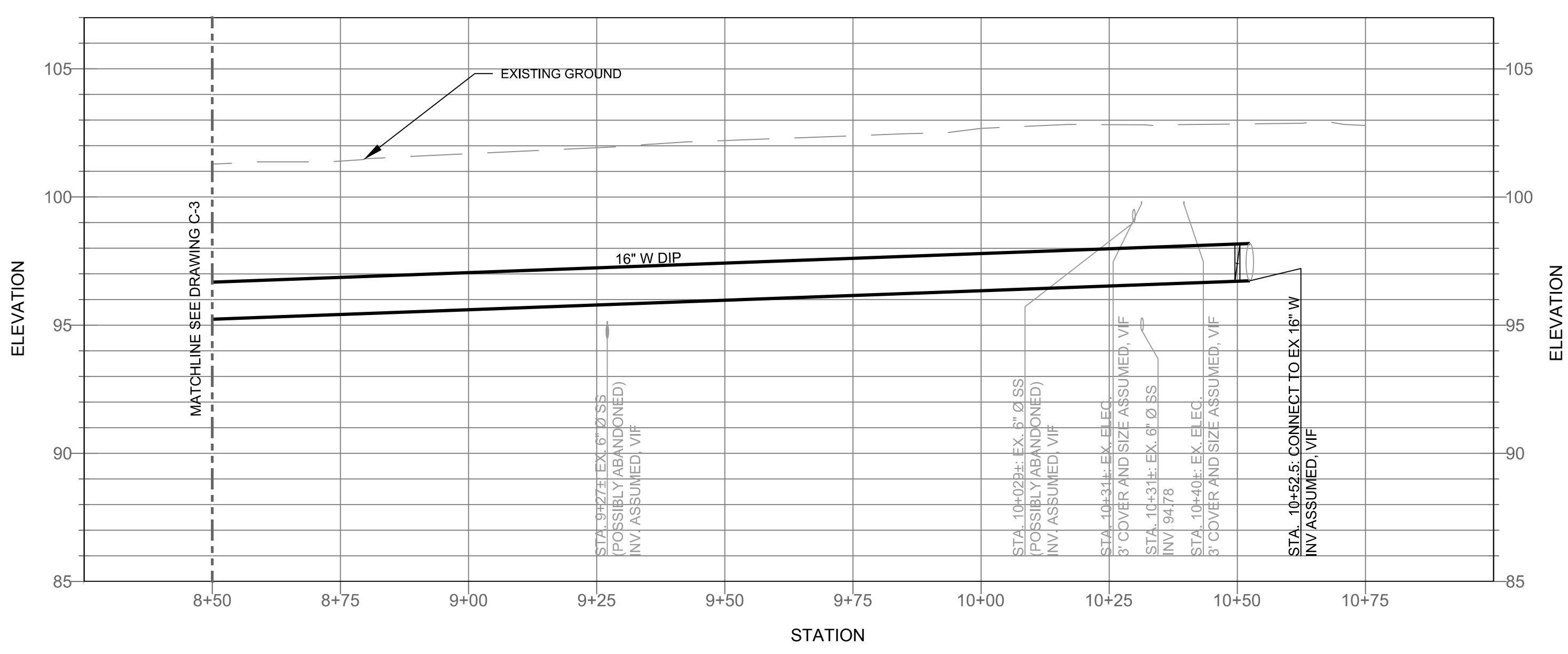
**PLAN AND PROFILE**  
**STA. 4+75 TO STA. 8+50**

Job No. EKI A90031.06  
 File No. SHEET-C3.DWG  
 Sheet 6 OF 9  
 Drawing C-3





**PLAN**  
SCALE: 1" = 20' HORIZONTAL



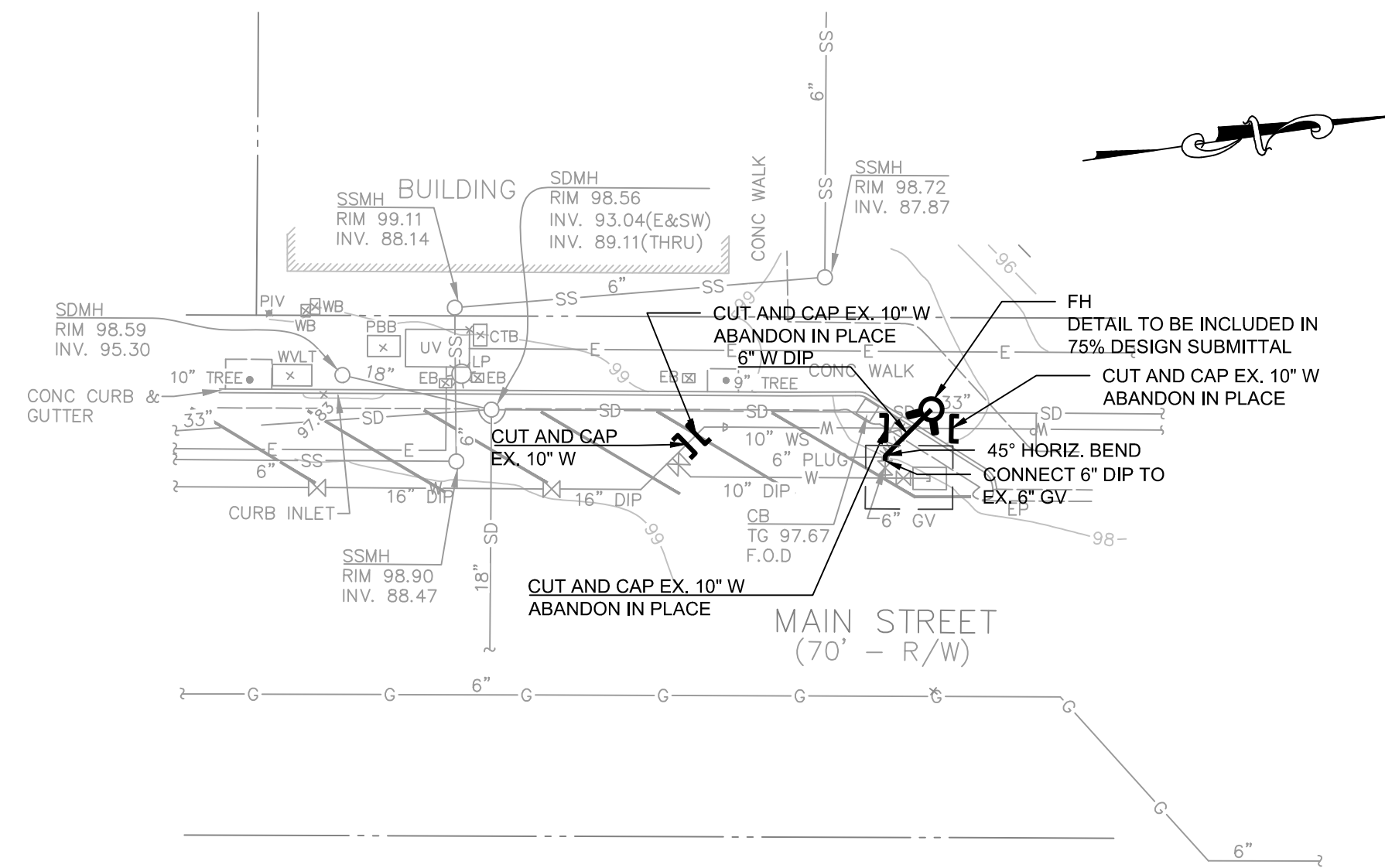
**PROFILE**  
SCALE: 1" = 20' HORIZONTAL  
1" = 4' VERTICAL  
(5X VERTICAL EXAGGERATION)

**NOTES:**

1. INSTALL NEW 16" DIP WATER MAIN BY OPEN TRENCH METHOD.
2. EXISTING MILL STREET 6" WATER MAIN SHALL BE MAINTAINED.
3. EXISTING ABANDONED UTILITIES (VERIFIED BY CONTRACTOR) SHALL BE REMOVED AS REQUIRED BY CONSTRUCTION. PIPES ABANDONED IN PLACE SHALL HAVE ALL ENDS CAPPED IN ACCORDANCE WITH GENERAL NOTE 14.
4. ALL LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND MINIMUM DEPTHS OF COVER HAVE BEEN ASSUMED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR POT-HOLING AND VERIFYING SIZES, DEPTHS, AND LOCATIONS OF ALL UTILITIES. ANY CHANGES TO THESE PLANS AND SPECIFICATIONS SHALL BE APPROVED BY THE ENGINEER.
5. THRUST BLOCKS SHALL BE CONSTRUCTED AT ALL BENDS, TEES, REDUCERS, BLIND FLANGES, CAPS, AND PLUGS PER DISTRICT STANDARDS.
6. SEWER LATERALS NOT SHOWN IN PLAN OR PROFILE. CONTRACTOR SHALL LOCATE AND PROTECT SEWER LATERALS IN THE FIELD.

C:\web0031.092014-12\C1-C6 - Main Street Bridge Water Main Replacement.dwg 12-16-14

A	12/16/14	30% SUBMITTAL - FOR REVIEW	JPNS	VERIFY SCALE	DESIGNED	<b>COASTSIDE COUNTY WATER DISTRICT</b> <b>HALF MOON BAY, CALIFORNIA</b>  <b>Erler &amp; Kalinowski, Inc.</b> <b>Burlingame, CA</b>  Submitted: _____	<b>MAIN STREET BRIDGE WATER MAIN REPLACEMENT PROJECT</b>  <b>PLAN AND PROFILE</b> <b>STA. 8+50 TO STA. 10+75</b>	Job No.	EKI A90031.06
				BAR IS ONE INCH ON ORIGINAL DRAWING.	Drawn			File No.	SHEET-C4.DWG
				0  1"	Checked			Sheet	7 OF 9
				IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	JJT			Drawing	C-4
NO.	DATE	DESCRIPTION	BY	NOT FOR CONSTRUCTION	NOT FOR CONSTRUCTION	Date			



**PLAN - MAIN STREET (SOUTH OF MAIN STREET BRIDGE) 1**

SCALE: 1" = 20' HORIZONTAL  
 20 0 20 40

TO BE INCLUDED WITH  
75% DESIGN SUBMITTAL

**CONNECTION DETAIL - MAIN STREET (NORTH OF MAIN STREET BRIDGE) 2**

TO BE INCLUDED WITH  
75% DESIGN SUBMITTAL

TO BE INCLUDED WITH  
75% DESIGN SUBMITTAL

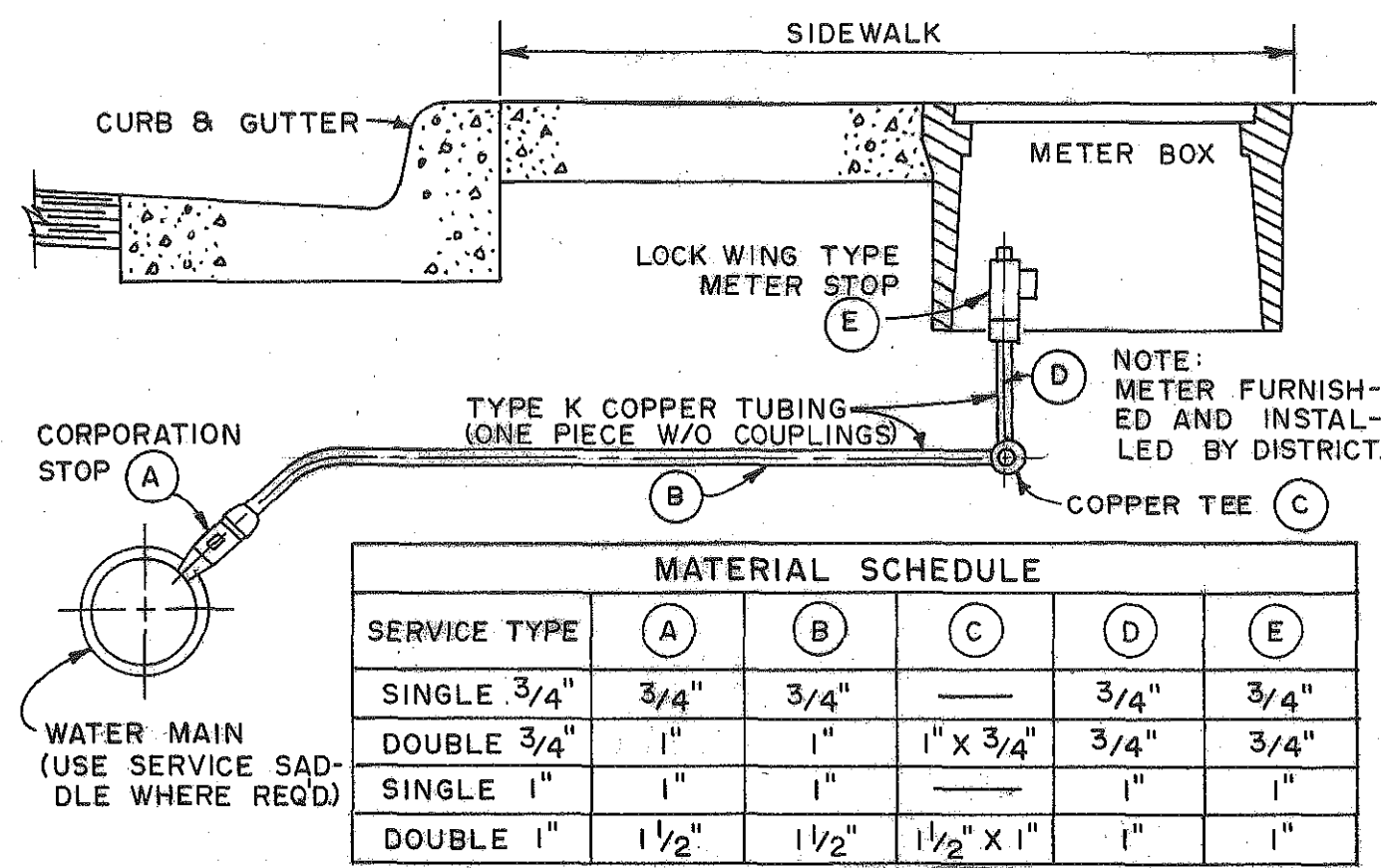
**CONNECTION DETAIL - MILL STREET AND MAIN STREET 3**

**MAIN STREET HYDRANT CONNECTION DETAIL 4**

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A	12/16/14	30% SUBMITTAL - FOR REVIEW	JPNS	VERIFY SCALE			Designed JPNS	<b>COASTSIDE COUNTY WATER DISTRICT</b> <b>HALF MOON BAY, CALIFORNIA</b>  Erler & Kalinowski, Inc.      Burlingame, CA Submitted: _____	<b>MAIN STREET BRIDGE WATER MAIN REPLACEMENT PROJECT</b>  <b>WATER CONNECTION AND MISCELLANEOUS</b> <b>DETAILS SHEET 1 OF 2</b>	Job No. EKI A90031.06
				BAR IS ONE INCH ON ORIGINAL DRAWING.			Drawn JPNS			File No. SHEET-C5.DWG
				0  1"			Checked JJT			Sheet 8 OF 9
				IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	NOT FOR CONSTRUCTION	NOT FOR CONSTRUCTION	Date 12/16/14			Drawing C-5
NO.	DATE	DESCRIPTION	BY							

