Amended 6/16/2021

Pursuant to Governor Newsom's Executive Order N-29-20, members of the Board of Directors and staff will participate in this meeting via a teleconference. Members of the public can submit written comments to the Board Secretary at boardcomment@cambriacsd.org.

CAMBRIA COMMUNITY SERVICES DISTRICT

Thursday, June 17, 2021 - 2:00 PM

AGENDA

REGULAR MEETING OF THE CAMBRIA COMMUNITY SERVICES DISTRICT BOARD OF DIRECTORS

Please click the link below to join the webinar:
https://zoom.us/j/94587526052?pwd=c25DQ3VCZnFWQWprems0dUNMcUZJUT09
Passcode: 374541
Or iPhone one-tap:
US: +16699006833,,94587526052# or +12532158782,,94587526052#
Or Telephone:
Dial(for higher quality, dial a number based on your current location):
US: +1 669 900 6833 or +1 253 215 8782 or +1 346 248 7799 or +1 312 626 6799 or +1 929 205 6099 or +1 301 715 8592
Webinar ID: 945 8752 6052
International numbers available: https://zoom.us/u/aAtU7Iyod

1. OPENING

A. Call to Order

B. Pledge of Allegiance

C. Establishment of Quorum

D. President's Report

E. Agenda Review: Additions/Deletions

2. BOARD MEMBER COMMUNICATIONS

Any Board Member may make an announcement, report briefly on his or her activities, or ask a question for clarification.

3. PUBLIC SAFETY

A. Sheriff's Department Report Added Late

B. CCSD Fire Chief's Report

4. PUBLIC COMMENT

Members of the public may now address the Board on any item of interest within the jurisdiction of the Board but not on its agenda today. Future agenda items can be suggested at this time. In compliance with the Brown Act, the Board cannot discuss or act on items not on the agenda. Each speaker has up to three minutes.

5. CONSENT AGENDA

All matters on the consent calendar are to be approved by one motion. If Directors wish to discuss a consent item other than simple clarifying questions, a request for removal may be made. Such items are pulled for separate discussion and action after the consent calendar as a whole is acted upon.

A. Consideration to Adopt the May 2021 Expenditure Report

B. Consideration to Adopt the May 13, 2021 and May 20, 2021 Regular Meeting Minutes

C. Consideration of Adoption of Resolution 20-2021 Regarding the Continued Local State of Emergency Declaration

6. HEARINGS AND APPEALS

A. Public Hearing to Discuss and Consider the Adoption of Resolution 23-2021 Adopting the 2020 Urban Water Management Plan (UWMP) Demand Components and Resolution 24-2021 Adopting the 2020 Water Shortage Contingency Plan (WSCP)

Added Late

7. REGULAR BUSINESS

A. Discussion and Consideration of Adoption of Resolution 21-2021 Approving the CCSD Preliminary Budget for Fiscal Year 2021-2022 and Resolution 22-2021 Establishing the Fiscal Year 2021-2022 Appropriations Limit

B. Discussion and Consideration of Strategic Plan Status Report and Update

8. MANAGER REPORTS

A. Public Comment: The President will be asking for public comment before the reports.

B. General Manager's Report

C. Finance Manager's Report

D. Utilities Report

9. FUTURE AGENDA ITEM(S)

This is an opportunity to request a formal agenda report be prepared and the item placed on a future agenda. No formal action can be taken except to direct the General Manager to place a matter of business on a future agenda by majority vote.

10. ADJOURN

Cambria Community Services District

Tuesday, June 15, 2021

Time Period: (Month)	May 1- May 31, 2021	Avila	Cayucos	Cambria	Los Osos	San Simeon
Calls For Service:	53					
CFS: Last Year	51					

Assault/Battery:		
CFS	1	
Disturbance:		
CFS	19	
Burglary:		
CFS	1	
Theft:		
CFS	3	
Vandalism		
CFS	1	
Mail Theft:		
CFS	0	
Phone Scam:		
CFS	1	
Suspicious Circs:		
CFS	1	
Enforcement Stops:		
CFS	26	
Preventative Patrol Activity:		
CFS	17	

Notable:

Cambria CSD Fire Department
June 17th, 2021 CCSD Board Meeting

May 2021

Prevention and Education

- 0 Rough-in sprinkler inspections
- 0 Fire final inspections
- 5 Fire plan reviews
  - 1601 Main
  - 5099 Pineknolls
  - 1483 Benson
  - 5165 Windsor
  - 2338 Pierce
- 0 Engine company commercial fire and life safety inspections were conducted
- 0 Public education events
- 0 Fire Engine and Station tours

Meetings and Affiliations

Weekly operational briefings	May 0900 Cambria
Weekly liaison briefings	May 1100 Cambria
CCSD Managers mtg	May 4th, 0830 Cambria
County Fire Chief mtg	May 5th, 0900 Cambria
County CISM mtg	May 7th, 1200 Atascadero
CCSD Managers mtg	May 11th, 0830 Cambria
Firesafe Focus Group mtg	May 12th, 1500 Cambria
CCSD Board mtg	May 13th, 1400 Cambria
HR mtg	May 17th, 1230 Cambria
CCSD Managers mtg	May 18th, 0830 Cambria
Budget planning mtg	May 18th, 1000 Cambria
Firesafe Council mtg	May 19th, 0900 Cambria
Memorial Service	May 20th, 0900 San Luis Obispo
CCSD Board mtg	May 20th, 1400 Cambria
CCSD Managers mtg	May 25th, 0830 Cambria
CCSD Finance Committee mtg	May 25th, 1000 Cambria
Liaison Officer Course	May 26th – 27th, 0800-1700 Paso Robles

Operations and News

- SLO County EOC opened and running for Covid-19 Disaster Declaration
- Weekly coordination between EOC, Public Health, County Fire Chiefs
- Station is closed to the public, all public events, prevention activities and educational tours are cancelled
- Training for the month of May was primarily focused on the following – Large quantity water deliver (master streams and deck gun), radio usage and programing, Multi-Casualty Incidents (MCI)

Grant Updates

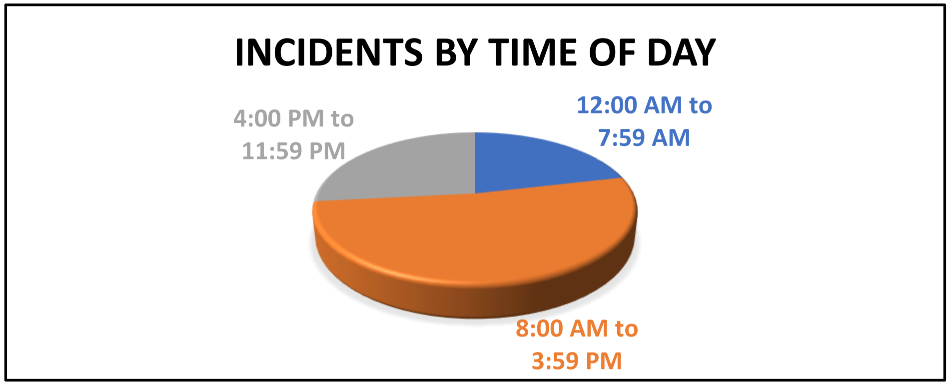
- Awarded AFG Supplemental – Covid 19 PPE (equipment purchase in process)
- AFG Grant submitted for emergency equipment
- AFG SAFER Grant submitted for three firefighter/paramedic positions
- CA Climate Investment Grant in process for five evacuation studies to complete community

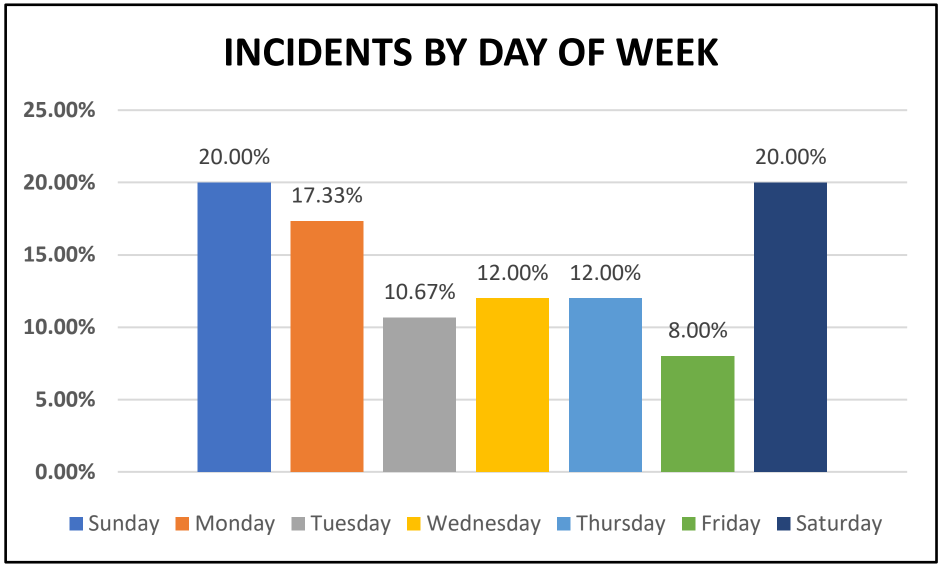
Fire Statistics are attached for your review

CAMBRIA CSD FIRE DEPARTMENT - MONTHLY INCIDENT STATISTICS p.1

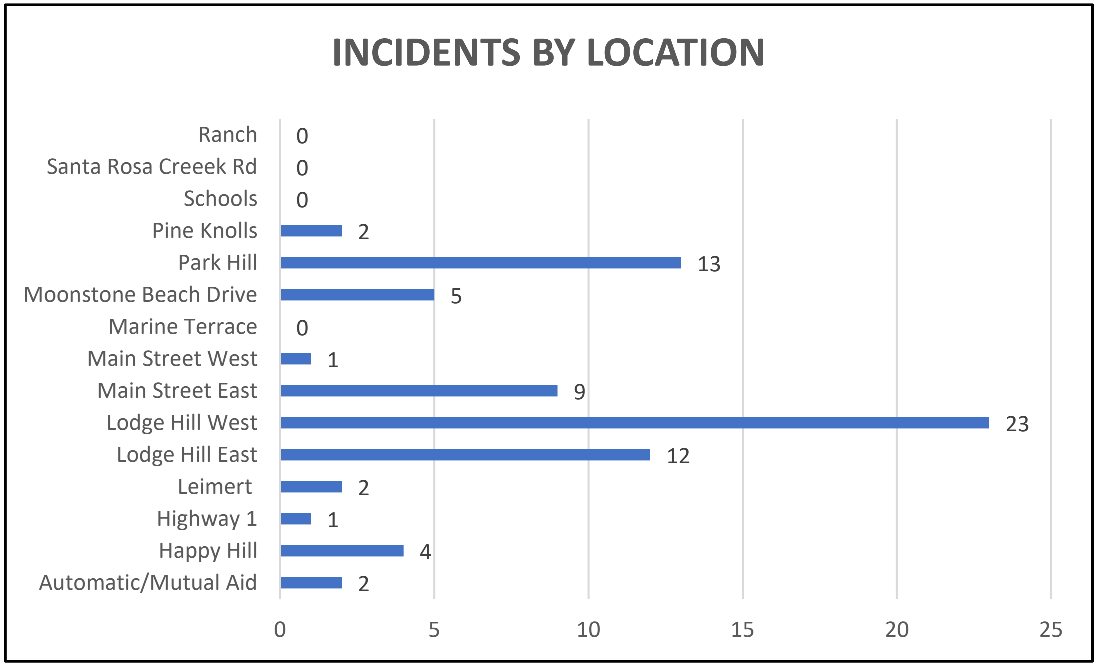
Categories	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Total
NFIRS Series 1: Fire	2	0	1	0	**1**								**4**
Structure Fire	1	0	0	0	**0**								**1**
Vehicle Fire	0	0	0	0	**0**								**0**
Vegetation Fire	1	0	0	0	**0**								**1**
Fire (other)	0	0	1	0	**1**								**2**
NFIRS Series 2: Overpressure/Explosion	0	0	0	0	**0**								**0**
NFIRS Series 3: Rescue & EMS	35	27	45	41	**32**								**180**
Motor Vehicle Accident	1	0	2	1	**2**								**6**
Ocean/Water Rescue	1	0	0	0	**0**								**1**
Cliff Rescue	1	0	1	0	**0**								**2**
NFIRS Series 4: Hazardous Condition	14	2	1	1	**1**								**19**
Spills		0	0	0	**0**								**0**
Gas Leaks		1	0	1	**0**								**2**
Electrical Problems	13	0	1	0	**0**								**14**
Hazards (other)	1	1	0	0	**1**								**3**
NFIRS Series 5: Service Call	17	15	15	9	**14**								**70**
Water Leak	0	0	0	0	**0**								**0**
Smoke/Odor Problem	0	0	0	0	**0**								**0**
Animal Problem	0	0	0	0	**1**								**1**
Public Service Assist	10	1	4	3	**2**								**20**
Assist Invalids	7	15	11	6	**11**								**50**
NFIRS Series 6: Good Intent Call	21	17	19	25	**21**								**103**
NFIRS Series 7: False Alarm	6	4	10	5	**5**								**30**
NFIRS Series 8: Severe Weather/Disaster	16	0	0	0	**0**								**16**
NFIRS Series 9: Special Incident Type	1	0	0	0	**0**								**1**
Response Totals	**112**	**65**	**91**	**81**	**74**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**423**