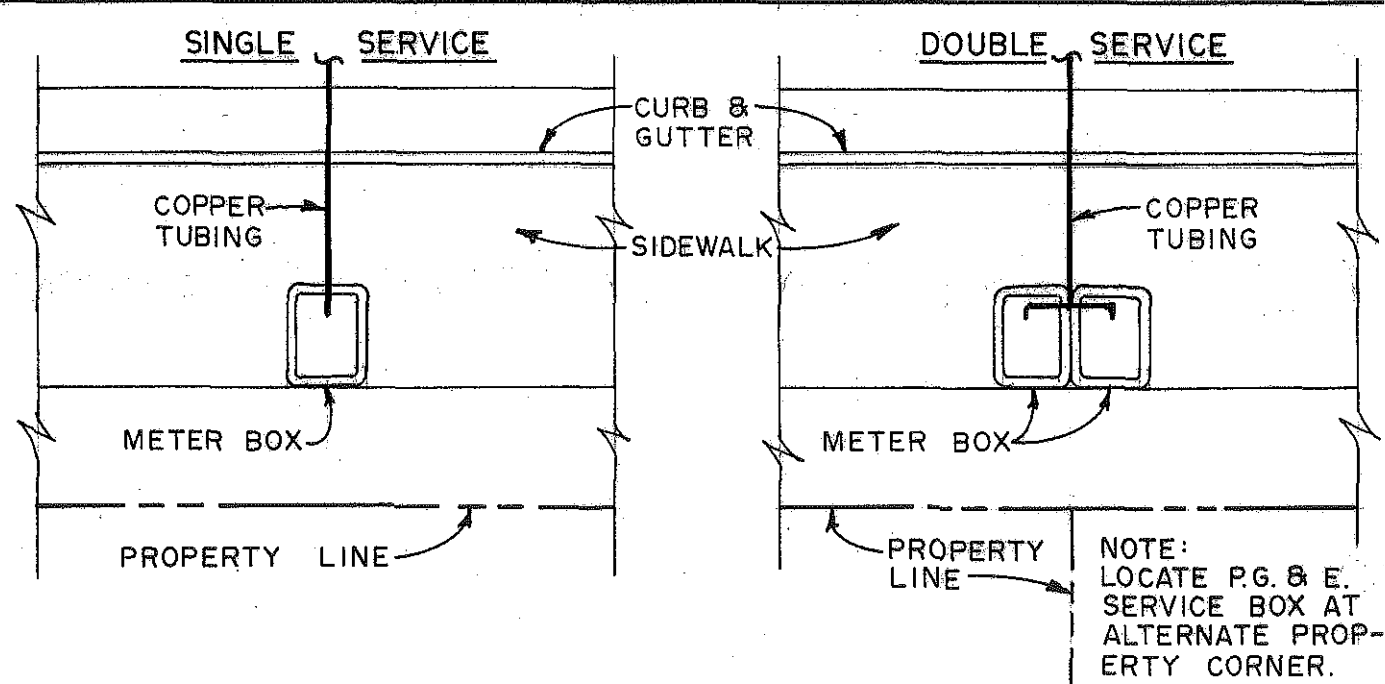




**MATERIAL SCHEDULE**

SERVICE TYPE	A	B	C	D	E
SINGLE 3/4"	3/4"	3/4"	---	3/4"	3/4"
DOUBLE 3/4"	1"	1"	1" X 3/4"	3/4"	3/4"
SINGLE 1"	1"	1"	---	1"	1"
DOUBLE 1"	1 1/2"	1 1/2"	1 1/2" X 1"	1"	1"

**TYPICAL INSTALLATION DETAIL**

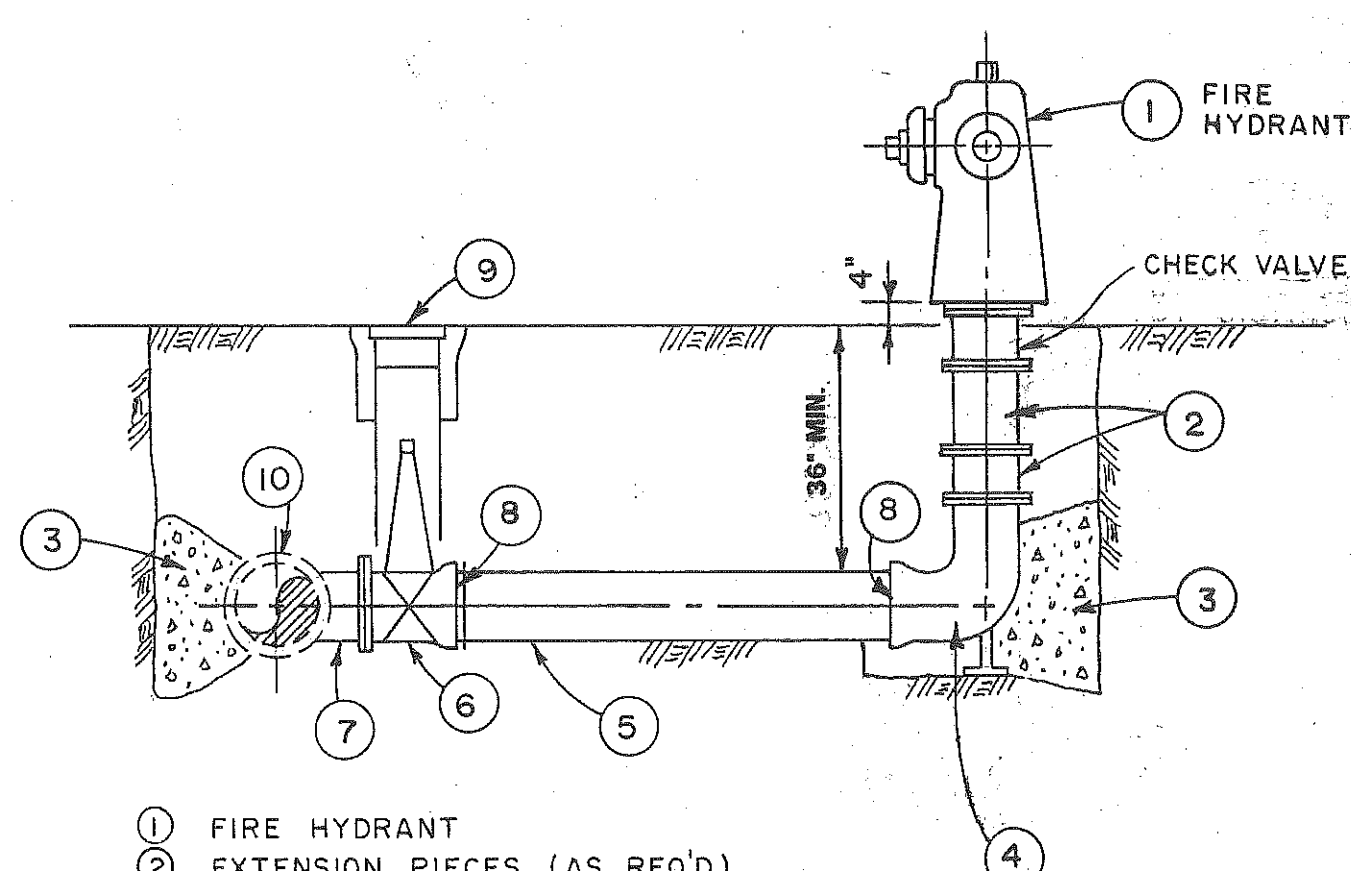


**TYPICAL LOCATION DETAIL**

**WATER SERVICE CONNECTIONS**

SCALE: NOT TO SCALE (DISTRICT STD. DETAIL)

1



- 1 FIRE HYDRANT
- 2 EXTENSION PIECES (AS REQ'D.)
- 3 CONC. THRUST BLOCK
- 4 HYDRANT BURY
- 5 6" PIPELINE
- 6 TAPPING VALVE (FLANGE BY MECH. JT.)
- 7 TAPPING SLEEVE
- 8 FIELD LOK GASKET SYSTEM (WHERE REQ'D. BY DISTRICT)
- 9 VALVE BOX (SEE "GATE VALVE" STD. DETAIL)
- 10 EXISTING PIPELINE (CONSULT DISTRICT FOR SIZE & TYPE)

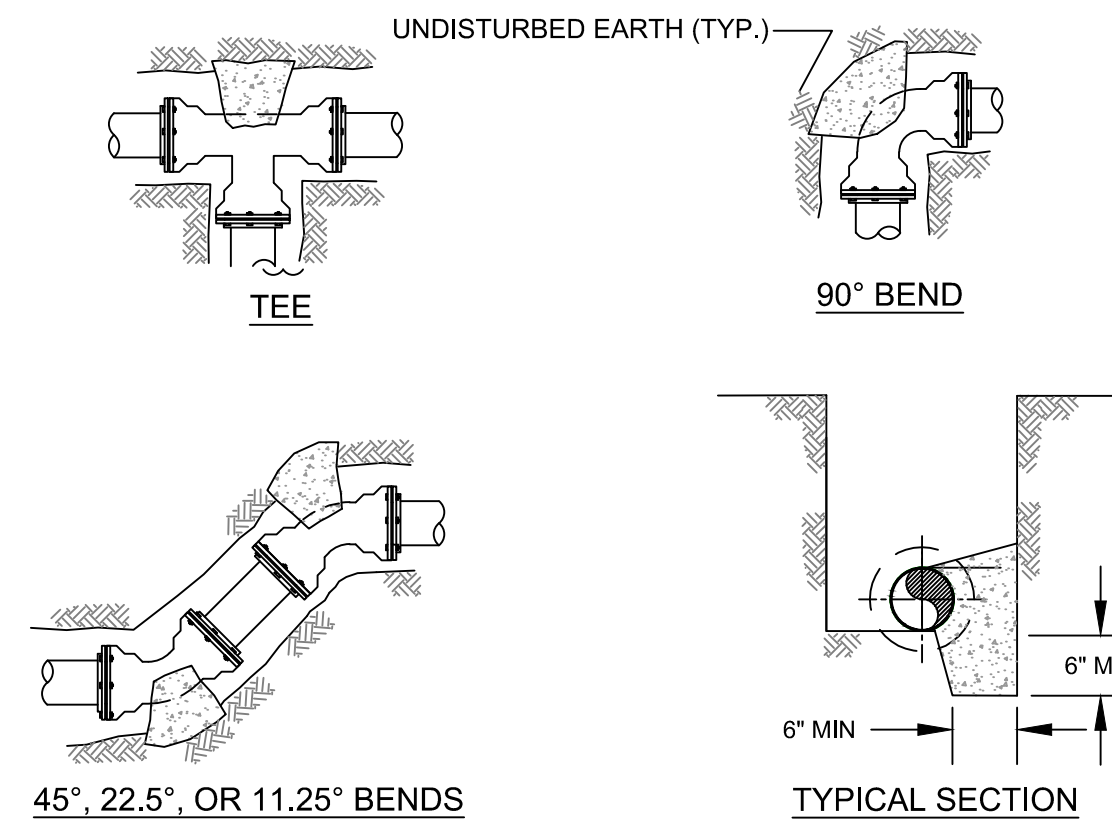
**NOTES**

1. MATERIALS AND INSTALLATION SHALL BE IN CONFORMANCE WITH DISTRICT STANDARD SPECIFICATIONS.
2. HYDRANT SHALL TYPICALLY BE LOCATED 2 FEET BEHIND CURB. IN OTHER AREAS, LOCATION SHALL BE DETERMINED IN FIELD BY DISTRICT. ORIENT NOZZLES TO SUIT LOCATION.
3. USE HORIZONTAL BENDS IN 6" PIPELINE AS REQUIRED, BUT NO VERTICAL BENDS.
4. ALL BOLTS AND NUTS FOR FLANGED JOINTS SHALL BE STAINLESS STL.
5. GUARD POSTS SHALL BE INSTALLED IN CONFORMANCE WITH DISTRICT REQUIREMENTS.

**TYPICAL FIRE HYDRANT ASSEMBLY**

SCALE: NOT TO SCALE (DISTRICT STD. DETAIL)

2



45°, 22.5°, OR 11.25° BENDS

TYPICAL SECTION

**MINIMUM REQUIRED BEARING AREA AGAINST UNDISTURBED EARTH WALL**

PIPE SIZE	AREA IN SQUARE FEET AT FITTINGS			
	TEE & CROSS	90° BEND	45° BEND	22.5° BEND
6	3	5	3	2
8	6	8	4	2
10	8	11	6	3
12	11	15	8	4
16	18	25	14	7

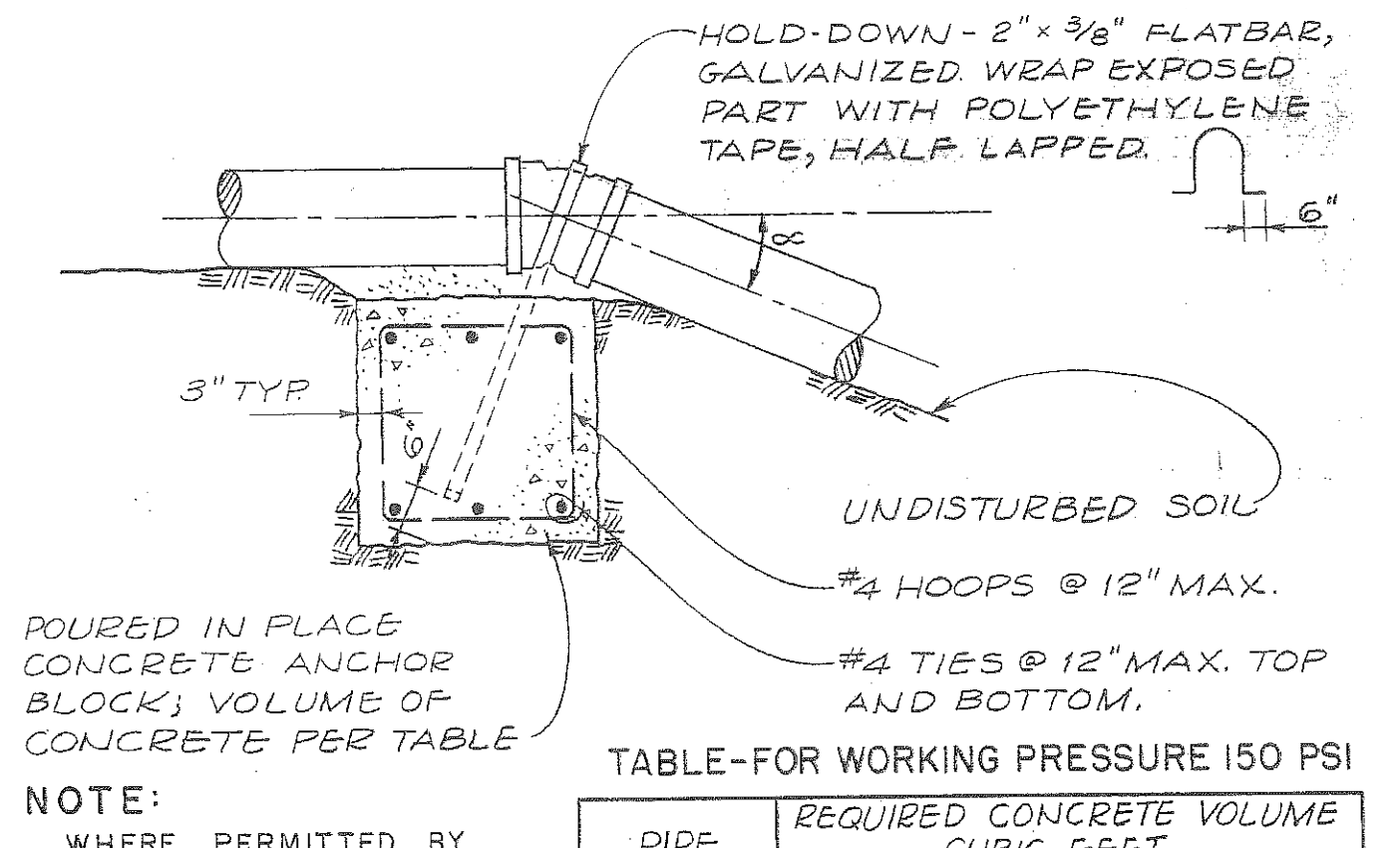
**NOTE:**

1. THRUST BLOCKS SHALL BE PLAIN CONCRETE POURED AGAINST UNDISTURBED EARTH
2. CAPS AND PLUGS SHALL HAVE THRUST BLOCKS WITH AREAS AS SPECIFIED FOR TEES, CAPS, PLUGS, FLANGES, AND MECHANICAL JOINTS SHALL BE COVERED WITH 8 MILS OF POLY-ETHYLENE BEFORE THRUST BLOCKS ARE POURED.
3. AREA IS IN A PLANE AT RIGHT ANGLES TO THE LINE OF RESULTANT THRUST.
4. THRUST BLOCKS ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING VALUE OF 3000 LB/SF AND 200 PSIG TEST PRESSURE. AREAS SHALL BE INCREASED FOR SOILS WITH LOWER BEARING VALUES OR FOR HIGHER TEST PRESSURE.
5. RESTRAINED JOINTS REQUIRED IN ADDITION TO THRUST BLOCKS.