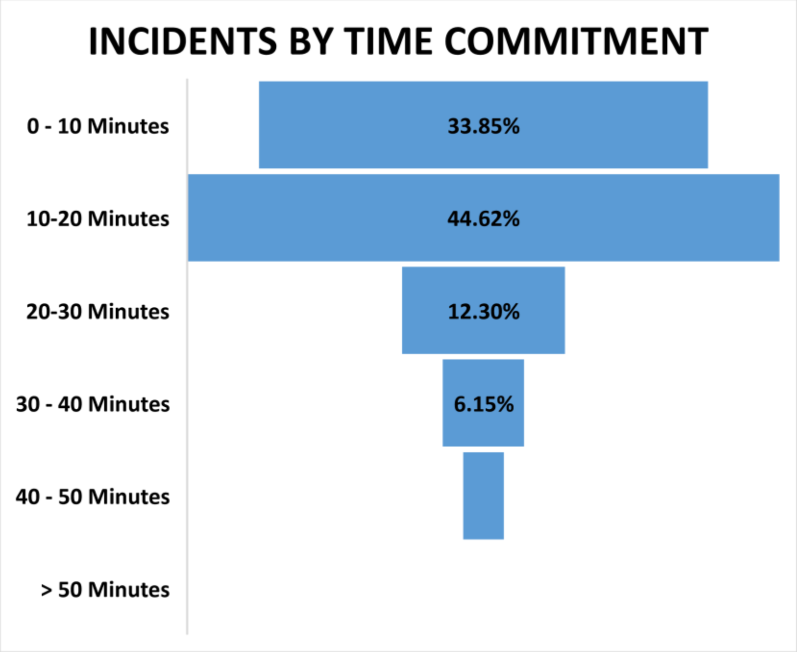
CAMBRIA CSD FIRE DEPARTMENT - MONTHLY INCIDENT STATISTICS p.2


INCIDENTS BY TIME OF DAY


INCIDENTS BY DAY OF WEEK


INCIDENTS BY CUSTOMER


INCIDENTS BY LOCATION


INCIDENTS BY TIME COMMITMENT

Burning Restrictions in Cambria

All Fires are Prohibited within Cambria CSD Jurisdictional Boundaries

Section 7. CFC Section 307.1.1 of Ordinance 05-2013 outlines that all open burning, bonfires, warming fires and debris fires is prohibited within the Cambria CSD jurisdictional boundaries, except as permitted and authorized by the Cambria Community Services District Fire Department and the San Luis Obispo County Air Pollution Control District.

For additional information or to review the Ordinance, please visit https://www.cambriacsd.org/burning-restrictions-in-cambria or contact the Cambria Fire Department Fire Chief at: (805) 927-6240.

Cambria Community Services District , CA

Expense Approval Report

By Vendor Name

Payment Dates 5/1/2021 - 5/31/2021

Vendor Name	Payable Number	Post Date	Description (Item)	Account Number	Amount
Vendor: 10035 - 3MK ENOS LLC					
3MK ENOS LLC	3973	05/18/2021	FD/REPAIR GEAR CASE ON RESCUE BOAT ENGINE	01-6220S-01	202.50
			Vendor 10035 - 3MK ENOS LLC Total:		**202.50**
Vendor: 10041 - ABALONE COAST ANALYTICAL, INC.					
ABALONE COAST ANALYTICAL,	21-1834	05/12/2021	WW/TOTAL SUSPENDED SOLIDS, QUANTI TRAY DW	12-60910-12	152.00
ABALONE COAST ANALYTICAL,	21-1891	05/12/2021	WW/TOTAL SUSPENDED SOLIDS	12-60910-12	90.00
ABALONE COAST ANALYTICAL,	21-1942	05/12/2021	WW/TOTAL SUSPENDED SOLIDS	12-60910-12	90.00
ABALONE COAST ANALYTICAL,	21-2007	05/12/2021	WW/TOTAL SUSPENDED SOLIDS	12-60910-12	122.00
ABALONE COAST ANALYTICAL,	21-2041	05/12/2021	WW/TOTAL SUSPENDED SOLIDS	12-60910-12	90.00
ABALONE COAST ANALYTICAL,	21-2110	05/25/2021	WW/TOTAL SUSPENDED SOLIDS	12-60910-12	122.00
ABALONE COAST ANALYTICAL,	21-2146	05/25/2021	WW/TOTAL SUSPENDED SOLIDS	12-60910-12	90.00
ABALONE COAST ANALYTICAL,	21-2234	05/25/2021	WW/TOTAL SUSPENDED SOLIDS	12-60910-12	90.00
ABALONE COAST ANALYTICAL,	21-2300	05/25/2021	WW/TOTAL SUSPENDED SOLIDS	12-60910-12	90.00
ABALONE COAST ANALYTICAL,	21-2380	05/25/2021	WW/TOTAL SUSPENDED SOLIDS	12-60910-12	154.00
			Vendor 10041 - ABALONE COAST ANALYTICAL, INC. Total:		**1090.00**
Vendor: 10046 - ACCURATE MAILING SERVICE					
ACCURATE MAILING SERVICE	14817	05/04/2021	WD/WW/MAILING AND POSTAGE UB LATE NOTICES	11-60510-11	42.07
ACCURATE MAILING SERVICE	14817	05/04/2021	WD/WW/MAILING AND POSTAGE UB LATE NOTICES	11-6080M-11	8.66
ACCURATE MAILING SERVICE	14817	05/04/2021	WD/WW/MAILING AND POSTAGE UB LATE NOTICES	12-60510-12	42.08
ACCURATE MAILING SERVICE	14817	05/04/2021	WD/WW/MAILING AND POSTAGE UB LATE NOTICES	12-6080M-12	8.67
ACCURATE MAILING SERVICE	14822	05/05/2021	WD/WW/MAILING & POSTAGE AVAILABILITY	11-60510-11	539.27
ACCURATE MAILING SERVICE	14822	05/05/2021	WD/WW/MAILING & POSTAGE AVAILABILITY	11-6080M-11	128.27
ACCURATE MAILING SERVICE	14822	05/05/2021	WD/WW/MAILING & POSTAGE AVAILABILITY	12-60510-12	539.27
ACCURATE MAILING SERVICE	14822	05/05/2021	WD/WW/MAILING & POSTAGE AVAILABILITY	12-6080M-12	128.27
ACCURATE MAILING SERVICE	14823	05/05/2021	FD/MAILING & POSTAGE 2021 WEED ABATEMENT	01-60510-01	786.93
ACCURATE MAILING SERVICE	14823	05/05/2021	FD/MAILING & POSTAGE 2021 WEED ABATEMENT	01-6080M-01	266.39
			Vendor 10046 - ACCURATE MAILING SERVICE Total:		**2489.88**
Vendor: 10064 - AGP VIDEO					
AGP VIDEO	8467	05/12/2021	ADM/VIDEO CONFERENCING SVCS 4/8, 4/12, 4/15, 4/28	01-60860-09	1431.25
			Vendor 10064 - AGP VIDEO Total:		**1431.25**
Vendor: 10068 - AIRGAS USA, LLC					
AIRGAS USA, LLC	9112910320	05/24/2021	WW/MISC SUPPLIES	12-6032T-12	290.60
			Vendor 10068 - AIRGAS USA, LLC Total:		**290.60**
Vendor: 10080 - ALL WAYS CLEAN					
ALL WAYS CLEAN	53647	05/12/2021	F&R/MONTHLY CLEANING	01-6033V-02	216.00

Vendor Name	Payable Number	Post Date	Description (Item)	Account Number	Amount
			VETS HALL MAY 2021		
ALL WAYS CLEAN	53648	05/12/2021	WW/MONTHLY OFFICE CLEANING MAY 2021	12-6033B-12	368.33
ALL WAYS CLEAN	53649	05/12/2021	ADM/MONTHLY OFFICE CLEANING MAY 2021	01-6033B-09	240.30
ALL WAYS CLEAN	53650	05/12/2021	F&R/MONTHLY CLEANING PUBLIC RESTROOMS MAY	01-6080M-02	803.00
			Vendor 10080 - ALL WAYS CLEAN Total:		**1627.63**
Vendor: 11108 - ALLCHIN, JOHN					
ALLCHIN, JOHN	INV0000136	05/02/2021	WW/MONTHLY CELL PHONE & INTERNET	12-6060C-12	100.00
			Vendor 11108 - ALLCHIN, JOHN Total:		**100.00**
Vendor: 10144 - AT&T/CALNET3					
AT&T/CALNET3	0681.0321	05/04/2021	WW/ALARM AT LIFT STN A	12-6060P-12	23.52
AT&T/CALNET3	0682.0321	05/04/2021	WW/ALARM AT LIFT STN B3	12-6060P-12	23.52
AT&T/CALNET3	1928.0321	05/04/2021	FD/FAX LINE	01-6060P-01	34.42
AT&T/CALNET3	9614.0321	05/04/2021	WW/ALARM AT LIFT STN B1	12-6060P-12	23.51
AT&T/CALNET3	9615.0321	05/04/2021	WW/ALARM AT LIFT STN B2	12-6060P-12	23.49
AT&T/CALNET3	9616.0321	05/04/2021	WW/ALARM AT LIFT STN B	12-6060P-12	23.50
AT&T/CALNET3	9617.0321	05/04/2021	WW/ALARM AT LIFT STN 9	12-6060P-12	23.53
AT&T/CALNET3	9618.0321	05/04/2021	WW/ALARM AT LIFT STN A1	12-6060P-12	23.52
AT&T/CALNET3	9619.0321	05/04/2021	WW/FAX LINE	12-6060P-12	23.54
AT&T/CALNET3	9620.0321	05/04/2021	WD/TELEMETRY SYSTEMS	11-6060P-11	23.75
AT&T/CALNET3	9621.0321	05/04/2021	F&R/FIRE ALARMS AT VETS HALL	01-6060P-02	45.29
AT&T/CALNET3	9622.0321	05/04/2021	WW/ALARM AT LIFT STN 4	12-6060P-12	23.50
AT&T/CALNET3	9623.0321	05/04/2021	WW/ALARM AT LIFT STN 8	12-6060P-12	23.49
AT&T/CALNET3	9624.0321	05/04/2021	WD/LEIMERT PUMP STATION	11-6060P-11	23.49
AT&T/CALNET3	9625.0321	05/04/2021	ADM/OFFICE FAX LINE	01-6060P-09	23.88
AT&T/CALNET3	9627.0321	05/04/2021	F&R/RODEO GROUNDS RD	01-6060P-02	23.95
AT&T/CALNET3	9629.0321	05/04/2021	WW/HEATH LANE PHONE	12-6060P-12	54.88
			Vendor 10144 - AT&T/CALNET3 Total:		**464.78**
Vendor: 10140 - AT&T					
AT&T	2454.0521	05/05/2021	WW/ALARM AT LIFT STN B-4	12-6060P-12	261.19
AT&T	1467.0521	05/18/2021	WD/WELL HEAD ZONE TO ZONE TRANSMISSION	11-6060P-11	300.08
			Vendor 10140 - AT&T Total:		**561.27**
Vendor: 10166 - BADGER METER INC.					
BADGER METER INC.	80072111	05/18/2021	WD/ORION CELLULAR SVC APR 2021	11-6031M-11	30.00
			Vendor 10166 - BADGER METER INC. Total:		**30.00**
Vendor: 10178 - BATTERY SYSTEMS, INC.					
BATTERY SYSTEMS, INC.	6580148	05/12/2021	WW/BATTERIES	12-6032G-12	260.63
			Vendor 10178 - BATTERY SYSTEMS, INC. Total:		**260.63**
Vendor: 10202 - BENJAMIN FRANKLIN PLUMBING					
BENJAMIN FRANKLIN PLUMBIN	179423	05/04/2021	ADM/DIAGNOSE PROBLEM WITH RESTROOM WATER HEATER	01-6033B-09	204.00
BENJAMIN FRANKLIN PLUMBIN	179517	05/04/2021	ADM/INSTALLED NEW HEATER ELEMENT RSTRM	01-6033B-09	270.15
			Vendor 10202 - BENJAMIN FRANKLIN PLUMBING Total:		**474.15**
Vendor: 10229 - BLAND, MELISSA					
BLAND, MELISSA	INV0000137	05/02/2021	WD/WW/SWF/MONTHLY CELL PHONE & INTERNET	11-6060C-11	33.33
BLAND, MELISSA	INV0000137	05/02/2021	WD/WW/SWF/MONTHLY CELL PHONE & INTERNET	12-6060C-12	33.33
BLAND, MELISSA	INV0000137	05/02/2021	WD/WW/SWF/MONTHLY CELL PHONE & INTERNET	39-6060C-25	33.34

Expense Approval Report

Cambria Community Services District , CA

By Vendor Name

Payment Dates 5/1/2021 - 5/31/2021

Vendor Name	Payable Number	Post Date	Description (Item)	Account Number	Amount
			Vendor 10229 - BLAND, MELISSA Total:		**100.00**
Vendor: 10260 - BRENNTAG PACIFIC, INC.					
BRENNTAG PACIFIC, INC.	BPI140341	05/18/2021	WD/CHEMICALS	11-6091C-11	430.36
			Vendor 10260 - BRENNTAG PACIFIC, INC. Total:		**430.36**
Vendor: 10263 - BREZDEN PEST CONTROL, INC					
BREZDEN PEST CONTROL, INC	395460	05/04/2021	ADM/SPRAY AND DEWEB	01-6033B-09	85.00
BREZDEN PEST CONTROL, INC	395697	05/04/2021	F&R/SQUIRREL CONTROL VETS HALL	01-6033V-02	75.00
			Vendor 10263 - BREZDEN PEST CONTROL, INC Total:		**160.00**
Vendor: 10288 - BURKEY, MICHAEL A					
BURKEY, MICHAEL A	INV0000149	05/02/2021	FD/MONTHLY CELL PHONE REIMB	01-6060C-01	45.00
			Vendor 10288 - BURKEY, MICHAEL A Total:		**45.00**
Vendor: 10315 - CALIFORNIA WATER ENVIRONMENT ASSN					
CALIFORNIA WATER ENVIRON	428463-BIVINS	05/25/2021	WW/ANNUAL MEMBERSHIP DUES BEN BIVENS	12-60540-12	192.00
			Vendor 10315 - CALIFORNIA WATER ENVIRONMENT ASSN Total:		**192.00**
Vendor: 10340 - CAMBRIA AUTO SUPPLY LLC					
CAMBRIA AUTO SUPPLY LLC	97299.	05/11/2021	WW/BULBS	12-6032L-12	2.03
CAMBRIA AUTO SUPPLY LLC	97572.	05/11/2021	F&R/ANTIFREEZE, CLIP	01-60900-02	19.80
CAMBRIA AUTO SUPPLY LLC	97635.	05/11/2021	WW/MOTOR OIL	12-6041L-12	26.25
CAMBRIA AUTO SUPPLY LLC	97638.	05/11/2021	WW/WASHER FLUID	12-6041L-12	5.49
CAMBRIA AUTO SUPPLY LLC	98020.	05/11/2021	WW/DIESEL EXHAUST FLUID	12-6041V-12	15.60
CAMBRIA AUTO SUPPLY LLC	98027	05/25/2021	F&R/SPARK PLUGS	01-6041N-02	9.46
CAMBRIA AUTO SUPPLY LLC	98400	05/25/2021	WW/FUSES	12-6041V-12	3.54
			Vendor 10340 - CAMBRIA AUTO SUPPLY LLC Total:		**82.17**
Vendor: 10349 - CAMBRIA COMMUNITY HEALTHCARE DISTRICT					
CAMBRIA COMMUNITY HEALT	05/06/21	05/06/2021	F&R/REFUND VH SECURITY DEP 10/8/15 MTG	01-24200-02	250.00
CAMBRIA COMMUNITY HEALT	05/06/21	05/06/2021	F&R/REFUND VH KEY DEPOSIT 10/8/15 MTG	01-24210-02	20.00
			Vendor 10349 - CAMBRIA COMMUNITY HEALTHCARE DISTRICT Total:		**270.00**
Vendor: 10352 - CAMBRIA ELECTRIC/SAN LUIS SECURITY SYSTEMS					
CAMBRIA ELECTRIC/SAN LUIS	0791	05/24/2021	FD/HOOKED UP PRINTER TO NETWORK	01-6033B-01	80.00
			Vendor 10352 - CAMBRIA ELECTRIC/SAN LUIS SECURITY SYSTEMS Total:		**80.00**
Vendor: 10356 - CAMBRIA HARDWARE CENTER					
CAMBRIA HARDWARE CENTER	1524110	05/19/2021	F&R/SIGNS, GLUE	01-6033B-02	25.15
CAMBRIA HARDWARE CENTER	1524409	05/19/2021	WW/TUBING	12-60920-12	6.33
CAMBRIA HARDWARE CENTER	1524411	05/19/2021	WW/SILCONE GLUE	12-60920-12	5.67
CAMBRIA HARDWARE CENTER	1524482	05/19/2021	WW/CLAMPS	12-6032L-12	11.05
CAMBRIA HARDWARE CENTER	1525172	05/19/2021	FD/MISC SUPPLIES	01-6033B-01	108.00
CAMBRIA HARDWARE CENTER	1525256	05/19/2021	F&R/SAFETY GLASSES	01-60900-02	9.64
CAMBRIA HARDWARE CENTER	1525402	05/19/2021	WW/MARKING PAINT	12-6032C-12	19.27
CAMBRIA HARDWARE CENTER	1525441	05/19/2021	WW/MISC PARTS	12-6032L-12	22.05
CAMBRIA HARDWARE CENTER	1525474	05/19/2021	WW/MISC PARTS	12-6032L-12	2.98
CAMBRIA HARDWARE CENTER	1525476	05/19/2021	WW/RETURN MISC PARTS	12-6032L-12	-8.24
CAMBRIA HARDWARE CENTER	1525478	05/19/2021	WD/PLASTIC TUBE	11-6031R-11	3.80
CAMBRIA HARDWARE CENTER	1525621	05/19/2021	FD/LUMBER	01-6033B-01	25.77
CAMBRIA HARDWARE CENTER	1526299	05/19/2021	FD/WOOD SHIMS	01-60900-01	2.78
CAMBRIA HARDWARE CENTER	1527477	05/19/2021	WW/PIPE, MISC SUPPLIES	12-6032T-12	109.57
CAMBRIA HARDWARE CENTER	1527910	05/19/2021	WW/MISC PARTS	12-6032T-12	47.89
CAMBRIA HARDWARE CENTER	1528041	05/19/2021	F&R/MISC PARTS	01-6033R-02	8.31
CAMBRIA HARDWARE CENTER	1528057	05/19/2021	F&R/COUPLING	01-6033R-02	1.06
CAMBRIA HARDWARE CENTER	1528216	05/19/2021	FD/MISC SUPPLIES	01-60900-01	69.10
CAMBRIA HARDWARE CENTER	1529516	05/19/2021	WW/RETURN PIPE, MISC	12-6032T-12	-134.33

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			SUPPLIES		
CAMBRIA HARDWARE CENTER	1529519	05/19/2021	WW/PIPE, MISC SUPPLIES	12-6032T-12	117.55
CAMBRIA HARDWARE CENTER	1530135	05/19/2021	WW/MISC PARTS AND SUPPLIES	12-6032T-12	60.14
CAMBRIA HARDWARE CENTER	1530402	05/19/2021	WW/MISC SUPPLIES	12-6032T-12	18.30
CAMBRIA HARDWARE CENTER	1530427	05/19/2021	F&R/CHISELS	01-60900-02	28.94
CAMBRIA HARDWARE CENTER	1530431	05/19/2021	WW/MISC PART	12-6032T-12	2.78
CAMBRIA HARDWARE CENTER	1530474	05/19/2021	FD/U-BOLT	01-60900-01	11.97
CAMBRIA HARDWARE CENTER	1530850	05/19/2021	FD/QUICKCRETE	01-6033B-01	5.46
CAMBRIA HARDWARE CENTER	1531377	05/19/2021	WW/GLOVES	12-6032C-12	27.86
CAMBRIA HARDWARE CENTER	1531791	05/19/2021	F&R/ MISC PARTS	01-6033R-02	21.69
CAMBRIA HARDWARE CENTER	1531805	05/19/2021	F&R/MISC PARTS	01-6033R-02	19.07
CAMBRIA HARDWARE CENTER	1531930	05/19/2021	F&R/HITCH PINS, CLIP	01-60900-02	27.32
CAMBRIA HARDWARE CENTER	1531979	05/19/2021	WW/PAINT	12-6032T-12	9.42
CAMBRIA HARDWARE CENTER	1532013	05/19/2021	SWF/VALVES	39-60900-25	9.62
CAMBRIA HARDWARE CENTER	1532312	05/19/2021	WW/ANT TRAP	12-6032L-12	5.35
CAMBRIA HARDWARE CENTER	1532460	05/19/2021	WW/SAW AND BLADES	12-6032T-12	172.54
CAMBRIA HARDWARE CENTER	1532641	05/19/2021	WW/MISC PARTS	12-6032L-12	9.19
CAMBRIA HARDWARE CENTER	1532697	05/19/2021	F&R/EPOXY	01-60900-02	17.15
CAMBRIA HARDWARE CENTER	1532704	05/19/2021	FD/U-BOLT	01-6033B-01	5.98
CAMBRIA HARDWARE CENTER	1532840	05/19/2021	FD/VARATHANE STAIN	01-6033B-01	6.32
CAMBRIA HARDWARE CENTER	1532946	05/19/2021	WW/MISC PARTS	12-6032T-12	4.48
CAMBRIA HARDWARE CENTER	1532990	05/19/2021	F&R/MISC SUPPLIES	01-60900-02	36.84
			Vendor 10356 - CAMBRIA HARDWARE CENTER Total:		**953.82**
Vendor: 10368 - CAMBRIA VILLAGE SQUARE					
CAMBRIA VILLAGE SQUARE	05/01/21	05/04/2021	ADM/MONTHLY OFFICE LEASE PMT 1316 TAMSON	01-60750-09	2553.03
			Vendor 10368 - CAMBRIA VILLAGE SQUARE Total:		**2553.03**
Vendor: 12470 - CAMBRIA VINEYARD CHURCH					
CAMBRIA VINEYARD CHURCH	05/06/21	05/06/2021	F&R/REFUND VH SECURITY DEP VARIOUS EVENTS 1997	01-24200-02	50.00
CAMBRIA VINEYARD CHURCH	05/06/21	05/06/2021	F&R/REFUND VH SECURITY DEPOSIT 11/27, 11/28/19	01-24200-02	200.00
CAMBRIA VINEYARD CHURCH	05/06/21	05/06/2021	F&R/REFUND VH KEY DEPOSIT 11/27, 11/28/19	01-24210-02	20.00
			Vendor 12470 - CAMBRIA VINEYARD CHURCH Total:		**270.00**
Vendor: 10235 - CAPITAL ONE TRADE CREDIT					
CAPITAL ONE TRADE CREDIT	47772381	05/17/2021	WD/WW/F&R/ANNUAL MEMBERSHIP FEE (NORTHERN TOOL)	01-60540-02	13.33
CAPITAL ONE TRADE CREDIT	47772381	05/17/2021	WD/WW/F&R/ANNUAL MEMBERSHIP FEE (NORTHERN TOOL)	11-60540-11	13.33
CAPITAL ONE TRADE CREDIT	47772381	05/17/2021	WD/WW/F&R/ANNUAL MEMBERSHIP FEE (NORTHERN TOOL)	12-60540-12	13.33
			Vendor 10235 - CAPITAL ONE TRADE CREDIT Total:		**39.99**
Vendor: 10375 - CARMEL & NACCASHA LLP					
CARMEL & NACCASHA LLP	39529	05/18/2021	ADM/MONTHLY SVCS PRIV & CONF APR 2021	01-6080L-09	4180.00
CARMEL & NACCASHA LLP	05/18/21	05/18/2021	ADM/MONTHLY RETAINER FOR LEGAL SERVICES JUNE	01-6080K-09	11100.00
			Vendor 10375 - CARMEL & NACCASHA LLP Total:		**15280.00**
Vendor: 10384 - CASTELLANOS, MICHAEL					
CASTELLANOS, MICHAEL	INV0000150	05/02/2021	FD/MONTHLY CELL PHONE REIMB	01-6060C-01	45.00
			Vendor 10384 - CASTELLANOS, MICHAEL Total:		**45.00**
Vendor: 10427 - CHARTER COMMUNICATIONS					