**THRUST BLOCKS (HORIZONTAL BENDS)**

SCALE: NOT TO SCALE (MODIFIED DISTRICT STD. DETAIL)

3



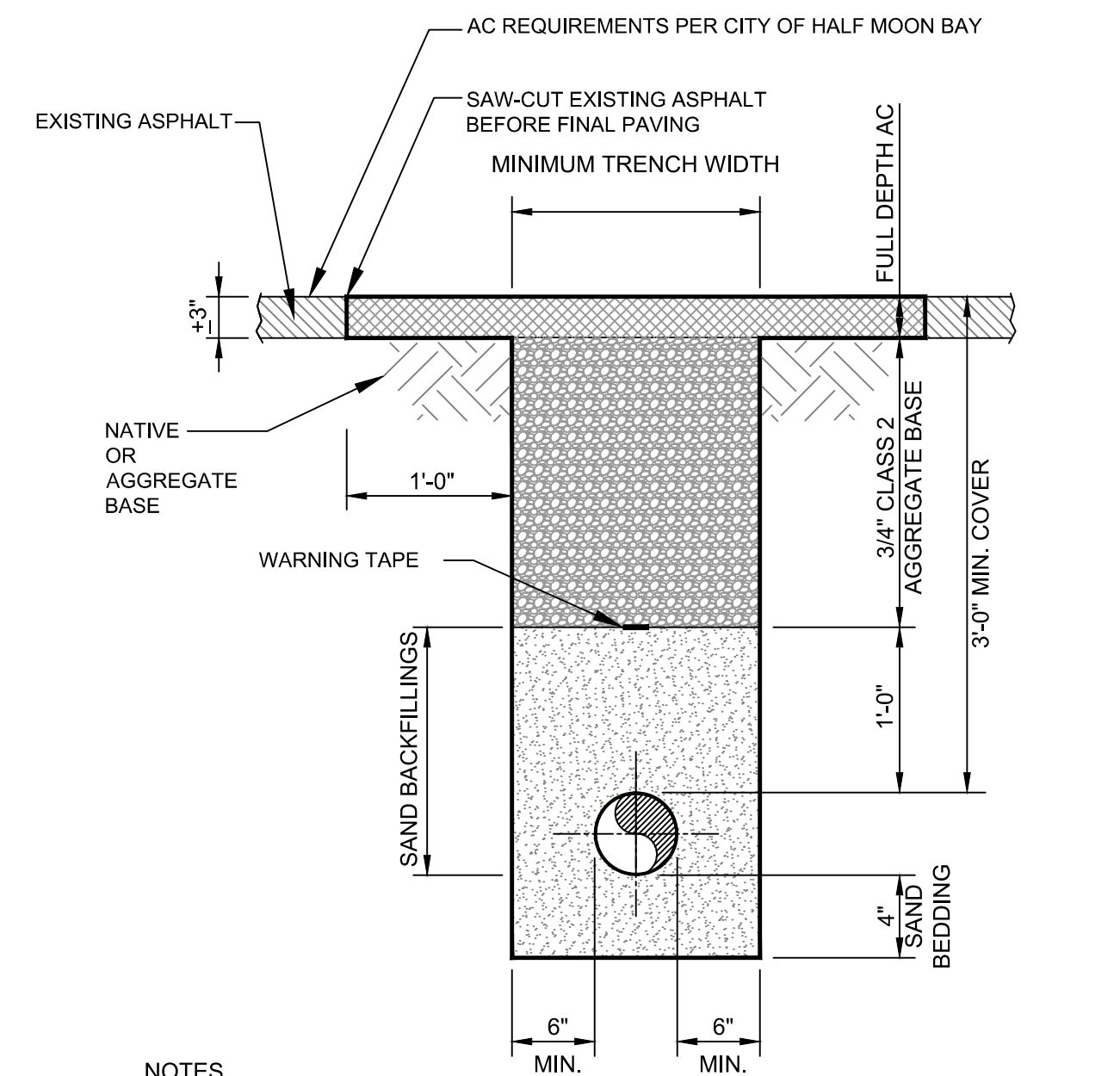
**UPLIFT THRUST BLOCK**

**DOWNTHRUST THRUST BLOCK**

**THRUST BLOCKS (VERTICAL BENDS)**

SCALE: NOT TO SCALE (DISTRICT STD. DETAIL)

4



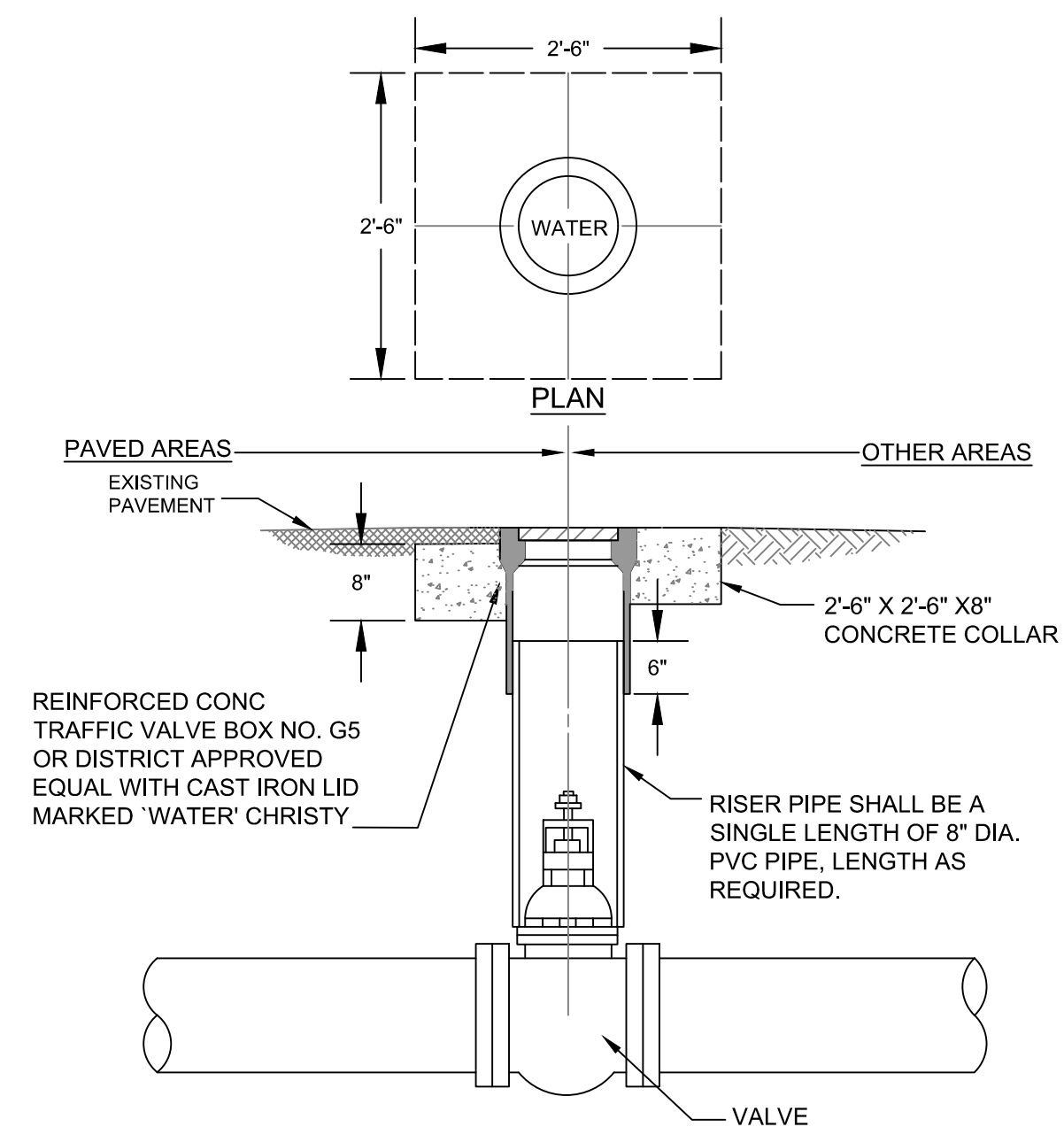
**NOTES**

1. USE CONTROLLED DENSITY FILL (CDF) FOR BACKFILL IN PLACE OF SAND BEDDING AND 3/4" CLASS 2 AB WHERE SHOWN ON SHEETS.
2. TRACER WIRE SHALL BE NO.8 SOLID COPPER WIRE BARE (WITHOUT INSULATION).

**TYPICAL TRENCH SECTION**

SCALE: NOT TO SCALE

5



**NOTE:**

1. VALVE BOX EXTENSION SHALL BE A SINGLE SECTION OF 8" DIAMETER PVC.
2. PRIOR TO PAVING, RAISE BOX TO PERMANENT GRADE, POUR THE CONCRETE COLLAR AND RESTORE PAVEMENT.
3. SEE SPECIFICATIONS FOR VALVE TYPE AND ADDITIONAL MATERIAL AND INSTALLATION REQUIREMENTS.
4. VALVES MAY BE FLANGED (AS SHOWN) OR MECHANICAL JOINT.

**TYPICAL VALVE BOX ASSEMBLY**

SCALE: NOT TO SCALE (MODIFIED DISTRICT GATE VALVE STD. DETAIL)

6

NO.	DATE	DESCRIPTION	BY
A	12/16/14	30% SUBMITTAL - FOR REVIEW	JPNS

VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	
NOT FOR CONSTRUCTION	NOT FOR CONSTRUCTION

Designed JPNS	<p><b>COASTSIDE COUNTY WATER DISTRICT</b>  <b>HALF MOON BAY, CALIFORNIA</b></p> <p>Erler &amp; Kalinowski, Inc.      Burlingame, CA</p> <p>Submitted: _____</p>
Drawn JPNS	
Checked JJT	
Date 12/16/14	

<p><b>MAIN STREET BRIDGE WATER MAIN REPLACEMENT PROJECT</b></p> <p><b>WATER CONNECTION AND MISCELLANEOUS</b>  <b>DETAILS SHEET 2 OF 2</b></p>	
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Job No. EKI A90031.06
File No.
SHEET-C6.DWG
Sheet 6 OF 9
Drawing C-6

## **ATTACHMENT 3**

### **TECHNICAL SPECIFICATION OUTLINE (MICROTUNNELING)**

**TECHNICAL SPECIFICATIONS OUTLINE – 30% DESIGN SUBMITTAL**  
**MAIN STREET BRIDGE WATER MAIN REPLACEMENT PROJECT**  
 Coastside County Water District, San Mateo County, CA

Division	Section	Title
<b>TECHNICAL SPECIFICATIONS</b>		
<b>DIVISION 26</b>	<b>ELECTRICAL</b>	
	26 4213	Cathodic Protection for Underground and Submerged Piping
<b>DIVISION 31</b>	<b>EARTHWORK</b>	
	31 2300	Excavation and Fill
	31 2319	Dewatering
	31 5000	Excavation Support and Protection
<b>DIVISION 32</b>	<b>EXTERIOR IMPROVEMENTS</b>	
	32 1216	Asphalt Paving
	32 1612	Concrete Curb, Gutters, and Sidewalks
<b>DIVISION 33</b>	<b>UTILITIES</b>	
	33 0523	Microtunneling
	33 1100	Public Water Utilities Distribution Piping
	33 1213	Water Service Connections
	33 1216	Water Utility Distribution Valves
	33 1219	Water Utility Distribution Fire Hydrants
	33 1300	Disinfection of Water Utilities

## **ATTACHMENT 4**

**TABLE 4-1. OPINION OF PROBABLE CONSTRUCTION COST FOR MICROTUNNELING**

**TABLE 4-2. SUMMARY OF COST DIFFERENCES, OPINION OF PROBABLE CONSTRUCTION COST**

**TABLE 4-3. OPINION OF PROBABLE TOTAL PROJECT COST FOR MICROTUNNELING**

**TABLE 4-1**  
**OPINION OF PROBABLE CONSTRUCTION COST FOR MICROTUNNELING (a)**  
Main Street Bridge Water Main Replacement Project  
Coastside County Water District, San Mateo County, California

<b>Item No.</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Total (b)</b>
<b>Trenchless Construction (Sta 2+30 to Sta 4+70)</b>					
1	Jacking Shaft (35'X16'X30' deep) includes excavation, backfill & compaction, shoring, & site restoration	1	EA	\$ 630,000	\$ 630,000
2	Reception Shaft (20'X16'X33' deep) includes excavation, backfill & compaction, shoring, & site restoration	1	EA	\$ 400,000	\$ 400,000
3	Microtunneling (210 LF) includes mobilization and demobilization of tunneling equipment, installation of carrier pipe, and contact and annular space grouting	1	LS	\$ 450,000	\$ 450,000
4	Furnish 16" Ductile Iron Pipe including Polyethylene Bag Encasement for Trenchless Crossing (210 LF) (Installation Included in Item No. 3)	210	LF	\$ 100	\$ 21,000
5	Furnish & Install 16" Ductile Iron Pipe Connection to Open Trench Sections including Polyethylene Encasement	70	LF	\$ 180	\$ 13,000
6	Furnish & Install 16" Ductile Iron 90 Degree Bend Fittings including Polyethylene Encasement and Thrust Blocks	5	EA	\$ 2,100	\$ 11,000
7	Furnish & Install 16" Butterfly Valve including Polyethylene Encasement and Valve Box Assembly	1	EA	\$ 7,000	\$ 7,000
					<b>\$ 1,532,000</b>
<b>Open Trench Construction (Sta 0+25 to Sta 2+30 and Sta 4+70 to 10+52)</b>					
1	Excavation & Backfill for 16" Pipe Trench, 30"WX48"D	800	LF	\$ 145	\$ 116,000
2	Furnish & Install 16" Ductile Iron Pipe including Polyethylene Bag Encasement	800	LF	\$ 180	\$ 144,000
3	Pavement Restoration	2,000	SF	\$ 8	\$ 16,000
4	Open Trench Excavation Shoring	1	LS	\$ 10,000	\$ 10,000
5	Furnish & Install 16" Ductile Iron 45 Degree Bend Fittings including Polyethylene Encasement and Thrust Blocks	4	EA	\$ 1,600	\$ 6,000
6	Furnish & Install 16" Ductile Iron 22.5 Degree Bend Fittings including Polyethylene Encasement and Thrust Blocks	1	EA	\$ 1,400	\$ 1,000
7	Furnish & Install 16" Ductile Iron 11.25 Degree Bend Fittings including Polyethylene Encasement and Thrust Blocks	2	EA	\$ 1,200	\$ 2,000
8	Furnish & Install 16" Butterfly Valve including Polyethylene Encasement and Valve Box Assembly	1	EA	\$ 7,000	\$ 7,000
9	Fire Hydrant Assembly including 6" 45 Degree Bend, Gate Valve, and Thrust Blocks	1	EA	\$ 10,000	\$ 10,000
10	Furnish and Install 1" Water Service Type K Copper Tubing	320	LF	\$ 120	\$ 38,000
11	Connect to Existing 16" Water Main North of Main Street Bridge (no shutdown required)	1	EA	\$ 2,000	\$ 2,000
12	Connection to Existing 16" Water Main at Main St and Mill St including shutdown and tie-in	1	EA	\$ 20,000	\$ 20,000
13	Remove Existing Fire Hydrant Assembly	1	EA	\$ 1,500	\$ 2,000
14	Abandon Existing Water Valve	4	EA	\$ 1,000	\$ 4,000
15	Air Relief Valve and Blowoff Allowance	1	LS	\$ 15,000	\$ 15,000
16	Cathodic Protection Allowance	1	LS	\$ 50,000	\$ 50,000
					<b>\$ 443,000</b>

**TABLE 4-1**  
**OPINION OF PROBABLE CONSTRUCTION COST FOR MICROTUNNELING (a)**  
 Main Street Bridge Water Main Replacement Project  
 Coastside County Water District, San Mateo County, California

Item No.	Description	Quantity	Unit	Unit Price	Total (b)
<b>Others</b>					
1	Temporary Improvements/Restoration for Purissima Staging Area	1	LS	\$ 10,000	\$ 10,000
2	Traffic Control	1	LS	\$ 10,000	\$ 10,000
3	Dust Control	1	LS	\$ 5,000	\$ 5,000
4	Dewatering	1	LS	\$ 10,000	\$ 10,000
5	Striping	1	LS	\$ 5,000	\$ 5,000
					<b>\$ 40,000</b>
<b>Estimated Construction Material and Labor Cost</b>					<b>\$ 2,015,000</b>
<b>5% Mobilization &amp; Demobilization</b>					<b>\$ 101,000</b>
<b>Total Estimated Contractor's Cost</b>					<b>\$ 2,116,000</b>
<b>20% Contingency</b>					<b>\$ 423,000</b>
<b>Total Opinion of Probable Cost</b>					<b>\$ 2,539,000</b>

**Notes:**

- (a) Opinion of probable cost presented above is based on the 30% design submittal.
- (b) Costs are rounded to the nearest \$1,000.
- (c) Cost of rights-of ways, including temporary and permanent easements, not included.



**TABLE 4-2**  
**SUMMARY OF COST DIFFERENCES**  
**OPINION OF PROBABLE CONSTRUCTION COST**  
Main Street Bridge Water Main Replacement Project  
Coastside County Water District, San Mateo County, California

Item No.	Description	Conceptual OPC	30% Design OPC	Cost Difference	Reason for Cost Difference
<b>Trenchless Construction (Sta 2+30 to Sta 4+70)</b>					
1	Jacking Shaft	\$ 300,000	\$ 630,000	\$ 330,000	Difficult subsurface conditions identified during geotechnical investigation, staging/work area constraints identified, general escalation in construction costs due to increase in total number of active projects in the Bay Area
2	Reception Shaft	\$ 200,000	\$ 400,000	\$ 200,000	
3	Microtunneling Including Installation of Carrier Pipe	\$ 300,000	\$ 450,000	\$ 171,000	
4	Furnish 16" Ductile Iron Pipe for Trenchless Crossing		\$ 21,000		
5	Furnish & Install 16" Ductile Iron Pipe Connection to Open Trench Section	\$ 9,000	\$ 13,000	\$ 4,000	General escalation in construction costs due to increase in total number of active projects in the Bay Area
6	Furnish & Install 16" Ductile Iron 90 Degree Bends	\$ 7,000	\$ 11,000	\$ 11,000	Previous OPC only included an allowance for pipe fittings and specific number, and type of fittings and appurtenances have been delineated during 30% design
7	Furnish & Install 16" Butterfly Valve		\$ 7,000		
<b>Total Difference</b>				\$ 716,000	
<b>Open Trench Construction (Sta 0+25 to Sta 2+30 and Sta 4+70 to 10+52)</b>					
1	Excavation & Backfill for 16" Pipe Trench	\$ 207,000	\$ 116,000	\$ 79,000	General escalation in construction costs due to increase in total number of active projects in the Bay Area
2	Furnish & Install 16" Ductile Iron Pipe		\$ 144,000		
3	Pavement Restoration		\$ 16,000		
4	Open Trench Excavation Shoring		\$ 10,000		
5	Furnish & Install 16" Ductile Iron 45 Degree Bends	\$ 15,000	\$ 6,000	\$ 1,000	Previous OPC only included an allowance for pipe fittings and specific number, and type of fittings and appurtenances have been delineated during 30% design
6	Furnish & Install 16" Ductile Iron 22.5 Degree Bends		\$ 1,000		
7	Furnish & Install 16" Ductile Iron 11.25 Degree Bends		\$ 2,000		
8	Furnish & Install 16" Butterfly Valve		\$ 7,000		
9	Fire Hydrant Assembly including 6" 45 Degree Bend, Gate Valve, and Thrust Blocks	\$ -	\$ 10,000	\$ 10,000	Individual items added as part of 30% design effort. As noted below, contingency has been reduced to 20% of construction costs to account for additional level of detail.
10	Furnish and Install 1" Water Service Type K Copper Tubing	\$ -	\$ 38,000	\$ 38,000	
11	Connect to Existing 16" Water Main North of Main Street Bridge (no shutdown required)	\$ -	\$ 2,000	\$ 2,000	
12	Connection to Existing 16" Water Main at Main St and Mill St including shutdown and tie-in	\$ -	\$ 20,000	\$ 20,000	
13	Remove Existing Fire Hydrant Assembly	\$ -	\$ 2,000	\$ 2,000	
14	Abandon Existing Water Valve	\$ -	\$ 4,000	\$ 4,000	
15	Air Relief Valve and Blowoff Allowance	\$ -	\$ 15,000	\$ 15,000	
16	Cathodic Protection Allowance	\$ -	\$ 50,000	\$ 50,000	Added cathodic protection allowance that was not previously included.
17	Utility Crossing Allowance	\$ 15,000	\$ -	\$ (15,000)	Cost of allowance moved to Open Trench Item 1.
<b>Total Difference</b>				\$ 221,000	

**TABLE 4-2**  
**SUMMARY OF COST DIFFERENCES**  
**OPINION OF PROBABLE CONSTRUCTION COST**  
Main Street Bridge Water Main Replacement Project  
Coastside County Water District, San Mateo County, California

Item No.	Description	Conceptual OPC	30% Design OPC	Cost Difference	Reason for Cost Difference
<b>Others</b>					
1	Temporary Improvements/Restoration for Purissima Staging Area	\$ -	\$ 10,000	\$ 10,000	Added costs of Staging Area Improvements that were not previously included.
2	Traffic Control	\$ 10,000	\$ 10,000	\$ -	
3	Dust Control	\$ -	\$ 5,000	\$ 5,000	Added costs of dust control that were not previously included.
4	Dewatering	\$ -	\$ 10,000	\$ 10,000	Added costs of dewatering that were not previously included.
5	Striping	\$ -	\$ 5,000	\$ 5,000	Added costs of striping that were not previously included.
<b>Total Difference</b>				<b>\$ 30,000</b>	
<b>Contractor Overhead and Profit</b>					
1	Mobilization and Demobilization	\$ 52,000	\$ 101,000	\$ 49,000	This is 5% of construction costs, which have increased.
2	Overhead and Profit, Bonds and Insurance, General Conditions, and Markup	\$ 54,000	\$ -	\$ (54,000)	Markups moved to unit prices
3	Contingency	\$ 344,000	\$ 423,000	\$ 79,000	Contingency has decreased from 30% to 20% of construction costs. However, the increase of individual items described above has resulted in a net increase of the contingency.
<b>Total Difference</b>				<b>\$ 74,000</b>	
<b>TOTAL COST DIFFERENCE</b>				<b>\$ 1,041,000</b>	

**TABLE 4-3**  
**OPINION OF PROBABLE TOTAL PROJECT COST FOR MICROTUNNELING (a)**  
Main Street Bridge Water Main Replacement Project  
Coastside County Water District, San Mateo County, California

Item No.	Description	Total	Notes
<b>Engineering Design Costs</b>			
1	Design	\$ 241,000	Design fee remains unchanged if design continues without evaluating HDD
		<b>\$ 241,000</b>	
<b>Construction Costs</b>			
1	Trenchless Construction (Microtunneling)	\$ 1,532,000	See Table 4-1
2	Open Trench Construction	\$ 443,000	
3	Other	\$ 40,000	
4	Contractor Mobilization	\$ 101,000	
5	20% Contingency	\$ 423,000	
		<b>\$ 2,539,000</b>	
<b>Administration Costs</b>			
1	Construction Management	\$ 381,000	15% of Total Construction Costs
2	Permitting Fees	\$ 5,000	
3	Easement Costs	\$ -	Easements costs not included in opinion of probable total project costs
		<b>\$ 386,000</b>	
<b>OPINION OF PROBABLE TOTAL PROJECT COST</b>		<b>\$ 3,166,000</b>	

**Notes:**

- (a) Opinion of probable cost presented above is based on the 30% design submittal.
- (b) Costs are rounded to the nearest \$1,000.



**ATTACHMENT 5**

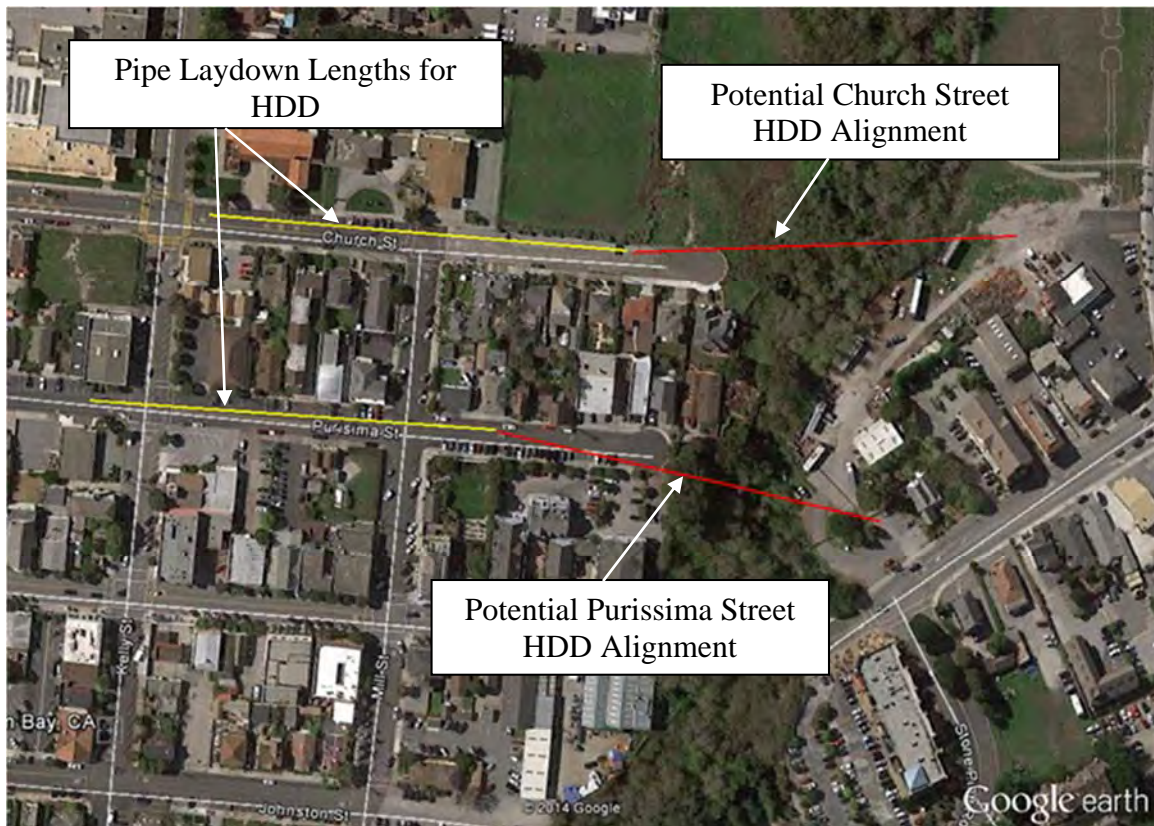
**CONCEPTUAL HORIZONTAL DIRECTIONAL DRILLING  
EVALUATION**

## CONCEPTUAL HORIZONTAL DIRECTIONAL DRILLING EVALUATION

Based on the level of costs for microtunneling presented in the 30% design submittal, BTE and EKI took an initial look at conceptual alignments and rough costs for two horizontal directional drilling (“HDD”) alternatives for the creek crossing. Alignments could follow either Purissima Street or Church Street.

Based on this initial look, costs for an HDD approach could be well under the cost for microtunneling. This cost difference results mainly because the deep, watertight jacking and receiving shafts required for microtunneling would not be needed for HDD. Instead, the HDD drill rig would be situated at the existing ground surface to drill along a parabolic path below the creek prior to trenchless installation of the new water main. Compared with microtunneling, however, the length of trenchless pipe section would be longer using HDD. This additional length and associated working room requirements would affect temporary and permanent easements, work area restrictions, and traffic control.

Two potential HDD alignments, one along Church Street and the other down Purissima Street, are shown on Figure 5-1. Please note that the pipe laydown lengths shown would require further evaluation once it is determined, based on additional calculations, that an HDD approach would be technically feasible.



**Figure 5-1. Potential HDD Alignments**

Note that these are conceptual alignments, and there could be substantial changes to the HDD concept once issues such as hydrofracture, pipe stresses, settlement risks, rights-of-way, and work areas are fully considered as part of a more-detailed HDD evaluation, if the District were to authorize additional evaluation of these technical issues associated with an HDD approach.

Tables 5-1 and 5-2 are preliminary looks at HDD costs for water main replacement with HDD along a Purissima Street and a Church Street alignment. Based on these first-cut looks at potential costs, HDD may reduce total construction costs by as much as one-third, or around \$0.8 million, compared with microtunneling. Looking at schedule, the number of work shifts needed to install the trenchless pipe section could be reduced from an estimated 84 working days for microtunneling to around 25 working days for HDD, reducing disruption to residents and businesses.

This first-cut look focused on technical feasibility, without consideration of availability of work areas and of District, City, and public acceptability. Again looking only at technical factors, preliminarily a Church Street HDD alignment could be more feasible than a Purissima Street alignment due to potential work area restriction along the needed length of Purissima Street as well as in front of Tom and Pete's Produce.