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CHARTER COMMUNICATIONS	7067.0421	05/12/2021	F&R/BUSINESS VOICE	01-6060I-02	39.99
CHARTER COMMUNICATIONS	4304.0421	05/12/2021	F&R/ADM/WD/WW/ETHERNET SERVICES	01-6060I-02	140.09
CHARTER COMMUNICATIONS	4304.0421	05/12/2021	F&R/ADM/WD/WW/ETHERNET SERVICES	01-6060I-02	279.07
CHARTER COMMUNICATIONS	4304.0421	05/12/2021	F&R/ADM/WD/WW/ETHERNET SERVICES	01-6060I-09	235.29
CHARTER COMMUNICATIONS	4304.0421	05/12/2021	F&R/ADM/WD/WW/ETHERNET SERVICES	11-6060I-11	279.38
CHARTER COMMUNICATIONS	4304.0421	05/12/2021	F&R/ADM/WD/WW/ETHERNET SERVICES	12-6060I-12	279.38
CHARTER COMMUNICATIONS	3482.0521	05/18/2021	FD/ADM/WD/WW/BUSINESS INTERNET & VOICE	01-6060I-01	162.50
CHARTER COMMUNICATIONS	3482.0521	05/18/2021	FD/ADM/WD/WW/BUSINESS INTERNET & VOICE	01-6060I-09	162.50
CHARTER COMMUNICATIONS	3482.0521	05/18/2021	FD/ADM/WD/WW/BUSINESS INTERNET & VOICE	01-6060I-09	514.59
CHARTER COMMUNICATIONS	3482.0521	05/18/2021	FD/ADM/WD/WW/BUSINESS INTERNET & VOICE	11-6060I-11	162.50
CHARTER COMMUNICATIONS	3482.0521	05/18/2021	FD/ADM/WD/WW/BUSINESS INTERNET & VOICE	12-6060I-12	162.50
CHARTER COMMUNICATIONS	5974.0521	05/24/2021	WW/BUSINESS INTERNET & VOICE	12-6060I-12	174.97
			Vendor 10427 - CHARTER COMMUNICATIONS Total:		**2592.76**
Vendor: 10443 - CIO SOLUTIONS, LP					
CIO SOLUTIONS, LP	85691-121	05/04/2021	ADM/MONTHLY BILLING MAY 2021	01-60440-09	2885.00
CIO SOLUTIONS, LP	86074-121	05/17/2021	WW/WD/INKJET PRINTER	11-60450-11	158.80
CIO SOLUTIONS, LP	86074-121	05/17/2021	WW/WD/INKJET PRINTER	12-60450-12	635.20
			Vendor 10443 - CIO SOLUTIONS, LP Total:		**3679.00**
Vendor: 10445 - CIT BANK, N.A.					
CIT BANK, N.A.	37628167	05/05/2021	FD/ADM/WD/WW/MONTHLY IP PHONE	01-6060P-01	333.42
CIT BANK, N.A.	37628167	05/05/2021	FD/ADM/WD/WW/MONTHLY IP PHONE	01-6060P-09	206.40
CIT BANK, N.A.	37628167	05/05/2021	FD/ADM/WD/WW/MONTHLY IP PHONE	11-6060P-11	113.97
CIT BANK, N.A.	37628167	05/05/2021	FD/ADM/WD/WW/MONTHLY IP PHONE	12-6060P-12	113.97
			Vendor 10445 - CIT BANK, N.A. Total:		**767.76**
Vendor: 10512 - CORBIN WILLITS SYSTEMS, INC.					
CORBIN WILLITS SYSTEMS, INC	C104151	05/04/2021	ADM/MONTHLY SUPPORT AGMT MOM SOFTWARE	01-60440-09	1273.57
			Vendor 10512 - CORBIN WILLITS SYSTEMS, INC. Total:		**1273.57**
Vendor: 10543 - CULLIGAN-KITZMAN WATER					
CULLIGAN-KITZMAN WATER	800639597	05/12/2021	FD/RO SERVICE HICAP SOFTENER	01-6033B-01	91.50
			Vendor 10543 - CULLIGAN-KITZMAN WATER Total:		**91.50**
Vendor: 10568 - DAVID CRYE, INC					
DAVID CRYE, INC	12684	05/17/2021	F&R/SAND AND CONCRETE	01-6033Z-02	1990.55
			Vendor 10568 - DAVID CRYE, INC Total:		**1990.55**
Vendor: 10571 - DAVID KEITH TODD CONSULTING					
DAVID KEITH TODD CONSULTI	70602 521	05/25/2021	SWF/PROFESSIONAL SVC FOR PERMITTING 4/1-4/30/21	40-69100-30	22318.75
			Vendor 10571 - DAVID KEITH TODD CONSULTING Total:		**22318.75**
Vendor: 10591 - DC FROST ASSOCIATES, INC.					
DC FROST ASSOCIATES, INC.	42780	05/24/2021	SWF/MAINT ON UV OXIDATION UNIT & SYSTEM	39-6080M-25	2900.00

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			Vendor 10591 - DC FROST ASSOCIATES, INC. Total:		**2900.00**
Vendor: 11709 - DIENZO, RAY					
DIENZO, RAY	INV0000140	05/02/2021	WD/WW/SWF/MONTHLY CELL PHONE & INTERNET	11-6060C-11	33.33
DIENZO, RAY	INV0000140	05/02/2021	WD/WW/SWF/MONTHLY CELL PHONE & INTERNET	12-6060C-12	33.33
DIENZO, RAY	INV0000140	05/02/2021	WD/WW/SWF/MONTHLY CELL PHONE & INTERNET	39-6060C-25	33.34
			Vendor 11709 - DIENZO, RAY Total:		**100.00**
Vendor: 10624 - DIGITAL DEPLOYMENT, INC					
DIGITAL DEPLOYMENT, INC	2291198E-0007	05/24/2021	ADM/STREAMLINE WEB W/ENGAGE MEMBER FEE MAY 2021	01-6011W-09	260.00
			Vendor 10624 - DIGITAL DEPLOYMENT, INC Total:		**260.00**
Vendor: 12469 - DMV RENEWAL					
DMV RENEWAL	05/04/21	05/04/2021	F&R/REGISTRATION 2005 YAMAHA ATV	01-6041L-02	54.00
			Vendor 12469 - DMV RENEWAL Total:		**54.00**
Vendor: 10927 - DODSON, HALEY					
DODSON, HALEY	INV0000138	05/02/2021	ADM/MONTHLY CELL PHONE & INTERNET REIMB	01-6060C-09	100.00
			Vendor 10927 - DODSON, HALEY Total:		**100.00**
Vendor: 11552 - DUFFIELD, PAMELA					
DUFFIELD, PAMELA	INV0000139	05/02/2021	ADM/MONTHLY CELL PHONE & INTERNET REIMB	01-6060C-09	100.00
			Vendor 11552 - DUFFIELD, PAMELA Total:		**100.00**
Vendor: 10732 - FARM SUPPLY COMPANY					
FARM SUPPLY COMPANY	215668	05/24/2021	F&R/150 GAL TANK	01-6033R-02	326.03
FARM SUPPLY COMPANY	216480	05/24/2021	F&R/HERBICIDE	01-6033R-02	386.07
			Vendor 10732 - FARM SUPPLY COMPANY Total:		**712.10**
Vendor: 10748 - FERGUSON ENTERPRISES LLC					
FERGUSON ENTERPRISES LLC	9213680	05/17/2021	F&R/FAUCETS	01-6033B-02	336.11
			Vendor 10748 - FERGUSON ENTERPRISES LLC Total:		**336.11**
Vendor: 10751 - FGL ENVIRONMENTAL INC.					
FGL ENVIRONMENTAL INC.	181065A	05/18/2021	WD/BACTI & SUPPORT ANALYSIS	11-60910-11	136.00
FGL ENVIRONMENTAL INC.	181066A	05/18/2021	WD/BACTI ANALYSIS	11-60910-11	150.00
FGL ENVIRONMENTAL INC.	181161A	05/18/2021	WD/BACTI & SUPPORT ANALYSIS	11-60910-11	112.00
FGL ENVIRONMENTAL INC.	181061A	05/18/2021	WW/INORGANIC & SUPPORT ANALYSIS	12-60910-12	769.00
FGL ENVIRONMENTAL INC.	181064A	05/18/2021	WW/INORGANIC & SUPPORT ANALYSIS	12-60910-12	150.00
FGL ENVIRONMENTAL INC.	181113A	05/18/2021	WW/INORGANIC & SUPPORT ANALYSIS	12-60910-12	982.00
FGL ENVIRONMENTAL INC.	181114A	05/18/2021	WW/INORGANIC ANALYSIS	12-60910-12	188.00
FGL ENVIRONMENTAL INC.	181305A	05/24/2021	WD/BACTI & SUPPORT ANALYSIS	11-60910-11	112.00
FGL ENVIRONMENTAL INC.	181306A	05/24/2021	WW/INORGANIC ANALYSIS	12-60910-12	23.00
			Vendor 10751 - FGL ENVIRONMENTAL INC. Total:		**2622.00**
Vendor: 10772 - FIRST BANKCARD					
FIRST BANKCARD	0803.0421	05/13/2021	F&R/WASTE DISPOSAL SANTA ROSA CRK TRAIL	01-6033B-02	53.07
FIRST BANKCARD	0812.0421	05/13/2021	ADM/ZOOM VIDEO SVC	01-61150-09	389.90
FIRST BANKCARD	0812.0421	05/13/2021	ADM/HOTEL RESV CSDA LDRSHP TRNG 6/25-29 JWEIGOLD	01-6120E-09	205.91