Vehicular traffic on Purissima Street would need to be partially or completely blocked on a large segment between Mill Street and the cul-de-sac at the end of Purissima during construction, which would be disruptive to Purissima Street businesses and residents. The Purissima Street alignment would require temporary and permanent easements across the active parking lot at Tom and Pete's Produce because the HDD drill rig would likely need be located in the front of the property, close to Main Street.

The work area for the Church Street alignment could be less restrictive, with potentially reduced disruption to local businesses and residents. We also understand that the District recently installed a new water main in this street, an issue that would need management to obtain public acceptance. A Church Street alignment would also require the District to initiate easement discussions with a new set of property owners, and obtain additional survey and geotechnical information.

Before the EKI Team would be able to proceed with design of either HDD alternative alignment, further evaluation of HDD would be needed to determine technical feasibility. If after an authorized HDD evaluation is completed and the District opts to use HDD instead of microtunneling, additional budget would be needed to modify construction drawings to incorporate the selected HDD alignment. Alternatively, if after the HDD evaluation is completed the District chooses to retain the microtunneling alternative, additional budget would be needed to complete the microtunneling specifications. A summary of additional design fees for the HDD evaluation are included in Table 5-3.

For comparison purposes, opinions of total project cost with an HDD evaluation and construction of the Purissima Street HDD alignment, the Church Street HDD alignment,

and the current microtunneling design are listed in Table 5-4, Table 5-5, and Table 5-6, respectively. Table 5-7 summarizes estimated total project costs for each alternative.

**TABLE 5-1**  
**OPINION OF PROBABLE CONSTRUCTION COST FOR PURISSIMA STREET**  
**HORIZONTAL DIRECTIONAL DRILLING ALTERNATIVE (a)**  
Main Street Bridge Water Main Replacement Project  
Coastside County Water District, San Mateo County, California

Item No.	Description	Quantity	Unit	Unit Price	Total (b)
<b>Trenchless Construction (Sta 2+30 to Sta 4+70)</b>					
1	Horizontal Direction Drilling installation of 16" Ductile Iron Pipe	600	LF	\$ 1,000	\$ 600,000
2	Furnish & Install 16" Ductile Iron 22.5 Degree Bend Fittings For connection to Open Trench Section including Polyethylene Encasement Bag and Thrust Blocks	2	EA	\$ 2,100	\$ 4,000
					<b>\$ 604,000</b>

<b>Open Trench Construction (Sta 0+25 to Sta 2+30 and Sta 4+70 to 10+52)</b>					
1	Excavation & Backfill for 16" Pipe Trench, 30"Wx48"D	500	LF	\$ 145	\$ 73,000
2	Furnish & Install 16" Ductile Iron Pipe including Polyethylene Encasement	500	LF	\$ 180	\$ 90,000
4	Pavement Restoration	1,500	SF	\$ 8	\$ 12,000
5	Open Trench Excavation Shoring	1	LS	\$ 10,000	\$ 10,000
6	Furnish & Install 16" Ductile Iron 45 Degree Bend Fittings including Polyethylene Encasement and Thrust Blocks	3	EA	\$ 1,600	\$ 5,000
7	Furnish & Install 16" Ductile Iron 22.5 Degree Bend Fittings including Polyethylene Encasement and Thrust Blocks	3	EA	\$ 1,400	\$ 4,000
8	Furnish & Install 16" Ductile Iron 11.25 Degree Bend Fittings including Polyethylene Encasement and Thrust Blocks	0	EA	\$ 1,200	\$ -
9	Furnish & Install 16" Butterfly Valve including Polyethylene Encasement and Valve Box Assembly	3	EA	\$ 7,000	\$ 21,000
10	Fire Hydrant Assembly including 6" 45 Degree Bend, Gate Valve, and Thrust Blocks	1	EA	\$ 10,000	\$ 10,000
11	Furnish and Install 1" Water Service Type K Copper Tubing	320	LF	\$ 360	\$ 115,000
12	Connect to Existing 16" Water Main North of Main Street Bridge including shutdown and tie-in	1	EA	\$ 2,000	\$ 2,000
13	Connection to Existing 16" Water Main at Main St and Mill St including shutdown and tie-in	1	EA	\$ 20,000	\$ 20,000
14	Remove Existing Fire Hydrant Assembly	1	EA	\$ 1,500	\$ 2,000
15	Abandon Existing Water Valve	4	EA	\$ 1,000	\$ 4,000
16	Air Relief Valve and Blowoff Allowance	1	LS	\$ 15,000	\$ 15,000
17	Cathodic Protection Allowance	1	LS	\$ 50,000	\$ 50,000
					<b>\$ 433,000</b>

<b>Others</b>					
1	Temporary Improvements/Restoration for Purissima	1	LS	\$ 10,000	\$ 10,000
2	Traffic Control	1	LS	\$ 50,000	\$ 50,000
3	Dust Control	1	LS	\$ 5,000	\$ 5,000
4	Dewatering	1	LS	\$ 10,000	\$ 10,000
5	Striping	1	LS	\$ 5,000	\$ 5,000
					<b>\$ 80,000</b>

<b>Estimated Construction Material and Labor Cost</b>	<b>\$ 1,117,000</b>
<b>5% Mobilization &amp; Demobilization</b>	<b>\$ 56,000</b>
<b>Total Estimated Contractor's Cost</b>	<b>\$ 1,173,000</b>
<b>30% Contingency</b>	<b>\$ 352,000</b>
<b>Total Opinion of Probable Cost</b>	<b>\$ 1,525,000</b>

**Notes:**

- (a) Opinion of probable cost presented above is based on the conceptual Purissima Street HDD alignment.
- (b) Costs are rounded to the nearest \$1,000.
- (c) Cost of rights-of ways, including temporary and permanent easements, not included.



**TABLE 5-2 (a)**  
**OPINION OF PROBABLE CONSTRUCTION COST FOR CHURCH STREET**  
**HORIZONTAL DIRECTIONAL DRILLING ALTERNATIVE (b)**  
Main Street Bridge Water Main Replacement Project  
Coastside County Water District, San Mateo County, California

Item No.	Description	Quantity	Unit	Unit Price	Total (b)
<b>Trenchless Construction (Sta 2+30 to Sta 4+70)</b>					
1	Horizontal Direction Drilling installation of 16" Ductile Iron Pipe	600	LF	\$ 1,000	\$ 600,000
2	Furnish & Install 16" Ductile Iron 22.5 Degree Bend Fittings For connection to Open Trench Section including Polyethylene Encasement Bag and Thrust Blocks	2	EA	\$ 2,100	\$ 4,000
					<b>\$ 604,000</b>

<b>Open Trench Construction (Sta 0+25 to Sta 2+30 and Sta 4+70 to 10+52)</b>					
1	Excavation & Backfill for 16" Pipe Trench, 30"WX48"D	1,150	LF	\$ 145	\$ 167,000
2	Furnish & Install 16" Ductile Iron Pipe including Polyethylene Encasement	1,150	LF	\$ 180	\$ 207,000
4	Pavement Restoration	4,000	SF	\$ 8	\$ 32,000
5	Open Trench Excavation Shoring	1	LS	\$ 10,000	\$ 10,000
6	Furnish & Install 16" Ductile Iron 45 Degree Bend Fittings including Polyethylene Encasement and Thrust Blocks	2	EA	\$ 1,600	\$ 3,000
7	Furnish & Install 16" Ductile Iron 22.5 Degree Bend Fittings including Polyethylene Encasement and Thrust Blocks	4	EA	\$ 1,400	\$ 6,000
8	Furnish & Install 16" Ductile Iron 11.25 Degree Bend Fittings including Polyethylene Encasement and Thrust Blocks	2	EA	\$ 1,200	\$ 2,000
9	Furnish & Install 16" Butterfly Valve including Polyethylene Encasement and Valve Box Assembly	3	EA	\$ 7,000	\$ 21,000
10	Fire Hydrant Assembly including 6" 45 Degree Bend, Gate Valve, and Thrust Blocks	1	EA	\$ 10,000	\$ 10,000
11	Furnish and Install 1" Water Service Type K Copper Tubing	0	LF	\$ 360	\$ -
12	Connect to Existing 16" Water Main North of Main Street Bridge including shutdown and tie-in	1	EA	\$ 20,000	\$ 20,000
13	Connection to Existing 16" Water Main at Main St and Mill St including shutdown and tie-in	1	EA	\$ 20,000	\$ 20,000
14	Remove Existing Fire Hydrant Assembly	1	EA	\$ 1,500	\$ 2,000
15	Abandon Existing Water Valve	4	EA	\$ 1,000	\$ 4,000
16	Air Relief Valve and Blowoff Allowance	1	LS	\$ 15,000	\$ 15,000
17	Cathodic Protection Allowance	1	LS	\$ 50,000	\$ 50,000
					<b>\$ 569,000</b>

**Others**

1	Traffic Control	1	LS	\$ 30,000	\$ 30,000
2	Dust Control	1	LS	\$ 5,000	\$ 5,000
3	Dewatering	1	LS	\$ 10,000	\$ 10,000
4	Striping	1	LS	\$ 5,000	\$ 5,000
					<b>\$ 50,000</b>

<b>Estimated Construction Material and Labor Cost</b>	<b>\$ 1,223,000</b>
<b>5% Mobilization &amp; Demobilization</b>	<b>\$ 61,000</b>
<b>Total Estimated Contractor's Cost</b>	<b>\$ 1,284,000</b>
<b>30% Contingency</b>	<b>\$ 385,000</b>
<b>Total Opinion of Probable Cost</b>	<b>\$ 1,669,000</b>

**Notes:**

- (a) Opinion of probable cost presented above is based on the conceptual Church Street HDD alignment.
- (b) Costs are rounded to the nearest \$1,000.
- (c) Cost of rights-of ways, including temporary and permanent easements, not included.

**TABLE 5-3**  
**PROPOSED BUDGET AUGMENTATION COMPONENTS FOR HDD EVALUATION**  
Main Street Bridge Water Main Replacement Project  
Coastside County Water District, San Mateo County, California

Item No.	Description	Total	Notes
<b>Revision of Preliminary Design Report to include HDD</b>			
1	Surveying in Pilarcitos Creek along potential Church Street Alignment	\$ 6,000	
2	Geotechnical Investigation for Church Street Alignment include two geotechnical borings (Pacific Geotechnical)	\$ 15,500	
3	Preparing HDD design calculations and revising Preliminary Design Report for two alternative alignments (BTE)	\$ 11,000	The proposed budget presented is approximately 50% of the budget needed to complete the HDD evaluation. The remaining 50% of the budget would be funded using existing budget earmarked for preparing microtunneling specifications. If HDD is determined to not be feasible and microtunneling must be used, an additional \$11,000 budget augmentation would be requested (see discussion below).
4	Project Administration (EKI)	\$ 5,000	
		<b>\$ 37,500</b>	
<b>Construction Document Preparation if HDD Selected as Trenchless Alternative</b>			
1	Surveying on Church Street between Pilarcitos Creek and Mill Street and on Mill Street between Church Street and Purissima Street (Church Street alignment only)	\$ 10,000	
2	Revise Biological Resources Evaluation (WRA) (Church Street alignment only)	\$ 8,000	
3	Revise plans with modified alignment for HDD (EKI)	\$ 10,000	
		<b>\$ 28,000</b>	
<b>Construction Document Preparation if Microtunneling is Required after HDD evaluation completed.</b>			
1	Prepare specifications for Current Microtunneling Design	\$ 11,000	This budget augmentation would only be needed if the HDD evaluation determined that HDD was not feasible.
		<b>\$ 11,000</b>	

**TABLE 5-4**  
**OPINION OF PROBABLE TOTAL PROJECT COST FOR PURISSIMA STREET HDD ALIGNMENT (a)**  
 Main Street Bridge Water Main Replacement Project  
 Coastside County Water District, San Mateo County, California

Item No.	Description	Total	Notes
<b>Engineering Design Costs</b>			
1	Design	\$ 289,000	\$37,500 added for HDD Evaluation and \$10,000 added for revised plans with modified alignment (See Table 5-3)
		<b>\$ 289,000</b>	
<b>Construction Costs</b>			
1	Trenchless Construction (Purissima HDD)	\$ 604,000	See Table 5-1
2	Open Trench Construction	\$ 433,000	
3	Other	\$ 80,000	
4	Contractor Mobilization	\$ 56,000	
5	30% Contingency	\$ 352,000	
		<b>\$ 1,525,000</b>	
<b>Administration Costs</b>			
1	Construction Management	\$ 229,000	15% of Total Construction Costs
2	Permitting Fees	\$ 5,000	
3	Easement Costs	\$ -	Easements costs not included in opinion of probable total project costs
		<b>\$ 234,000</b>	
<b>OPINION OF PROBABLE TOTAL PROJECT COST</b>		<b>\$ 2,048,000</b>	

**Notes:**

- (a) Opinion of probable cost presented above is based on the selection of the Purissima Street HDD alignment after an HDD evaluation.
- (b) Costs are rounded to the nearest \$1,000.

**TABLE 5-5**  
**OPINION OF PROBABLE TOTAL PROJECT COST FOR CHURCH STREET HDD ALIGNMENT (a)**  
Main Street Bridge Water Main Replacement Project  
Coastside County Water District, San Mateo County, California

Item No.	Description	Total	Notes
<b>Engineering Design Costs</b>			
1	Design	\$ 307,000	\$37,500 added for HDD Evaluation and \$28,000 added for additional surveying, revised BRE, and revised plans with modified alignment (See Table 5-3)
		<b>\$ 307,000</b>	
<b>Construction Costs</b>			
1	Trenchless Construction	\$ 604,000	See Table 5-2
2	Open Trench Construction	\$ 569,000	
3	Other	\$ 50,000	
4	Contractor Mobilization	\$ 61,000	
5	Contingency	\$ 385,000	
		<b>\$ 1,669,000</b>	
<b>Administration Costs</b>			
1	Construction Management	\$ 250,000	15% of Total Construction Costs
2	Permitting Fees	\$ 5,000	
3	Easement Costs	\$ -	Easements costs not included in opinion of probable total project costs
		<b>\$ 255,000</b>	
<b>OPINION OF PROBABLE TOTAL PROJECT COST</b>		<b>\$ 2,231,000</b>	

**Notes:**

- (a) Opinion of probable cost presented above is based on the selection of the Church Street HDD alignment after an HDD evaluation.
- (b) Costs are rounded to the nearest \$1,000.

**TABLE 5-6**  
**OPINION OF PROBABLE TOTAL PROJECT COST FOR MICROTUNNELING WITH EVALUATION OF HDD (a)**  
 Main Street Bridge Water Main Replacement Project  
 Coastside County Water District, San Mateo County, California

Item No.	Description	Total	Notes
<b>Engineering Design Costs</b>			
1	Design	\$ 290,000	\$37,500 added for HDD Evaluation and \$11,000 added for preparation of microtunneling specification (See Table 5-3)
		<b>\$ 290,000</b>	
<b>Construction Costs</b>			
1	Trenchless Construction (Microtunneling)	\$ 1,532,000	See Table 4-1
2	Open Trench Construction	\$ 443,000	
3	Other	\$ 40,000	
4	Contractor Mobilization	\$ 101,000	
5	20% Contingency	\$ 423,000	
		<b>\$ 2,539,000</b>	
<b>Administration Costs</b>			
1	Construction Management	\$ 381,000	15% of Total Construction Costs
2	Permitting Fees	\$ 5,000	
3	Easement Costs	\$ -	Easements costs not included in opinion of probable total project costs
		<b>\$ 386,000</b>	
<b>OPINION OF PROBABLE TOTAL PROJECT COST</b>		<b>\$ 3,215,000</b>	

**Notes:**

- (a) Opinion of probable cost presented above is based on the selection of the microtunneling alternative after an HDD evaluation.
- (b) Costs are rounded to the nearest \$1,000.

**TABLE 5-7**  
**SUMMARY OF OPINIONS OF TOTAL PROJECT COST FOR EACH POTENTIAL ALTERNATIVE**  
 Main Street Bridge Water Main Replacement Project  
 Coastside County Water District, San Mateo County, California

<b>Alterantive</b>	<b>Opinion Total Project Cost</b>	<b>Notes</b>
Microtunneling without HDD Evaluation	\$ 3,166,000	See Table 4-3 for additional details; This alterantive is considered the "No Action" alternative if CCWD does not want to evaluate HDD feasibility.
Microtunneling with HDD Evaluation	\$ 3,215,000	See Table 5-6 for additional details; This alternative assumes that HDD is evaluated but is determined to not be feasible
Purissima Street HDD	\$ 2,048,000	See Table 5-4 for additional details; This alternative assumes that HDD is evaluated and the Purissima Street alignment is selected.
Church Street HDD	\$ 2,231,000	See Table 5-5 for additional details; This alternative assumes that HDD is evaluated and the Church Street alignment is selected.

## **STAFF REPORT**

**To:** Coastside County Water District Board of Directors

**From:** David Dickson, General Manager

**Agenda:** January 13, 2014

Report

Date: January 8, 2014

**Subject:** Approval of Guiding Principles for Recycled Water Project  
Between SAM, CCWD and MWSD

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### **Recommendation:**

Approve the attached Guiding Principles for Recycled Water Project Between SAM, CCWD and MWSD.

### **Background:**

In June 2014, the Sewer Authority Mid-Coastside (SAM) Ad-Hoc Recycled Water Committee invited Montara Water and Sanitary District (MWSD) and CCWD to appoint board members to a newly re-formed Recycled Water Committee. In several meetings over the following months the Recycled Water Committee (SAM Directors Scott Boyd, Ric Lohman, and Allan Alifano, CCWD Director Coverdell, MWSD Director Jim Harvey) developed the attached Guiding Principles for Recycled Water Project (Principles). The key provisions of these Principles are substantially the same as those in the version of the Principles of Agreement for Recycled Water approved by the CCWD Board in February 2010.

All of the SAM Member Agencies have approved the Principles. With CCWD's approval and that of the SAM Board of Directors on January 26, we'll be able to proceed to the next step in the process of developing a recycled water project - development of an agreement between SAM and CCWD for production and distribution of reclaimed water in Phase 1.

### **Fiscal Impact:**

None. Approval would not commit CCWD to any reclaimed water expenditures beyond the staff time required to develop an agreement.

# **GUIDING PRINCIPLES FOR RECYCLED WATER PROJECT**

## **BETWEEN SAM, CCWD AND MWSD**

### **BASIS FOR AGREEMENT**

The Sewer Authority Mid-Coastside (SAM) is responsible for the treatment and disposal of wastewater collected from within its service area. Within the SAM service area, two agencies, the Coastside County Water District (CCWD) and the Montara Water and Sanitary District (MWSD) are retail water suppliers for their respective service areas.

The parties (SAM – CCWD – MWSD) intend that a recycled water treatment facility shall be constructed at the SAM treatment plant in order to treat the wastewater generated to a water quality level sufficient for its use as recycled water for distribution and sale by CCWD. Phase 1 of the project (Phase 1) is intended to provide recycled water to the Ocean Colony Partners (OCP) golf course only.

Phase 1 has been proposed consisting of two components:

- (A) A Recycled water treatment facility located at the SAM plant, the capacity of which shall be designed, at a minimum, to serve recycled water to OCP's golf courses
- (B) Recycled water transmission and distribution systems for CCWD's service area, specifically for transmitting recycled water to OCP's golf courses

The parties intend to proceed with the design and construction of Phase 1 with funds secured by the parties to self-fund Phase 1. If grants or low interest financing provided by the federal or state governments is available, these funds will be pursued. The parties further intend that SAM shall be reimbursed for its expenditures for Phase 1.

It is anticipated by the parties that after Phase 1 is completed, additional recycled water projects will be studied for potential benefits and funding. The recycled water plant will be designed to handle additional recycled water projects after Phase 1.

These Guiding Principles shall serve as the basis for an agreement or agreements among SAM as the producer of recycled water and CCWD and MWSD as distributors of recycled water.

### **TERMS AND CONDITIONS**

The purpose of the Agreement is to set out the basic terms and conditions pursuant to which SAM, CCWD and MWSD will agree to finance, design, construct and operate the Phase 1 Project, including the following:



1. **Jurisdiction:** SAM will be the producer of the recycled water. CCWD and MWSD will be the distributors of recycled water to all recycled water customers within their respective service areas.
2. **Point(s) of Delivery:** The Point or Points of Delivery of recycled water from SAM to CCWD and MWSD, respectively, shall be defined as that point or points in the recycled water treatment facility immediately downstream of the last treatment unit and from which delivery of recycled water is made to CCWD and MWSD.
3. **Design and Construction:** SAM will be responsible for the design, construction, and operation of the recycled water treatment facilities for Phase 1 with input from CCWD and MWSD (and future Phases). The facilities will be designed to satisfy the water quality specified by the CCWD and MWSD and the combined production requirements of CCWD and MWSD; provided, that in no event shall said requirements exceed the maximum flow rate of SAM's treatment facilities; provided, further, that SAM shall have the final authority with regard to determining selection of treatment technology.

CCWD and MWSD shall be responsible for the design, construction, and operation of all facilities for the transmission and distribution of recycled water within their respective service areas.

4. **CEQA:** The parties will be responsible for complying with the California Environmental Quality Act (CEQA) for the components of Phase 1 which each proposes to construct, with the understanding that the parties shall cooperate with each other and coordinate their efforts for CEQA compliance.
5. **Permits:** As much as practicable and for the sake of expediency, the parties will jointly apply for permits from the San Francisco Bay Regional Water Quality Control Board and the California Department of Public Health, for all permits necessary to construct Phase 1. If not practicable or expedient, then the parties will apply separately for such permits pertaining to their respective components of the Phase 1 Project.
6. **Financing:** The financing for Phase 1 is agreed to be self-funded by the parties. Ideally SAM will secure the needed funding for Phase 1. If SAM is unable to fully fund Phase 1 and CCWD is able to fund and provide all or part of the financing for Phase 1, the monies provided by CCWD will be repaid by SAM to CCWD over time. The specific details of any repayment will be specified at the time funding is finalized.  
The parties also intend to apply for grant or low interest financing provided by the federal or state governments (Collectively, "Grant Funding") for the design and construction of Phase 1. The parties shall jointly apply for such financing to the extent allowable under Grant Funding programs; provided, that if such financing is based on ownership of the individual components, i.e., SAM's recycling treatment facilities, CCWD's transmission and distribution facilities and MWSD's transmission and distribution facilities, then the parties shall apply for Grant Funding

corresponding to ownership, but in any event, the parties shall cooperate with and assist each other in obtaining Grant Funding.

7. **Facilities ' Ownership:** SAM will own, operate and maintain the recycled water treatment facilities to the point(s) of delivery to CCWD and MWSD. CCWD and MWSD will own, operate and maintain their respective recycled water transmission and distribution facilities downstream of the point of delivery.
8. **Operation and Maintenance:** SAM will operate and maintain the recycled water treatment facilities to the point(s) of delivery. CCWD and MWSD will operate and maintain their respective recycled water transmission and distribution facilities downstream of the point of delivery.
9. **Records:** Without limitation upon record-keeping requirements, SAM shall keep and maintain accurate records of recycled water production and the volume of recycled water provided to CCWD and MWSD, respectively. The records or the data contained therein shall be provided periodically to CCWD and MWSD and upon demand as CCWD and MWSD may require.
10. **Access to Treatment Facilities:** MWSD and CCWD shall have reasonable access to the recycled water treatment facilities during construction and from and after SAM's acceptance thereof to ascertain SAM's compliance with the terms and conditions of the agreement entered into in pursuance of these Guiding Principles.
11. **Dispute Resolution:** Disputes regarding the interpretation of, or performance under, the agreement entered into in pursuance of these Guiding Principles shall be resolved initially by meeting and conferring between or among the parties to the dispute and if not resolved thereby, by submittal to mediation.
12. **Successors:** The agreement entered into in pursuance of these Guiding Principles shall be binding upon and inure to the benefit of the successors and assigns of the parties thereto.
13. **Reimbursement:** SAM shall be reimbursed by CCWD and MWSD for all costs incurred by SAM for the Phase 1 Project which are not reimbursed by Grant Funding. Such costs shall be allocated between CCWD and MWSD in proportion to the flow of recycled water allocated to them in the Project.
14. **Effect:** These Guiding Principles shall be effective upon the last of the dates of execution hereinafter set forth and shall be incorporated in an agreement or agreements between and among the parties for the implementation of the Project. These Guiding Principles are merely a statement of the terms upon which the parties may be interested in pursuing further negotiations. An agreement outlining the final details of Phase 1 shall be entered into prior to commencing the design and construction of Phase 1.

**Signature Page**

IN WITNESS WHEREOF, the parties (below) have executed these Guiding Principles upon the dates hereinafter listed below and agree to the intent and principles of these guidelines:

**SAM**

General Manager: \_\_\_\_\_ Date: \_\_\_\_\_

Board President: \_\_\_\_\_ Date: \_\_\_\_\_

**CCWD**

General Manager: \_\_\_\_\_ Date: \_\_\_\_\_

Board President: \_\_\_\_\_ Date: \_\_\_\_\_

**MWSD**

General Manager: \_\_\_\_\_ Date: \_\_\_\_\_

Board President: \_\_\_\_\_ Date: \_\_\_\_\_

**City of HALF MOON BAY**

City Manager: \_\_\_\_\_ Date: \_\_\_\_\_

Mayor: \_\_\_\_\_ Date: \_\_\_\_\_

**GRANADA COMMUNITY SERVICES DISTRICT**

General Manager: \_\_\_\_\_ Date: \_\_\_\_\_

Board President: \_\_\_\_\_ Date: \_\_\_\_\_

**STAFF REPORT**

**To: Coastside County Water District Board of Directors**

**From: David Dickson, General Manager**

**Agenda: January 13, 2015**

Date: January 8, 2015

Subject: Approve Resolution Formalizing Policy for Paying and Reporting the Value of Employer Paid Member Contributions to the California Public Employees' Retirement System (CalPERS)

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**Recommendation:**

Approve attached Resolution No. 2015-02 Formalizing Policy for Paying and Reporting the Value of Employer Paid Member Contributions to the California Public Employees' Retirement System (CalPERS)

**Background:**

In addition to paying the employer contribution to PERS for each employee, the District, according to established policy, pays a portion of the employee contribution on behalf of the employee (Employer Paid Member Contribution, "EPMC"). Under the current policy, employees pay 2% of salary as their Member Contribution and the District pays the remainder as EPMC. The EPMC for Group 2 employees (PERS [2.5%@55](#) plan) is currently 6%, and the EPMC for Group 1 (PERS [2.0%@60](#)) employees is 5%. Employees hired on or after January 1, 2013 pay 100% of their Member Contribution, in accordance with the Public Employees' Pension Reform Act of 2013 (PEPRA).

Under the terms of the Memorandum of Understanding with the Teamsters Union approved by the Board on December 9, 2014, the EPMC for Group 1 and Group 2 employees will be reduced by 2% on February 1, 2015 and on July 1, 2015, and the EPMC will drop to 0% for all employees effective July 1, 2016. In keeping with established practice, the changes will apply to both union-represented and non-represented employees.

The attached resolution implements these EPMC changes and provides the required notice to CalPERS.

**RESOLUTION NO. 2015-02**

**A RESOLUTION OF THE BOARD OF DIRECTORS OF THE COASTSIDE COUNTY WATER DISTRICT FORMALIZING POLICY FOR PAYING AND REPORTING THE VALUE OF EMPLOYER PAID MEMBER CONTRIBUTIONS TO THE CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM**

WHEREAS, the Board of Directors of the Coastside County Water District has the authority to implement Government Code Section 20636(c)(4) pursuant to Section 20691; and

WHEREAS, the Board of Directors of the Coastside County Water District has a written labor policy or agreement which specifically provides for a portion of the normal member contributions to be paid by the employer, and reported as additional compensation; and

WHEREAS, one of the steps in the procedure to implement Section 20691 is the adoption by the Board of Directors of the Coastside County Water District of a Resolution to commence paying and reporting the value of said Employer Paid Member Contributions (EPMC); and

WHEREAS, the Board of Directors of the Coastside County Water District has identified the following conditions for the purpose of its election to pay EPMC:

- This Resolution shall supersede Resolution 2007-13 , Resolution 2010-12 and Resolution 2011-11
- This benefit shall apply to all miscellaneous employees hired before January 1, 2013
- This resolution shall be effective February 1, 2015

The following changes to be effective – February 1, 2015

- For Classic Group 1 (2% @ 60 - 70101 Misc w/SS Mod) this benefit shall consist of paying 3% of the normal contributions as EPMC, and reporting the same percent (value) of compensation earnable {excluding Government Code Section 20636(c)(4)} as additional compensation.
- For Classic Group 2 (2.5% @ 55 - 70002 Misc w/SS Mod) this benefit shall consist of paying 4% of the normal contributions as EPMC, and reporting the same percent (value) of compensation earnable {excluding Government Code Section 20636(c)(4)} as additional compensation.

The following changes to be effective – July 1, 2015

- For Classic Group 1 (2% @ 60 - 70101 Misc w/SS Mod) this benefit shall consist of paying 1% of the normal contributions as EPMC, and reporting the same percent (value) of compensation earnable {excluding Government Code Section 20636(c)(4)} as additional compensation.
- For Classic Group 2 (2.5% @ 55 - 70002 Misc w/SS Mod) this benefit shall consist of paying 2% of the normal contributions as EPMC, and reporting the same percent (value) of compensation earnable {excluding Government Code Section 20636(c)(4)} as additional compensation.

The following changes to be effective – July 1, 2016

- For Classic Group 1 (2% @ 60 - 70101 Misc w/SS Mod) this benefit shall consist of paying 0% of the normal contributions as EPMC, and reporting the same percent (value) of compensation earnable {excluding Government Code Section 20636(c)(4)} as additional compensation.
- For Classic Group 2 (2.5% @ 55 - 70002 Misc w/SS Mod) this benefit shall consist of paying 0% of the normal contributions as EPMC, and reporting the same percent (value) of compensation earnable {excluding Government Code Section 20636(c)(4)} as additional compensation.

NOW, THEREFORE, it is resolved that the Board of Directors of the Coastsides County Water District elects to pay and report the value of EPMC as set forth above.

**PASSED AND ADOPTED** this \_\_\_\_ day of \_\_\_\_\_, 2015, by the following votes of the Board of Directors:

AYES:

NOES:

ABSENT:

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Chris Mickelsen, President  
Board of Directors  
Coastsides County Water District

ATTEST:

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Secretary of the Board of Directors  
Coastsides County Water District

## **STAFF REPORT**

**To:** Coastside County Water District Board of Directors

**From:** David Dickson, General Manager

**Agenda:** January 13, 2015

Report

Date: January 9, 2015

**Subject:** Quarterly Financial Review

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### **Recommendation:**

Information only.