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FIRST BANKCARD	2728.0421	05/13/2021	WW/VALVE REBUILD KIT FOR AIR COMPRESSOR	12-6032T-12	219.64
FIRST BANKCARD	7382.0421	05/13/2021	FD/FULCRUM MONTHLY SUBSCRIPTION	01-60540-01	28.00
FIRST BANKCARD	7382.0421	05/13/2021	FD/FUEL	01-60960-01	107.97
FIRST BANKCARD	7382.0421	05/13/2021	FD/HOTEL FOR 2 OFFICER TRNG INSTRUCTORS 4/23	01-6120E-01	320.34
FIRST BANKCARD	7382.0421	05/13/2021	FD/WETSUIT	01-6220S-01	193.00
			Vendor 10772 - FIRST BANKCARD Total:		**1517.83**
Vendor: 10794 - FLUME, INC.					
FLUME, INC.	1165	05/18/2021	WD/FLUME SMART WATER MONITOR SYSTEMS	11-66110-10	7893.60
			Vendor 10794 - FLUME, INC. Total:		**7893.60**
Vendor: 10847 - GERBER'S AUTO SERVICE					
GERBER'S AUTO SERVICE	138247	05/12/2021	F&R/TIRE REPAIR ON	01-6041N-02	40.00
GERBER'S AUTO SERVICE	138482	05/24/2021	F&R/TRACTOR TIRE REPAIR	01-6041N-02	40.00
			Vendor 10847 - GERBER'S AUTO SERVICE Total:		**80.00**
Vendor: 10850 - GIBSON, JOHNATHAN					
GIBSON, JOHNATHAN	INV0000147	05/02/2021	FD/MONTHLY CELL PHONE REIMB	01-6060C-01	45.00
			Vendor 10850 - GIBSON, JOHNATHAN Total:		**45.00**
Vendor: 10883 - GRAINGER					
GRAINGER	9865122189	05/05/2021	WW/DEPT OPERATING SUPPLIES	12-6032T-12	38.83
GRAINGER	9872014601	05/05/2021	WW/DEPT OPERATING SUPPLIES	12-6032T-12	215.17
			Vendor 10883 - GRAINGER Total:		**254.00**
Vendor: 10896 - GREEN, JAMES R					
GREEN, JAMES R	INV0000148	05/02/2021	WD/SWF/MONTHLY CELL PHONE & INTERNET REIMB	11-6060C-11	80.00
GREEN, JAMES R	INV0000148	05/02/2021	WD/SWF/MONTHLY CELL PHONE & INTERNET REIMB	39-6060C-25	20.00
			Vendor 10896 - GREEN, JAMES R Total:		**100.00**
Vendor: 10905 - GRISWOLD INDUSTRIES					
GRISWOLD INDUSTRIES	819182	05/12/2021	WD/REPAIRS TO PRESSURING RELEASING VALVES	11-60360-11	4957.63
			Vendor 10905 - GRISWOLD INDUSTRIES Total:		**4957.63**
Vendor: 10947 - HARRINGTON INDUSTRIAL PLASTICS LLC					
HARRINGTON INDUSTRIAL PLA	013B7981	05/04/2021	SWF/DEPT OPERATING SUPPLIES	39-60900-25	112.12
HARRINGTON INDUSTRIAL PLA	013B8001	05/05/2021	WD/DEPT OPERATING SUPPLIES	11-60900-11	104.15
HARRINGTON INDUSTRIAL PLA	013B8058	05/05/2021	SWF/DEPT OPERATING SUPPLIES	39-60900-25	149.19
			Vendor 10947 - HARRINGTON INDUSTRIAL PLASTICS LLC Total:		**365.46**
Vendor: 10962 - HARVEY'S HONEYHUTS					
HARVEY'S HONEYHUTS	35871	05/05/2021	WD/F&R/TOILET,HNDWSH STN RODEO GRDS RD 3/11-	01-6033Z-02	82.57
HARVEY'S HONEYHUTS	35871	05/05/2021	WD/F&R/TOILET,HNDWSH STN RODEO GRDS RD 3/11-	11-6033Z-11	82.58
HARVEY'S HONEYHUTS	36230	05/24/2021	WD/F&R/TOILET, HNDWSH STN RODEO GRDS RD 4/9-	01-6033Z-02	82.57
HARVEY'S HONEYHUTS	36230	05/24/2021	WD/F&R/TOILET, HNDWSH STN RODEO GRDS RD 4/9-	11-6033Z-11	82.58
			Vendor 10962 - HARVEY'S HONEYHUTS Total:		**330.30**
Vendor: 10970 - HAYWARD LUMBER					

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HAYWARD LUMBER	10909562-00	05/25/2021	F&R/LUMBER	01-6033R-02	698.39
HAYWARD LUMBER	10909568-00	05/25/2021	F&R/TIEDOWNS	01-60900-02	21.54
			Vendor 10970 - HAYWARD LUMBER Total:		**719.93**
Vendor: 11003 - HOLLINGSWORTH, WILLIAM					
HOLLINGSWORTH, WILLIAM	INV0000146	05/02/2021	FD/MONTHLY INTERNET	01-6060C-01	55.00
			Vendor 11003 - HOLLINGSWORTH, WILLIAM Total:		**55.00**
Vendor: 11005 - HOME DEPOT CREDIT SERVICE					
HOME DEPOT CREDIT SERVICE	1024757	05/12/2021	FD/WALL BOARD	01-60900-01	86.93
HOME DEPOT CREDIT SERVICE	1045013	05/12/2021	F&R/GAITERS, SIGNS	01-60900-02	22.01
HOME DEPOT CREDIT SERVICE	5020389	05/12/2021	FD/TILE SUPPLIES	01-60900-01	9.58
HOME DEPOT CREDIT SERVICE	5511611	05/12/2021	WD/SWF/DEPT SUPPLIES	11-60480-11	13.74
HOME DEPOT CREDIT SERVICE	5511611	05/12/2021	WD/SWF/DEPT SUPPLIES	11-60900-11	36.46
HOME DEPOT CREDIT SERVICE	5511611	05/12/2021	WD/SWF/DEPT SUPPLIES	39-60900-25	152.86
HOME DEPOT CREDIT SERVICE	3030393	05/12/2021	F&R/GREASE GUN, BATTERY CHARGER, MISC SUPPLIES	01-60900-02	252.41
HOME DEPOT CREDIT SERVICE	0021181	05/12/2021	WW/MISC TOOLS AND SUPPLIES	12-60930-12	527.93
HOME DEPOT CREDIT SERVICE	0514294	05/12/2021	WW/BACKPACK BLOWER	12-60930-12	258.79
			Vendor 11005 - HOME DEPOT CREDIT SERVICE Total:		**1360.71**
Vendor: 11067 - IPRINT TECHNOLOGIES					
IPRINT TECHNOLOGIES	780905	05/12/2021	ADM/PRINTER TONER	01-60450-09	537.33
			Vendor 11067 - IPRINT TECHNOLOGIES Total:		**537.33**
Vendor: 11072 - J B DEWAR INC.					
J B DEWAR INC.	158655	05/13/2021	FD/182.20 GALS GAS; 245.00 GALS DIESEL	01-60960-01	1687.60
J B DEWAR INC.	158656	05/13/2021	F&R/240.00 GALS GAS; 80.00 GALS DIESEL	01-60960-02	1258.68
			Vendor 11072 - J B DEWAR INC. Total:		**2946.28**
Vendor: 11098 - JESUS G. NUNEZ					
JESUS G. NUNEZ	00328	05/05/2021	F&R/HAULING	01-6033Z-02	1040.00
			Vendor 11098 - JESUS G. NUNEZ Total:		**1040.00**
Vendor: 11238 - LIBERTY COMPOSTING, INC.					
LIBERTY COMPOSTING, INC.	30509	05/18/2021	WW/TIPPING FEES BIOSOLIDS APR 2021	12-6032S-12	5621.41
			Vendor 11238 - LIBERTY COMPOSTING, INC. Total:		**5621.41**
Vendor: 11241 - LIEBERT CASSIDY WHITMORE					
LIEBERT CASSIDY WHITMORE	1517195	05/24/2021	ADM/CLIENT/MATTER CA131-00001 THROUGH 3/31/21	01-6080L-09	570.00
LIEBERT CASSIDY WHITMORE	1519118	05/24/2021	ADM/CLIENT/MATTER CA131-00001 THROUGH 4/30/21	01-6080L-09	456.00
			Vendor 11241 - LIEBERT CASSIDY WHITMORE Total:		**1026.00**
Vendor: 11242 - LIFE-ASSIST, INC.					
LIFE-ASSIST, INC.	1092005	05/05/2021	FD/EMERGENCY MEDICAL SUPPLIES - PPE GRANT	01-6089A-01	498.07
LIFE-ASSIST, INC.	1093138	05/05/2021	FD/EMERGENCY MEDICAL SUPPLIES - PPE GRANT	01-6089A-01	664.09
LIFE-ASSIST, INC.	1093622	05/17/2021	FD/EMERGENCY MEDICAL SUPPLIES - PPE GRANT	01-6089A-01	108.32
LIFE-ASSIST, INC.	1094936	05/17/2021	FD/RETURN - EMERGENCY MEDICAL SUPPLIES - PPE GRANT	01-6089A-01	-108.32
LIFE-ASSIST, INC.	1096758	05/17/2021	FD/EMERGENCY MEDICAL SUPPLIES	01-60890-01	452.11
			Vendor 11242 - LIFE-ASSIST, INC. Total:		**1614.27**
Vendor: 11272 - LUNA, JEFFREY R					
LUNA, JEFFREY R	05/11/21	05/24/2021	FD/REIMB REGIST ADVANCED	01-6120E-01	165.00

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			ROPE RESCUE TRNG 5/24-28		
			Vendor 11272 - LUNA, JEFFREY R Total:		**165.00**
Vendor: 11296 - MALONEY, RYAN S					
MALONEY, RYAN S	INV0000145	05/02/2021	FD/MONTHLY CELL PHONE REIMB	01-6060C-01	45.00
			Vendor 11296 - MALONEY, RYAN S Total:		**45.00**
Vendor: 12472 - MCCLATCHY COMPANY LLC					
MCCLATCHY COMPANY LLC	19275	05/17/2021	WD/WW/LEGAL NOTICE AD - CAMBRIAN	11-6011I-11	67.50
MCCLATCHY COMPANY LLC	19275	05/17/2021	WD/WW/LEGAL NOTICE AD - CAMBRIAN	12-6011I-12	67.50
			Vendor 12472 - MCCLATCHY COMPANY LLC Total:		**135.00**
Vendor: 11340 - MCCRAIN, DAN					
MCCRAIN, DAN	05/04/21	05/04/2021	FD/TRVL ADV INCIDENT MGMT TRNG 5/26, 5/27/21	01-6120E-01	30.00
MCCRAIN, DAN	INV0000144	05/02/2021	FD/MONTHLY CELL PHONE REIMB	01-6060C-01	45.00
			Vendor 11340 - MCCRAIN, DAN Total:		**75.00**
Vendor: 11345 - MCKARNEY, NANCY					
MCKARNEY, NANCY	4529	05/18/2021	FD/BUSINESS CARDS CASTELLANOS, TORLANO	01-60500-01	111.54
			Vendor 11345 - MCKARNEY, NANCY Total:		**111.54**
Vendor: 11350 - MCMASTER-CARR SUPPLY CO					
MCMASTER-CARR SUPPLY CO	56419826	05/05/2021	WD/FLOW REDUCER	11-60900-11	183.83
			Vendor 11350 - MCMASTER-CARR SUPPLY CO Total:		**183.83**
Vendor: 11372 - MENDOZA, CARLOS					
MENDOZA, CARLOS	INV0000143	05/02/2021	F&R/MONTHLY CELL PHONE & INTERNET REIMB	01-6060C-02	100.00
			Vendor 11372 - MENDOZA, CARLOS Total:		**100.00**
Vendor: 11405 - MINER'S ACE HARDWARE					
MINER'S ACE HARDWARE	704875	05/25/2021	F&R/PADLOCKS	01-6033V-02	48.90
			Vendor 11405 - MINER'S ACE HARDWARE Total:		**48.90**
Vendor: 11407 - MISSION LINEN SUPPLY					
MISSION LINEN SUPPLY	514545322	05/05/2021	WD/TOWELS	11-6033B-11	8.40
MISSION LINEN SUPPLY	514588268	05/05/2021	WD/TOWELS	11-6033B-11	8.40
MISSION LINEN SUPPLY	514631293	05/05/2021	WD/TOWELS	11-6033B-11	8.40
MISSION LINEN SUPPLY	514675259	05/05/2021	WD/TOWELS	11-6033B-11	8.40
			Vendor 11407 - MISSION LINEN SUPPLY Total:		**33.60**
Vendor: 11450 - MUNICIPAL CODE CORP					
MUNICIPAL CODE CORP	357099	05/18/2021	ADM/ANNUAL ONLINE CODE HOSTING 5/1/21 - 4/30/22	01-6011I-09	900.00
			Vendor 11450 - MUNICIPAL CODE CORP Total:		**900.00**
Vendor: 11453 - MUNICIPAL MAINTENANCE EQUIPMENT, INC.					
MUNICIPAL MAINTENANCE EQ	0159507-IN	05/25/2021	WW/TUBING	12-6041V-12	1461.51
MUNICIPAL MAINTENANCE EQ	0159524-IN	05/25/2021	WW/SWIVEL HOSE	12-6041V-12	137.66
			Vendor 11453 - MUNICIPAL MAINTENANCE EQUIPMENT, INC. Total:		**1599.17**
Vendor: 11474 - NAVIA BENEFIT SOLUTIONS, INC.					
NAVIA BENEFIT SOLUTIONS, IN	55921	05/25/2021	ADM/CAFETERIA PLAN ADMINISTRATION MAY 2021	01-60860-09	343.00
			Vendor 11474 - NAVIA BENEFIT SOLUTIONS, INC. Total:		**343.00**
Vendor: 11519 - OFFICE DEPOT, INC.					
OFFICE DEPOT, INC.	164768195001	05/05/2021	WW/COPY PAPER, PENS	12-60500-12	59.44
OFFICE DEPOT, INC.	168300172001	05/05/2021	ADM/COPY PAPER	01-60500-09	343.09
			Vendor 11519 - OFFICE DEPOT, INC. Total:		**402.53**
Vendor: 11520 - OFFICE1					

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OFFICE1	AR677934	05/17/2021	ADM/COPIER CONTRACT BASE & OVERAGE CHARGES	01-60440-09	406.85
OFFICE1	AR677935	05/17/2021	FD/COPIER CONTRACT BASE & OVERAGE CHARGES	01-60440-01	53.70
				Vendor 11520 - OFFICE1 Total:	**460.55**
Vendor: 11543 - PACIFIC GAS & ELECTRIC					
PACIFIC GAS & ELECTRIC	4084.0421	05/11/2021	SWF/ELEC SVC SAN SIMEON CRK RD	39-6060E-25	86.83
PACIFIC GAS & ELECTRIC	6551.0421	05/11/2021	WD/ELEC SVC VAN GORDON CRK RD	11-6060E-11	9.86
PACIFIC GAS & ELECTRIC	7832.0421	05/11/2021	WD/ELEC SVC VARIOUS	11-6060E-11	8598.22
PACIFIC GAS & ELECTRIC	6426.0421	05/11/2021	SWF/ELEC SVC SAN SIMEON CRK RD UNIT 1	39-6060E-25	595.57
PACIFIC GAS & ELECTRIC	9466.0421	05/11/2021	SWF/ELEC SVC SAN SIMEON CRK RD UNIT 2	39-6060E-25	48.72
PACIFIC GAS & ELECTRIC	8058.0421	05/11/2021	WD/ELEC SVC 2820 SANTA ROSA CRK RD	11-6060E-11	1617.90
PACIFIC GAS & ELECTRIC	1258.0421	05/11/2021	WW/ELEC SVC VARIOUS LIFT STATIONS	12-6060E-12	16860.02
PACIFIC GAS & ELECTRIC	7427.0421	05/11/2021	ALL/ELEC SVC GENERAL METERS	01-6060E-01	908.70
PACIFIC GAS & ELECTRIC	7427.0421	05/11/2021	ALL/ELEC SVC GENERAL METERS	01-6060E-02	22.39
PACIFIC GAS & ELECTRIC	7427.0421	05/11/2021	ALL/ELEC SVC GENERAL METERS	01-6060E-02	26.10
PACIFIC GAS & ELECTRIC	7427.0421	05/11/2021	ALL/ELEC SVC GENERAL METERS	01-6060E-02	355.42
PACIFIC GAS & ELECTRIC	7427.0421	05/11/2021	ALL/ELEC SVC GENERAL METERS	01-6060E-02	1144.24
PACIFIC GAS & ELECTRIC	7427.0421	05/11/2021	ALL/ELEC SVC GENERAL METERS	01-6060E-09	190.28
PACIFIC GAS & ELECTRIC	7427.0421	05/11/2021	ALL/ELEC SVC GENERAL METERS	01-6060E-09	406.69
				Vendor 11543 - PACIFIC GAS & ELECTRIC Total:	**30870.94**
Vendor: 11566 - PASO ROBLES FORD					
PASO ROBLES FORD	277151	05/12/2021	SWF/TAIL LAMP ASSEMBLY FOR TRUCK	39-6041L-25	262.08
PASO ROBLES FORD	521179	05/12/2021	WD/OIL CHANGE & SERVICE 2017 FORD F-250 SUPER	11-6041L-11	138.28
PASO ROBLES FORD	521916	05/25/2021	WD/OIL CHANGE & 60K MAINTENANCE	11-6041L-11	127.31
				Vendor 11566 - PASO ROBLES FORD Total:	**527.67**
Vendor: 11591 - PERRY FORD LINCOLN					
PERRY FORD LINCOLN	6136540/1	05/05/2021	WW/OIL CHANGE, SERVICE 2020 FORD F-150	12-6041L-12	97.93
				Vendor 11591 - PERRY FORD LINCOLN Total:	**97.93**
Vendor: 11663 - PROCARE JANITORIAL SUPPLY					
PROCARE JANITORIAL SUPPLY	142010	05/25/2021	F&R/TISSUE, SEAT COVERS, SOAP, TOWELS	01-60900-02	921.32
				Vendor 11663 - PROCARE JANITORIAL SUPPLY Total:	**921.32**
Vendor: 11712 - READY REFRESH BY NESTLE					
READY REFRESH BY NESTLE	01D0900020066	05/12/2021	WW/DRINKING WATER	12-60500-12	206.16
				Vendor 11712 - READY REFRESH BY NESTLE Total:	**206.16**
Vendor: 11731 - RETIREE00					
RETIREE00	INV0000177	05/15/2021	WD/MONTHLY HEALTH INSURANCE REIMB	11-51210-11	451.95
				Vendor 11731 - RETIREE00 Total:	**451.95**
Vendor: 11732 - RETIREE01					
RETIREE01	INV0000176	05/15/2021	WW/MONTHLY HEALTH	12-51210-12	451.95

Vendor Name	Payable Number	Post Date	Description (Item)	Account Number	Amount
			INSURANCE REIMB		
				Vendor 11732 - RETIREE01 Total:	**451.95**
Vendor: 11733 - RETIREE02					
RETIREE02	INV0000178	05/15/2021	F&R/MONTHLY HEALTH INSURANCE REIMB	01-51210-02	522.71
				Vendor 11733 - RETIREE02 Total:	**522.71**
Vendor: 11735 - RETIREE04					
RETIREE04	INV0000179	05/15/2021	ADM/MONTHLY HEALTH INSURANCE REIMB	01-51210-09	154.47
				Vendor 11735 - RETIREE04 Total:	**154.47**
Vendor: 11736 - RETIREE05					
RETIREE05	INV0000209	05/15/2021	WW/MONTHLY HEALTH INSURANCE REIMB	12-51210-12	181.06
				Vendor 11736 - RETIREE05 Total:	**181.06**
Vendor: 11737 - RETIREE06					
RETIREE06	INV0000180	05/15/2021	WD/MONTHLY HEALTH INSURANCE REIMB	11-51210-11	154.47
				Vendor 11737 - RETIREE06 Total:	**154.47**
Vendor: 11738 - RETIREE07					
RETIREE07	INV0000181	05/15/2021	WD/MONTHLY HEALTH INSURANCE REIMB	11-51210-11	154.47
				Vendor 11738 - RETIREE07 Total:	**154.47**
Vendor: 11739 - RETIREE08					
RETIREE08	INV0000182	05/15/2021	WD/MONTHLY HEALTH INSURANCE REIMB	11-51210-11	121.83
				Vendor 11739 - RETIREE08 Total:	**121.83**
Vendor: 11740 - RETIREE09					
RETIREE09	INV0000183	05/15/2021	ADM/MONTHLY HEALTH INSURANCE REIMB	01-51210-09	154.47
				Vendor 11740 - RETIREE09 Total:	**154.47**
Vendor: 11741 - RETIREE10					
RETIREE10	INV0000184	05/15/2021	ADM/MONTHLY HEALTH INSURANCE REIMB	01-51210-09	154.47
				Vendor 11741 - RETIREE10 Total:	**154.47**
Vendor: 11742 - RETIREE11					
RETIREE11	INV0000185	05/15/2021	ADM/MONTHLY HEALTH INSURANCE REIMB	01-51210-09	154.47
				Vendor 11742 - RETIREE11 Total:	**154.47**
Vendor: 11743 - RETIREE12					
RETIREE12	INV0000186	05/15/2021	WW/MONTHLY HEALTH INSURANCE REIMB	12-51210-12	1149.29
				Vendor 11743 - RETIREE12 Total:	**1149.29**
Vendor: 11744 - RETIREE13					
RETIREE13	INV0000187	05/15/2021	FD/MONTHLY HEALTH INSURANCE REIMB	01-51210-01	154.47
				Vendor 11744 - RETIREE13 Total:	**154.47**
Vendor: 11745 - RETIREE14					
RETIREE14	INV0000188	05/15/2021	F&R/MONTHLY HEALTH INSURANCE REIMB	01-51210-02	154.47
				Vendor 11745 - RETIREE14 Total:	**154.47**
Vendor: 11746 - RETIREE15					
RETIREE15	INV0000189	05/15/2021	FD/MONTHLY HEALTH INSURANCE REIMB	01-51210-01	181.06
				Vendor 11746 - RETIREE15 Total:	**181.06**
Vendor: 11747 - RETIREE16					