### **Background:**

The attached Period Budget Analysis summarizes year-to-date revenue and expenses for the first half of Fiscal Year 2014-2015. Overall financial results are significantly worse than plan due to drought-related demand reduction:

- Water revenue is \$470,000 (10%) below budget due to lower water use.
- With non-operating revenue \$44,000 ahead of plan, total revenue is \$427,000 under budget.
- After reducing FY15 cash expenses by a total of \$419,000 for materials and services received in FY14, the total operating expenses shown for the quarter underestimate actual expenses by approximately \$400,000.
- Accounting for the FY14 adjustment, year-to-date operating expenses are about \$60,000 under budget, leaving net income approximately \$370,000 under budget.

Projecting mid-year results ahead to the end of the fiscal year would suggest net revenues (contribution to capital and reserves) will fall short of our budget by about \$750,000. This represents an improvement over the first quarter projections.

**COASTSIDE COUNTY WATER DISTRICT - PERIOD BUDGET ANALYSIS**

**31-Dec-14**

<b>ACCOUNT</b>	<b>DESCRIPTION</b>	<b>YTD ACTUAL</b>	<b>YTD BUDGET</b>	<b>B/(W) VARIANCE</b>	<b>B/(W) % VAR</b>
<b>OPERATING REVENUE</b>					
1-0-4120-00	Water Revenue -All Areas	4,412,535.61	4,882,977.28	(470,441.67)	-9.6%
<b>TOTAL OPERATING REVENUE</b>		<b>4,412,535.61</b>	<b>4,882,977.28</b>	<b>(470,441.67)</b>	<b>-9.6%</b>
<b>NON-OPERATING REVENUE</b>					
1-0-4170-00	Water Taken From Hydrants	24,401.02	12,500.02	11,901.00	95.2%
1-0-4180-00	Late Notice -10% Penalty	44,971.09	35,000.02	9,971.07	28.5%
1-0-4230-00	Service Connections	5,183.06	4,000.04	1,183.02	29.6%
1-0-4920-00	Interest Earned	1,158.01	1,272.00	(113.99)	-9.0%
1-0-4930-00	Tax Apportionments/Cnty Checks	386,613.16	365,000.00	21,613.16	5.9%
1-0-4950-00	Miscellaneous Income	16,091.99	18,500.02	(2,408.03)	-13.0%
1-0-4955-00	Cell Site Lease Income	69,101.40	67,440.00	1,661.40	2.5%
1-0-4965-00	ERAF REFUND -County Taxes	0.00	0.00	0.00	0.0%
1-0-4990-00	Water Sales Refunded	0.00	0.00	0.00	0.0%
<b>TOTAL NON-OPERATING REVENUE</b>		<b>547,519.73</b>	<b>503,712.10</b>	<b>43,807.63</b>	<b>8.7%</b>
<b>TOTAL REVENUES</b>		<b>4,960,055.34</b>	<b>5,386,689.38</b>	<b>(426,634.04)</b>	<b>-7.9%</b>
<b>OPERATING EXPENSES</b>					
1-1-5130-00	Water Purchased	1,164,439.60	1,429,920.00	265,480.40	18.6%
1-1-5230-00	Pump Exp, Nunes T P	14,628.98	12,950.00	(1,678.98)	-13.0%
1-1-5231-00	Pump Exp, CSP Pump Station	264,601.07	120,910.00	(143,691.07)	-118.8%
1-1-5232-00	Pump Exp, Trans. & Dist.	6,673.80	7,096.00	422.20	5.9%
1-1-5233-00	Pump Exp, Pilarcitos Can.	2,724.32	10,208.00	7,483.68	73.3%
1-1-5234-00	Pump Exp. Denniston Proj.	10,271.50	27,060.00	16,788.50	62.0%
1-1-5235-00	Denniston T.P. Operations	16,839.28	6,051.00	(10,788.28)	-178.3%
1-1-5236-00	Denniston T.P. Maintenance	12,387.08	29,250.00	16,862.92	57.7%
1-1-5240-00	Nunes T P Operations	31,284.09	23,601.00	(7,683.09)	-32.6%
1-1-5241-00	Nunes T P Maintenance	15,132.48	22,252.00	7,119.52	32.0%
1-1-5242-00	CSP Pump Station Operations	5,035.84	4,200.00	(835.84)	-19.9%
1-1-5243-00	CSP Pump Station Maintenance	16,018.40	19,800.00	3,781.60	19.1%
1-1-5250-00	Laboratory Services	16,082.11	19,998.00	3,915.89	19.6%
1-1-5318-00	Studies/Surveys/Consulting	10,372.48	120,000.00	109,627.52	91.4%
1-1-5321-00	Water Conservation	22,517.14	19,500.00	(3,017.14)	-15.5%
1-1-5322-00	Community Outreach	8,191.95	20,850.00	12,658.05	60.7%
1-1-5325-00	Water Shortage Program	18,555.01	0.00	(18,555.01)	0.0%
1-1-5411-00	Salaries & Wages -Field	527,875.77	526,532.98	(1,342.79)	-0.3%
1-1-5412-00	Maintenance -General	92,537.45	105,750.00	13,212.55	12.5%
1-1-5414-00	Motor Vehicle Expense	28,405.44	25,326.00	(3,079.44)	-12.2%
1-1-5415-00	Maintenance -Well Fields	0.00	10,000.00	10,000.00	0.0%
1-1-5610-00	Salaries/Wages-Administration	326,782.96	404,631.02	77,848.06	19.2%
1-1-5620-00	Office Supplies & Expense	60,887.75	78,912.52	18,024.77	22.8%
1-1-5621-00	Computer Services	23,729.09	45,900.00	22,170.91	48.3%
1-1-5625-00	Meetings / Training / Seminars	18,479.11	11,500.04	(6,979.07)	-60.7%
1-1-5630-00	Insurance	45,088.11	57,500.00	12,411.89	21.6%
1-1-5635-00	EE/Ret. Medical Insurance	206,770.64	241,148.02	34,377.38	14.3%
1-1-5640-00	Employees Retirement Plan	257,019.41	261,944.46	4,925.05	1.9%
1-1-5645-00	SIP 401K Plan	0.00	0.00	0.00	0.0%
1-1-5681-00	Legal	30,716.20	30,000.00	(716.20)	-2.4%
1-1-5682-00	Engineering	2,520.00	7,000.04	4,480.04	64.0%
1-1-5683-00	Financial Services	14,585.00	24,000.00	9,415.00	39.2%
1-1-5684-00	Payroll Tax Expense	57,965.68	67,302.04	9,336.36	13.9%



<b>ACCOUNT</b>	<b>DESCRIPTION</b>	<b>YTD ACTUAL</b>	<b>YTD BUDGET</b>	<b>B/(W) VARIANCE</b>	<b>B/(W) % VAR</b>
1-1-5687-00	Membership, Dues, Subscript.	32,442.66	31,537.04	(905.62)	-2.9%
1-1-5688-00	Election Expenses	0.00	0.00	0.00	0.0%
1-1-5689-00	Labor Relations	0.00	3,000.00	3,000.00	100.0%
1-1-5700-00	San Mateo County Fees	10,834.56	8,850.00	(1,984.56)	-22.4%
1-1-5705-00	State Fees	8,035.27	8,000.02	(35.25)	-0.4%
<b>TOTAL OPERATING EXPENSES</b>		<b>3,380,430.23</b>	<b>3,842,480.18</b>	<b>462,049.95</b>	<b>12.0%</b>
<b>CAPITAL ACCOUNTS</b>					
1-1-5711-00	Debt Srvc/Existing Bonds 1998A	0.00	0.00	0.00	0.0%
1-1-5712-00	Debt Srvc/Existing Bonds 2006B	350,866.38	349,992.00	(874.38)	-0.2%
1-1-5715-00	Debt Srvc/CIEDB 11-099 (I-BANK)	257,971.45	257,971.00	(0.45)	0.0%
<b>TOTAL CAPITAL ACCOUNTS</b>		<b>608,837.83</b>	<b>607,963.00</b>	<b>(874.83)</b>	<b>-0.1%</b>
<b>TOTAL EXPENSES</b>		<b>3,989,268.06</b>	<b>4,450,443.18</b>	<b>461,175.12</b>	<b>10.4%</b>
<b>NET INCOME</b>		<b>970,787.28</b>			

## ***STAFF REPORT***

**To:** Coastside County Water District Board of Directors

**From:** David Dickson, General Manager

**Agenda:** January 13, 2015

**Subject:** Coastside County Water District Board Committees

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### **Recommendation:**

Consider appointments of Board members to serve on District Committees and as District representatives to external organizations and associations. Past practice has established that the President of the Board makes the appointments to committees and designates who will serve as the District representative to external agencies, except for the Bay Area Water Supply & Conservation Agency (BAWSCA) representative, who must be appointed by CCWD Board action. A copy of the current list of Board Committees is attached.

### **Background:**

The purpose of the District's Committees is to assist the Board with issues and decisions and provide recommendations pertaining to a variety of areas, including Finance, Water Quality, Human Resources, Water Resources and District Facilities. Each of the committees is comprised of two Board members with interest in the specific subject matter.

Each of the Committees has a particular charge or set of tasks to address. Standing Committees do their assigned work on a continuing basis. Committees meet as needed rather than on an established regular schedule. The District notices and conducts all Standing Committee meetings in accordance with Brown Act public meeting requirements.

The Board President and the Board may also form temporary Advisory Committees focused on a specific task or objective. An Advisory Committee dissolves after the completion of the task or achievement of the objectives.

Past District practice has established that committee appointments are the prerogative of the Board President. The paragraphs below provide additional detail on the Standing Committees.

## **Coastside County Water District Standing Committees**

### **Finance Committee**

The Finance Committee is responsible for reviewing and providing recommendations regarding the annual Operations and Maintenance and Capital Improvement Program budgets, and annual financial audits, as well as financial performance oversight. This Committee is also responsible for the Association of California Water Agencies Joint Powers Insurance Authority (ACWA/JPIA) related matters.

### **Water Quality Committee**

This Committee reviews and oversees the health and safety certification and compliance process required by state and federal laws, and all other issues related to water quality. This Committee also reviews the Annual Water Quality Report (Consumer Confidence Report), and the Annual Report to the Drinking Water Program.

### **Human Resources (Personnel & Recruitment) Committee**

The development and review of the General Manager's Performance Plan is the responsibility of this Committee, and includes meeting to discuss the mid-term and the annual performance evaluations, as well as preparation of the evaluation report to be approved by the Board. This Committee also reviews changes to staff position descriptions, revisions and additions to the District's personnel manual, and recruitment for vacant staff positions when necessary.

### **Water Resources Committee**

This Committee is responsible for oversight of the Pilarcitos Integrated Watershed Management Plan and reviews the District's Urban Water Management Plan, the Water Shortage and Drought Contingency Plan and the Memorandum of Understanding and Best Management Practices associated with the California Urban Water Conservation Council. This Committee may also be involved with San Francisco Public Utilities Commission (SFPUC) matters, including supply contract negotiations with the SFPUC in conjunction with the Bay Area Water Supply and Conservation Agency (BAWSCA).

### **District Facilities Committee**

This Committee oversees the development and implementation of the annual Capital Improvement Program. The Committee also reviews the Capital Improvement Program budget and schedule and presents recommendations to the Finance Committee. This Committee is also involved in the Denniston Restoration Project.

## **Coastside County Water District External Organization Representatives**

In addition to the District's Standing Committees, Board members may also serve as representatives to several external organizations, including the following:

### **Association of California Water Agencies (ACWA)**

ACWA is the largest statewide coalition of public water agencies in the country. It is a leader on California water issues and a respected voice for its members in both Sacramento and Washington, D.C. ACWA's 450 public agency members are responsible for 90% of the water delivered to communities, farms, and businesses in California. ACWA plays an active role in managing the states' water resources and promoting investments in water use efficiency, water recycling, ground management and desalination. ACWA's membership is organized into ten geographic regions. The regions provide a structure in which members can discuss issues of mutual concern, and based on that interaction, provide representative input to the ACWA Board. The District's ACWA representative typically attends the annual Spring and Fall Conferences and is eligible to vote as the District's voting designee in ACWA elections. A District Board Member may also serve as an ACWA Region 5 Director.

**Association of California Water Agencies Joint Powers Insurance Authority (ACWA/JPIA)** - ACWA/JPIA provides liability coverages tailored to the unique needs of California Water Agencies. The District obtains its property, liability and worker's compensation coverage from the JPIA. As a member of the JPIA, the District names one of its directors and at least one alternate to sit on the ACWA/JPIA Board of Directors. The designated representative is able to vote at conferences. If the designated Director cannot attend a conference, then the alternate Director is allowed to vote in his/her absence. The designated Board member's term coincides with their term on the CCWD Board.

### **California Special District Association (CSDA)**

CSDA was formed in 1969 to provide active representation at the State Capitol for its nearly 900 members, made up of independent special districts, including irrigation, water, parks and recreation, cemetery, fire, police protection, library, utility, harbor, healthcare and community service districts. CSDA pursues statewide policy legislation of benefit to special districts and provides advocacy, training, information, and financial services to help strengthen and increase the efficiency of special district operations. The agency is governed by a 19-member Board of Directors representing 6 regions throughout California. The District designates a CSDA representative to receive information and updates from CSDA.

**STAFF REPORT**

**Agenda: January 13, 2015**

**Subject: CCWD Board Committees**

**Page: 4 of 5**

**Local Agency Formation Commission (LAFCo)**

LAFCo is a state-mandated, independent agency with countywide jurisdiction over changes in organization and boundaries of cities and special districts, including annexations, detachments, incorporations and formations. The District annually designates a Board member and an alternate to represent the District for the purposes of participation in the LAFCo election of officers.

**Bay Area Water Supply & Conservation Agency (BAWSCA)**

BAWSCA was created on May 27, 2003 to represent the interests of the cities and water districts, and two private utilities located in Alameda, Santa Clara and San Mateo Counties that purchase water on a wholesale basis from the San Francisco Regional Water System. BAWSCA's goals are to ensure a reliable supply of high quality water at a fair price. The agency is governed by a 27-member Board of Directors comprised of representatives from all BAWSCA agencies. The District's BAWSCA representative must be appointed by Coastside County Water District Board action. The CCWD Board appointed President Mickelsen in June of 2013 to serve as the BAWSCA representative for the current term through June 30, 2017.

**Montara Water & Sanitary District Mutual Interest Committee**

This Committee meets with members of the Montara Water & Sanitary District Committee to develop goals in areas of mutual interest to both Districts.

# COASTSIDE COUNTY WATER DISTRICT BOARD COMMITTEES

Updated: January 14, 2014

<u>Standing Committees</u>	<u>Directors</u>
Finance Committee	Coverdell, Glassberg
Water Quality Committee	Flint, Mickelsen
Human Resources Committee	Glassberg, Mickelsen
Water Resources Committee	Mickelsen, Reynolds
District Facilities Committee	Flint, Reynolds

<u>Advisory Committees</u>	<u>Directors</u>
Montara Water & Sanitary District (MWSD) Mutual Interest Committee	Coverdell, Flint

<u>External Organizations</u>	<u>Director</u>
Association of California Water Agencies (ACWA)	Reynolds
Association of California Water Agencies Joint Powers Insurance Authority (ACWA/JPIA)	Reynolds
California Special District Association (CSDA)	Glassberg
Bay Area Water Supply & Conservation Agency (BAWSCA) - 4 year term - June 2009 to June 30, 2013	Mickelsen
Local Agency Formation Commission (LAFCo)	Board President *

\* All other Directors are designated as alternates for the purpose of participation in LAFCo's election of officers

## **STAFF REPORT**

**To:** Coastside County Water District Board of Directors

**From:** David Dickson, General Manager

**Agenda:** January 13, 2015

Report

**Date:** January 9, 2015

**Subject:** General Manager's Report

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### **Recommendation:**

None. Information only.