Vendor Name	Payable Number	Post Date	Description (Item)	Account Number	Amount
RETIREE16	INV0000190	05/15/2021	WD/MONTHLY HEALTH INSURANCE REIMB	11-51210-11	505.13
				Vendor 11747 - RETIREE16 Total:	**505.13**
Vendor: 11748 - RETIREE17					
RETIREE17	INV0000191	05/15/2021	ADM/MONTHLY HEALTH INSURANCE REIMB	01-51210-09	451.95
				Vendor 11748 - RETIREE17 Total:	**451.95**
Vendor: 11750 - RETIREE19					
RETIREE19	INV0000192	05/15/2021	FD/MONTHLY HEALTH INSURANCE REIMB	01-51210-01	451.95
				Vendor 11750 - RETIREE19 Total:	**451.95**
Vendor: 11751 - RETIREE20					
RETIREE20	INV0000193	05/15/2021	WW/MONTHLY HEALTH INSURANCE REIMB	12-51210-12	154.47
				Vendor 11751 - RETIREE20 Total:	**154.47**
Vendor: 11752 - RETIREE21					
RETIREE21	INV0000194	05/15/2021	WW/MONTHLY HEALTH INSURANCE REIMB	12-51210-12	181.06
				Vendor 11752 - RETIREE21 Total:	**181.06**
Vendor: 11753 - RETIREE22					
RETIREE22	INV0000195	05/15/2021	WW/MONTHLY HEALTH INSURANCE REIMB	12-51210-12	451.95
				Vendor 11753 - RETIREE22 Total:	**451.95**
Vendor: 11755 - RETIREE24					
RETIREE24	INV0000196	05/15/2021	F&R/MONTHLY HEALTH INSURANCE REIMB	01-51210-02	181.06
				Vendor 11755 - RETIREE24 Total:	**181.06**
Vendor: 11757 - RETIREE26					
RETIREE26	INV0000197	05/15/2021	ADM/MONTHLY HEALTH INSURANCE REIMB	01-51210-09	839.63
				Vendor 11757 - RETIREE26 Total:	**839.63**
Vendor: 11758 - RETIREE27					
RETIREE27	INV0000198	05/15/2021	FD/MONTHLY HEALTH INSURANCE REIMB	01-51210-01	820.19
				Vendor 11758 - RETIREE27 Total:	**820.19**
Vendor: 11759 - RETIREE28					
RETIREE28	INV0000199	05/15/2021	F&R/MONTHLY HEALTH INSURANCE REIMB	01-51210-02	451.95
				Vendor 11759 - RETIREE28 Total:	**451.95**
Vendor: 11761 - RETIREE30					
RETIREE30	INV0000200	05/15/2021	WD/MONTHLY HEALTH INSURANCE REIMB	11-51210-11	503.14
				Vendor 11761 - RETIREE30 Total:	**503.14**
Vendor: 11762 - RETIREE31					
RETIREE31	INV0000201	05/15/2021	ADM/MONTHLY HEALTH INSURANCE REIMB	01-51210-09	154.47
				Vendor 11762 - RETIREE31 Total:	**154.47**
Vendor: 11763 - RETIREE32					
RETIREE32	INV0000202	05/15/2021	ADM/MONTHLY HEALTH INSURANCE REIMB	01-51210-09	820.19
				Vendor 11763 - RETIREE32 Total:	**820.19**
Vendor: 11764 - RETIREE33					
RETIREE33	INV0000203	05/15/2021	ADM/MONTHLY HEALTH INSURANCE REIMB	01-51210-09	522.71
				Vendor 11764 - RETIREE33 Total:	**522.71**

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Vendor: 11765 - RETIREE34					
RETIREE34	INV0000204	05/15/2021	FD/MONTHLY HEALTH INSURANCE REIMB	01-51210-01	121.83
				Vendor 11765 - RETIREE34 Total:	**121.83**
Vendor: 11767 - RETIREE36					
RETIREE36	INV0000205	05/15/2021	ADM/MONTHLY HEALTH INSURANCE REIMB	01-51210-09	667.76
				Vendor 11767 - RETIREE36 Total:	**667.76**
Vendor: 11768 - RETIREE37					
RETIREE37	INV0000206	05/15/2021	ADM/WD/WW/MONTHLY HEALTH INSURANCE REIMB	01-51210-09	55.31
RETIREE37	INV0000206	05/15/2021	ADM/WD/WW/MONTHLY HEALTH INSURANCE REIMB	11-51210-11	719.06
RETIREE37	INV0000206	05/15/2021	ADM/WD/WW/MONTHLY HEALTH INSURANCE REIMB	12-51210-12	331.88
				Vendor 11768 - RETIREE37 Total:	**1106.25**
Vendor: 11769 - RETIREE38					
RETIREE38	INV0000207	05/15/2021	WD/MONTHLY HEALTH INSURANCE REIMB	11-51210-11	1587.85
				Vendor 11769 - RETIREE38 Total:	**1587.85**
Vendor: 11770 - RETIREE39					
RETIREE39	INV0000208	05/15/2021	ADM/MONTHLY HEALTH INSURANCE REIMB	01-51210-09	522.71
				Vendor 11770 - RETIREE39 Total:	**522.71**
Vendor: 11837 - RUTAN & TUCKER, LLP					
RUTAN & TUCKER, LLP	895318	05/24/2021	SWF/PROFRESSIONAL SERVICES MARCH 2021	40-1829I-30	22.50
RUTAN & TUCKER, LLP	895337	05/24/2021	ADM/PROFESSIONAL SERVICES MARCH 2021	01-6080L-09	6192.00
				Vendor 11837 - RUTAN & TUCKER, LLP Total:	**6214.50**
Vendor: 11863 - SAN LUIS POWERHOUSE					
SAN LUIS POWERHOUSE	44440	05/17/2021	FD/REPAIR GENERATOR	01-60400-01	1099.08
SAN LUIS POWERHOUSE	44839	05/24/2021	WD/REPAIR & MAINT SR3 GENERATOR	11-6031G-11	888.84
				Vendor 11863 - SAN LUIS POWERHOUSE Total:	**1987.92**
Vendor: 11864 - SAN LUIS SECURITY SYSTEMS					
SAN LUIS SECURITY SYSTEMS	15523	05/17/2021	ADM/QUARTERLY SECURITY MONITORING JUNE-AUG	01-60480-09	126.00
				Vendor 11864 - SAN LUIS SECURITY SYSTEMS Total:	**126.00**
Vendor: 11970 - SLO COUNTY EMS					
SLO COUNTY EMS	565	05/17/2021	FD/EMT RECERTIFICATION JLUNA	01-6120A-01	62.00
				Vendor 11970 - SLO COUNTY EMS Total:	**62.00**
Vendor: 12003 - SOLENIS LLC					
SOLENIS LLC	131803485	05/25/2021	WW/PRAESTOL K SLUDGE POLYMER	12-6032S-12	5059.41
				Vendor 12003 - SOLENIS LLC Total:	**5059.41**
Vendor: 12471 - STEPHEN SROTT					
STEPHEN SROTT	05/11/21	05/17/2021	WD/DISHWASHER REPAIR	11-6035L-11	150.00
					150.00
Vendor: 12084 - STEVENTON, ADAM					
STEVENTON, ADAM	05/07/21	05/12/2021	WD/TRVL REIMB AWWA TRNG 4/25 - 5/1/21	11-6120E-11	171.76
				Vendor 12084 - STEVENTON, ADAM Total:	**171.76**
Vendor: 12085 - STICKS & STONES TRUCKING					
STICKS & STONES TRUCKING	11622	05/12/2021	F&R/GREEN WASTE DISPOSAL	01-6033R-02	220.00

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			FISCALINI RANCH		
			Vendor 12085 - STICKS & STONES TRUCKING Total:		**220.00**
Vendor: 12130 - SYNCB/AMAZON					
SYNCB/AMAZON	04/10/21	05/04/2021	ALL DEPTS/OFFICE AND DEPT SUPPLIES	01-60500-09	17.42
SYNCB/AMAZON	04/10/21	05/04/2021	ALL DEPTS/OFFICE AND DEPT SUPPLIES	01-60900-01	396.26
SYNCB/AMAZON	04/10/21	05/04/2021	ALL DEPTS/OFFICE AND DEPT SUPPLIES	01-61150-09	54.70
SYNCB/AMAZON	04/10/21	05/04/2021	ALL DEPTS/OFFICE AND DEPT SUPPLIES	11-60500-11	112.32
SYNCB/AMAZON	04/10/21	05/04/2021	ALL DEPTS/OFFICE AND DEPT SUPPLIES	12-6032C-12	268.15
SYNCB/AMAZON	04/10/21	05/04/2021	ALL DEPTS/OFFICE AND DEPT SUPPLIES	12-6032T-12	149.66
SYNCB/AMAZON	04/10/21	05/04/2021	ALL DEPTS/OFFICE AND DEPT SUPPLIES	12-60500-12	112.32
SYNCB/AMAZON	05/10/21	05/25/2021	ALL DEPTS/OFFICE AND DEPT SUPPLIES	01-6011W-09	64.52
SYNCB/AMAZON	05/10/21	05/25/2021	ALL DEPTS/OFFICE AND DEPT SUPPLIES	01-60900-01	57.00
SYNCB/AMAZON	05/10/21	05/25/2021	ALL DEPTS/OFFICE AND DEPT SUPPLIES	01-60900-02	124.17
SYNCB/AMAZON	05/10/21	05/25/2021	ALL DEPTS/OFFICE AND DEPT SUPPLIES	11-60500-11	130.63
SYNCB/AMAZON	05/10/21	05/25/2021	ALL DEPTS/OFFICE AND DEPT SUPPLIES	12-6033B-12	260.28
SYNCB/AMAZON	05/10/21	05/25/2021	ALL DEPTS/OFFICE AND DEPT SUPPLIES	12-60500-12	160.52
			Vendor 12130 - SYNCB/AMAZON Total:		**1907.95**
Vendor: 12165 - THE BLUEPRINTER					
THE BLUEPRINTER	21-281	05/12/2021	ADM/WD/WW/WTR & LATE NTCS, WEED ABATE, ENVS	01-60530-01	313.03
THE BLUEPRINTER	21-281	05/12/2021	ADM/WD/WW/WTR & LATE NTCS, WEED ABATE, ENVS	01-60530-09	156.66
THE BLUEPRINTER	21-281	05/12/2021	ADM/WD/WW/WTR & LATE NTCS, WEED ABATE, ENVS	11-60530-11	229.66
THE BLUEPRINTER	21-281	05/12/2021	ADM/WD/WW/WTR & LATE NTCS, WEED ABATE, ENVS	12-60530-12	229.65
			Vendor 12165 - THE BLUEPRINTER Total:		**929.00**
Vendor: 12174 - THE GAS COMPANY					
THE GAS COMPANY	0108.0421	05/11/2021	ADM/GAS SVC TAMSON DR	01-6060G-09	14.77
THE GAS COMPANY	0008.0421	05/11/2021	F&R/GAS SVC VETS HALL	01-6060G-02	96.01
THE GAS COMPANY	1001.0421	05/11/2021	WW/GAS SVC 5500 HEATH LANE #B	12-6060G-12	42.78
THE GAS COMPANY	1001A.0421	05/11/2021	FD/GAS SVC 5490 HEATH	01-6060G-01	7.25
THE GAS COMPANY	1005.0421	05/11/2021	WW/GAS SVC 5500 HEATH LANE	12-6060G-12	122.51
THE GAS COMPANY	0134.0421	05/11/2021	FD/GAS SVC 2850 BURTON DR	01-6060G-01	360.76
			Vendor 12174 - THE GAS COMPANY Total:		**644.08**
Vendor: 10688 - TORLANO, EMILY A.					
TORLANO, EMILY A.	INV0000142	05/02/2021	FD/MONTHLY CELL PHONE REIMB	01-6060C-01	45.00
			Vendor 10688 - TORLANO, EMILY A. Total:		**45.00**
Vendor: 12238 - TYLER TECHNOLOGIES, INC					
TYLER TECHNOLOGIES, INC	025-328594	05/05/2021	ADM/UTIL BILLING GUIDED CLIENT DATA REVIEW	01-61700-09	250.00
TYLER TECHNOLOGIES, INC	025-329657	05/05/2021	ADM/UTIL BILLING DATA REVIEW GAPS ANALYSIS	01-61700-09	125.00
TYLER TECHNOLOGIES, INC	025-330425	05/05/2021	ADM/UTIL BILLING DATA	01-61700-09	250.00