### **Background:**

For this month's report, I would like to highlight the following:


**SFPUC Water Supply Status:** While December's rains have put local watersheds well above normal-year precipitation, they have done little to relieve the ongoing drought. Snowpack water content remains well below normal for this time of year. In a letter dated December 19 (Attachment A), SFPUC continued its request for a voluntary 10% reduction in water consumption. Speaking to BAWSCA representatives on January 8, SFPUC Assistant General Manager Steve Ritchie indicated that current reservoir storage, particularly in the vital Water Bank, is well below January 2014 levels (Attachment B). Mandatory rationing remains a possibility unless precipitation totals improve. On the brighter side, Mr. Ritchie said that conservation by SFPUC customers had exceeded the requested 10% in 2014, and that per capita consumption in the Bay Area is very low (Attachment C).



# San Francisco Water Power Sewer

Operator of the Hetch Hetchy Regional Water System

525 Golden Gate Avenue, 13th Floor  
San Francisco, CA 94102  
T 415.554.3155  
F 415.554.3161  
TTY 415.554.3488

TO: SFPUC Wholesale Customers   
FROM: Steven R. Ritchie, Assistant General Manager, Water  
DATE: December 29, 2014  
RE: Continuing Request for 10 Percent Water Use Reduction

---

Dear Wholesale Customers,

We would like to thank you all for your successful efforts to reduce water consumption in 2014. To date, we have saved over 9 billion gallons this calendar year, surpassing our goal of 8 billion gallons saved. We commend all of you for your hard work to achieve this accomplishment.

Though the recent rains have been welcome, we still need snow and rain in January and February to secure our water supply. Therefore, we are maintaining our request for a voluntary 10 percent reduction system-wide. The drought is not over, and we need to preserve water supplies in storage in the event that subsequent years of drought conditions persist.

We continue to encourage our customers to implement the measures recommended by Governor Brown in April 2014, which include:

- Limiting lawn and outdoor plant watering to two days a week
- Not washing sidewalks and driveways with water
- Turning off fountains
- Washing cars at car washes that use recycled water
- Prohibiting Home Owner Associations from fining residents who conserve water by reducing lawn watering and pursuing other water conservation
- Implementing water use reduction plans at schools, parks and golf courses
- Asking restaurants, hotels and other businesses to build awareness of the drought and reduce water usage by measures such as only serving water upon request

Per the Water Supply Agreement, we will provide monthly water supply updates beginning in February. We will revisit our water use reduction request in the late spring to determine if the 10% voluntary reduction is sufficient, and whether it will continue. Again, thank you for your efforts to conserve water in this exceptionally dry year.

cc: Harlan L. Kelly, Jr., General Manager, SFPUC  
Nicole Sandkulla, CEO/General Manager, BAWSCA

Edwin M. Lee  
Mayor

Ann Moller Caen  
President

Francesca Vietor  
Vice President

Vince Courtney  
Commissioner

Anson Moran  
Commissioner

Harlan L. Kelly, Jr.  
General Manager





## Current Water Storage

### San Francisco Water

As of midnight on: 4-Jan-2015

# Storage Levels

Reservoir	Current Storage <sup>1,2,3</sup> (AF)	Maximum Storage <sup>3,4</sup> (AF)	Available Capacity (AF)	Percent of Maximum Storage
<u>Tuolumne System</u>				
Hetch Hetchy	231,910	360,360	128,450	64.4%
Cherry	180,750	273,500	92,750	66.1%
Eleanor	15,430	27,113	11,683	56.9%
Water Bank	247,075	570,000	322,925	43.3%
<b>Total Tuolumne Storage</b>	<b>675,165</b>	<b>1,230,973</b>	<b>555,808</b>	<b>54.8%</b>
<u>Local System</u>				
Calaveras	23,440	96,670	73,230	24.2%
San Antonio	45,219	50,637	5,418	89.3%
Crystal Springs	56,281	58,309	2,028	96.5%
San Andreas	18,874	19,027	153	99.2%
Pilarcitos	2,826	3,069	243	92.1%
<b>Total Local Storage</b>	<b>146,639</b>	<b>227,711</b>	<b>81,072</b>	<b>64.4%</b>
<b>Total System Storage</b>	<b>821,804</b>	<b>1,458,684</b>	<b>636,880</b>	<b>56.3%</b>
<b>Total without water bank</b>	<b>574,729</b>	<b>888,684</b>	<b>313,955</b>	<b>64.7%</b>

Jan. 2014  
status

54.3%

83.9%

73.1%

70.4%

<sup>1</sup> Upcountry storage is average of previous day's storage from USGS website

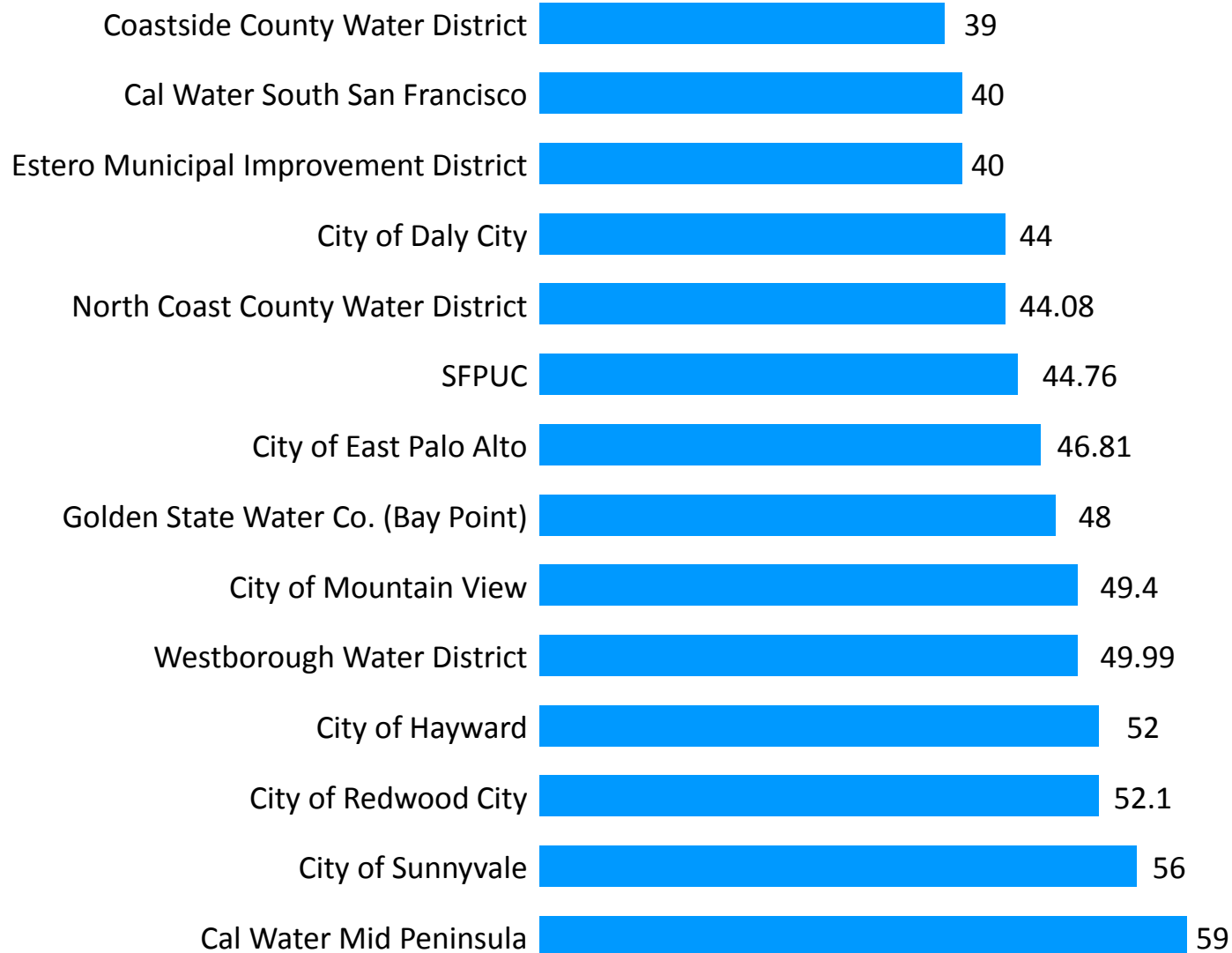
<sup>2</sup> Water bank storage reported by HHWP for 12/14/2014

<sup>3</sup> Local data from Daily Water Report

<sup>4</sup> Upcountry maximum storage is with flashboards, taken from rating curve



# 9-County Bay Area Lowest Per Capita Consumption Nov 2014 (gpcd)



## **MONTHLY REPORT**

**To:** David Dickson, General Manager  
**From:** Joe Guistino, Superintendent of Operations  
**Agenda:** January 13, 2015

**Report**  
**Date:** January 7, 2015

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### **Monthly Highlights**

#### Nebbia Winery Main Break

The old 12" welded steel main failed again in front of the Nebbia Winery in December. Due to the dangerous nature of the repair, we hired a contractor to assist us with equipment more adaptable for the cramped work conditions. Plans are in development to bypass this problematic section of pipe.

#### Avenue Cabrillo Project Phase 3A

The project should be completed by mid-January.

### **Source of Supply**

Crystal Springs, Pilarcitos and Denniston Reservoirs as well as Denniston and Pilarcitos Wells were the source of supply in December. Pilarcitos Wells contributed 11 MG (27%) and the Denniston System contributed 2.4 MG (6%). High raw water turbidities from the hard rains allowed us to only run Denniston Water Treatment Plant (WTP) for 6 days in December.

### **System Improvements**

#### Cross Connection Program

Cross Connection surveys were done on the 600 and 700 blocks of the downtown area. Letters were sent to the non-residential properties that did not install a backflow device per the Coastside County Water District (CCWD) ordinance to remind them of their obligation to comply with the CCWD backflow ordinance. These second letters set a definitive deadline for compliance.

#### Large Meter Change-Out Program

All of the meters at Rocket Farms have been changed out. The crew will now move on to change out the meters greater than 2" at other sites. Older meters tend to lose their accuracy over the years and new and improved meters allow for more accurate measuring of low flows.

## **Other Activities Update:**

### Magellan Main Break and Boil Water Advisory

Staff continued to field calls on the boil water order at the beginning of the month. Plans are underway to install two valves that will allow us to isolate the 10" cast iron Magellan Pipeline that is susceptible to failures. We have invited specialist companies to give us a quote to slip line this portion of pipe on Magellan Avenue between 5th Avenue east of Highway One and the Miramar Restaurant on the west side of the highway.

### Nebbia Winery Main Break

There was another leak on the 12" welded steel main in front of Nebia Winery in December. The repair took one clamp and 3 steel plugs. This is another problematic spot that is very difficult and dangerous to repair due to the proximity to a high pressure gas main and fiber optic telecommunication lines as well as the traffic on the east bound lane of Highway 92. We will be installing two valves and a tee on either end of the problem area so that we can install a bypass and maintain service eastward in the event of future breaks or whenever we make a permanent repair. As with the Magellan line, we have spoken with two contractors to give us a preliminary quote on slip lining this portion of main. Another option would be to install a bypass line around the winery. These options are being evaluated with the hopes of finding a permanent solution later this year.

### Nunes Utility Water System

Pump Repair was finally able to get the new system to function as planned. There are still a few minor bugs to resolve, which will be addressed this month.

### Lead and Copper Sampling

The District is required to test for lead and copper from the homes of residents in our service area every 3 years. We are required to test at least 30 homes per cycle. We have sent out 40 letters to the customers who have participated in the past as well as to new customers to take the place of those who have moved. Sampling will take place on the first week of February.

### Storm Event

The District did not experience any significant damage from the December storms. One tree fall blocked access to Crystal Springs Pump Station, but was quickly removed by San Francisco Public Utilities Commission (SFPUC).

## **Regulatory Agency Interaction**

### California Water Resources Control Board (CWRCB)

-Karen Nishimoto has replaced Ryan Thissen as the sanitary engineer in charge of the oversight for CCWD.

-We submitted our report on the Magellan Leak on 11 December. They had no follow-up questions and commended us on our quick and thorough response.

-CWRCB approved our 50% design for the new Hazen's Tank and only suggested that we have a modified inlet/outlet, which we had already planned to do.

## **Safety/Training/Inspections/Meetings**

### Meetings Attended

- 11 Dec - California/Nevada Section of the American Water Works Association (CA/NV Section AWWA) Board Meeting
- 12 Dec - Met with Rudy of Calcon as to Crystal Springs Pump Station (PS) issues
- 15 Dec - Met with Rudy of Calcon as to future projects
- 16 Dec - CCWD Board of Director's meeting
- 18 Dec - Met with Wayne of Pump Repair Services as to Nunes Utility Water System problems
- 22 Dec - Met with SFPUC as to the Pilarcitos pipeline operation and future repairs and modifications

### Tailgate safety sessions in December

- 1 Dec - Be Kind to Your Body: Stretch Before Work
- 8 Dec - Quick Equipment Checks: A Basic Safety Procedure
- 15 Dec - Job Hazard Analysis: An Important Tool for Identifying and Reducing Hazards
- 22 Dec - Safety Tips for Employees Working Remotely or Alone
- 29 Dec - Weld Well-and It Ends Well

### Safety

The Material Safety Data Sheet (MSDS) binder was upgraded in the shop.

### Training

All field staff was trained on the maintenance and repair of the chlorine residual analyzers at our pump stations.

## **Projects**

### Avenue Cabrillo Project Phase 3A

All pipes and all but one service have been installed. There will be two tie-ins in January and paving should be complete by the second week of January. Holidays and severe rains have slowed the work. The contractor had to come out and touch up temporary paving a couple of times due to sinking from heavy traffic and rain.

### El Granada Tank 3 Repair and Recoating Project

Plans were reviewed and approved by staff. Jim Teter is presently preparing bid documents.

## STAFF REPORT

**To:** Board of Directors  
**From:** Cathleen Brennan, Water Resources Analyst  
**Agenda:** January 13, 2015  
**Report Date:** January 8, 2015  
**Subject:** Water Resources

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This informational report includes: Water Year 2015 First Snow Survey and Local Precipitation

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### **First Snow Survey - December 30, 2014**

The California Department of Water Resources has conducted the first snow survey for Water Year 2015 and the results are mixed. There is more snow with more water content than this same time last year, but there is not enough water content to fill the state's empty reservoirs and replenish groundwater aquifers.



At Echo Summit, there was 21.3 inches of snow with a water content of 4 inches. Water managers across the state are hoping for cooler temperatures with more precipitation before the rainy season is over in April. It is estimated that snowpack provides at least a third of the state's water needs.

### **Local Precipitation**

The current rainfall total for Water Year 2015 in Half Moon Bay is about 13.5 inches. In the month of December we received almost 11 inches of rain. We need about 13 more inches this season to have an average or normal water year, locally.

The December hydrological conditions report from the San Francisco Public Utilities Commission (SFPUC) was not available at the time this report was written. This report summarizes the conditions of the Regional Water System, including reservoir levels and precipitation.