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			REVIEW GAPS ANALYSIS		
TYLER TECHNOLOGIES, INC	025-331694	05/25/2021	ADM/UTIL BILLING DATA REVIEW GAPS ANALYSIS	01-61700-09	175.00
TYLER TECHNOLOGIES, INC	025-331827	05/25/2021	ADM/AP, GL, PERSNL MGMT CONVERSION	01-61700-09	2125.00
TYLER TECHNOLOGIES, INC	025-332115	05/25/2021	ADM/UTIL BILLING TESTING	01-61700-09	3300.00
TYLER TECHNOLOGIES, INC	025-332824	05/25/2021	ADM/PERSONNEL MGMT RESOLVE ISSUES	01-61700-09	350.00
			Vendor 12238 - TYLER TECHNOLOGIES, INC Total:		**6575.00**
Vendor: 12249 - UNITED RENTALS (NA) INC.					
UNITED RENTALS (NA) INC.	192903418-001	05/05/2021	WD/EQUIPMENT SERVICE	11-60930-11	142.02
			Vendor 12249 - UNITED RENTALS (NA) INC. Total:		**142.02**
Vendor: 12261 - US BANK EQUIPMENT FINANCE					
US BANK EQUIPMENT FINANCE	441621513	05/05/2021	ADM/FD/COPIER LEASE PAYMENT	01-60440-01	109.85
US BANK EQUIPMENT FINANCE	441621513	05/05/2021	ADM/FD/COPIER LEASE PAYMENT	01-60440-09	199.53
			Vendor 12261 - US BANK EQUIPMENT FINANCE Total:		**309.38**
Vendor: 12264 - US SAWS, INC.					
US SAWS, INC.	I115291	05/17/2021	WD/VALVE EXERCISER REPAIR	11-60930-11	105.01
			Vendor 12264 - US SAWS, INC. Total:		**105.01**
Vendor: 12473 - VALENTINE'S CONCRETE PRODUCTS, INC.					
VALENTINE'S CONCRETE PROD	14457	05/18/2021	WD/CONCRETE BLOCKS	11-6035R-11	107.25
			Vendor 12473 - VALENTINE'S CONCRETE PRODUCTS, INC. Total:		**107.25**
Vendor: 12286 - VERIZON WIRELESS					
VERIZON WIRELESS	9879239413	05/18/2021	ALL/MONTHLY ON-CALL CELL PHONES AND TABLETS	01-6060C-01	216.44
VERIZON WIRELESS	9879239413	05/18/2021	ALL/MONTHLY ON-CALL CELL PHONES AND TABLETS	01-6060C-02	48.16
VERIZON WIRELESS	9879239413	05/18/2021	ALL/MONTHLY ON-CALL CELL PHONES AND TABLETS	11-6060C-11	84.02
VERIZON WIRELESS	9879239413	05/18/2021	ALL/MONTHLY ON-CALL CELL PHONES AND TABLETS	12-6060C-12	74.16
			Vendor 12286 - VERIZON WIRELESS Total:		**422.78**
Vendor: 12293 - VITAL RECORDS CONTROL					
VITAL RECORDS CONTROL	2102547	05/24/2021	ADM/BOX STORAGE, PICK UP AND DELIVERY	01-6080M-09	733.11
			Vendor 12293 - VITAL RECORDS CONTROL Total:		**733.11**
Vendor: 12325 - WAYNE'S TIRE, INC.					
WAYNE'S TIRE, INC.	141021523	05/25/2021	WD/NEW TIRE FOR TRAILER	11-6041N-11	149.13
			Vendor 12325 - WAYNE'S TIRE, INC. Total:		**149.13**
Vendor: 11113 - WEIGOLD, IV JOHN F.					
WEIGOLD, IV JOHN F.	INV0000141	05/02/2021	ADM/MONTHLY CELL PHONE & INTERNET REIMB	01-6060C-09	100.00
			Vendor 11113 - WEIGOLD, IV JOHN F. Total:		**100.00**
Vendor: 12338 - WEST COAST TREE SERVICE					
WEST COAST TREE SERVICE	404	05/12/2021	F&R/TREE WORK FISCALINI RANCH	01-6033R-02	3500.00
			Vendor 12338 - WEST COAST TREE SERVICE Total:		**3500.00**
Vendor: 12343 - WESTERN EQUIPMENT FINANCE					
WESTERN EQUIPMENT FINANC	1157074	05/04/2021	F&R/TORO TX 1000 DINGO WIDE TRACK APR 2021	01-25200-02	308.32
WESTERN EQUIPMENT FINANC	1157074	05/04/2021	F&R/TORO TX 1000 DINGO WIDE TRACK APR 2021	01-6180H-02	31.53
			Vendor 12343 - WESTERN EQUIPMENT FINANCE Total:		**339.85**
Vendor: 12383 - WINE COUNTRY BALANCE					

Expense Approval Report

Cambria Community Services District , CA

By Vendor Name

Payment Dates 5/1/2021 - 5/31/2021

Vendor Name	Payable Number	Post Date	Description (Item)	Account Number	Amount
WINE COUNTRY BALANCE	7614	05/12/2021	WW/METTLER SCALE AE-200 CLEAN & CALIBRATE	12-60920-12	430.00
			Vendor 12383 - WINE COUNTRY BALANCE Total:		**430.00**
			Grand Total:		**182337.06**

Fund Summary

Fund		Payment Amount
01 - GENERAL FUND		78987.07
11 - WATER FUND		33330.17
12 - WASTEWATER FUND		43274.90
39 - SWF OPERATIONS		4403.67
40 - SWF CAPITAL		22341.25
	Grand Total:	**182337.06**

Vendor: 10103 - AMERITAS LIFE INSURANCE G					
AMERITAS LIFE INSURANCE G	MAY 2021 DENTAL PREM	05/31/2021	MAY DENTAL PREMIUMS	01-21500-00	4577.39
			Vendor 10103 - AMERITAS LIFE INSURANCE G Total:		**4577.39**
Vendor: 12453 - CALIFORNIA STATE DISBURSEMENT					
CALIFORNIA STATE DISBURSEM	INV0000156	05/14/2021	GARNISHMENT-CHILD SUPPORT	01-21630-00	185.04
			Vendor 12453 - CALIFORNIA STATE DISBURSEMENT Total:		**185.04**
Vendor: 10350 - CAMBRIA COMMUNITY SERVICE					
CAMBRIA COMMUNITY SERVIC	INV0000162	05/14/2021	MEDICAL REIMBURSEMENT	01-21710-00	1490.00
CAMBRIA COMMUNITY SERVIC	INV0000162	05/14/2021	MEDICAL REIMBURSEMENT	01-51220-01	200.00
CAMBRIA COMMUNITY SERVIC	INV0000162	05/14/2021	MEDICAL REIMBURSEMENT	01-51220-02	50.00
CAMBRIA COMMUNITY SERVIC	INV0000162	05/14/2021	MEDICAL REIMBURSEMENT	01-51220-09	300.00
CAMBRIA COMMUNITY SERVIC	INV0000162	05/14/2021	MEDICAL REIMBURSEMENT	11-51220-11	200.00
CAMBRIA COMMUNITY SERVIC	INV0000162	05/14/2021	MEDICAL REIMBURSEMENT	12-51220-12	200.00
CAMBRIA COMMUNITY SERVIC	INV0000219	05/28/2021	MEDICAL REIMBURSEMENT	01-21710-00	1540.00
CAMBRIA COMMUNITY SERVIC	INV0000219	05/28/2021	MEDICAL REIMBURSEMENT	01-51220-01	200.00
CAMBRIA COMMUNITY SERVIC	INV0000219	05/28/2021	MEDICAL REIMBURSEMENT	01-51220-02	50.00
CAMBRIA COMMUNITY SERVIC	INV0000219	05/28/2021	MEDICAL REIMBURSEMENT	01-51220-09	300.00
CAMBRIA COMMUNITY SERVIC	INV0000219	05/28/2021	MEDICAL REIMBURSEMENT	11-51220-11	200.00
CAMBRIA COMMUNITY SERVIC	INV0000219	05/28/2021	MEDICAL REIMBURSEMENT	12-51220-12	200.00
			Vendor 10350 - CAMBRIA COMMUNITY SERVICE Total:		**4930.00**
Vendor: 10355 - CAMBRIA FIREFIGHTERS ASSN					
CAMBRIA FIREFIGHTERS ASSN	INV0000211	05/28/2021	RESERVE FIREFIGHTER DUES	01-21600-00	91.20
			Vendor 10355 - CAMBRIA FIREFIGHTERS ASSN Total:		**91.20**
Vendor: 10690 - EMPLOYMENT DEVELOPMENT DE					
EMPLOYMENT DEVELOPMENT	L1584812048	05/31/2021	UNEMPLOYMENT JAN-MAR 2021	01-51120-09	673.50
			Vendor 10690 - EMPLOYMENT DEVELOPMENT DE Total:		**673.50**
Vendor: 10691 - EMPLOYMENT DEVELOPMENT DP					
EMPLOYMENT DEVELOPMENT	INV0000173	05/14/2021	STATE TAX WITHHOLDING	01-21100-00	3607.50
EMPLOYMENT DEVELOPMENT	INV0000174	05/14/2021	SDI	01-21300-00	1305.63
EMPLOYMENT DEVELOPMENT	INV0000230	05/28/2021	STATE TAX WITHHOLDING	01-21100-00	4396.69
EMPLOYMENT DEVELOPMENT	INV0000231	05/28/2021	SDI	01-21300-00	1477.46
			Vendor 10691 - EMPLOYMENT DEVELOPMENT DP Total:		**10787.28**
Vendor: 10354 - IAFF LOCAL 4635 CAMBRIA PROFESSIONAL FIREFIGHTER ASSOC.					
IAFF LOCAL 4635 CAMBRIA PR(	INV0000151	05/14/2021	DUES-FIRE IAFF	01-21600-00	240.00
IAFF LOCAL 4635 CAMBRIA PR(	INV0000210	05/28/2021	DUES-FIRE IAFF	01-21600-00	240.00
			Vendor 10354 - IAFF LOCAL 4635 CAMBRIA PROFESSIONAL FIREFIGHTER ASSOC. Total:		**480.00**
Vendor: 11032 - ICMA-VNTGPT TRSFR AGT 457					
ICMA-VNTGPT TRSFR AGT 457	INV0000157	05/14/2021	457 YEE CONTIRBUTION	01-21410-00	6870.00
ICMA-VNTGPT TRSFR AGT 457	INV0000158	05/14/2021	457 YEE CONTIRBUTION	01-21410-00	337.52
ICMA-VNTGPT TRSFR AGT 457	INV0000159	05/14/2021	457 YEE CONTIRBUTION	01-21410-00	75.00

Cambria Community Services District , CA

Expense Approval Report

By Vendor Name

Payment Dates 5/1/2021 - 5/31/2021

Vendor Name	Payable Number	Post Date	Description (Item)	Account Number	Amount
ICMA-VNTGPT TRSFR AGT 457	INV0000160	05/14/2021	DC 457 MGMT MATCH	01-21410-00	900.00
ICMA-VNTGPT TRSFR AGT 457	INV0000161	05/14/2021	DD ICMA SEIU MATCH	01-21410-00	370.00
ICMA-VNTGPT TRSFR AGT 457	INV0000216	05/28/2021	457 YEE CONTIRBUTION	01-21410-00	6315.00
ICMA-VNTGPT TRSFR AGT 457	INV0000217	05/28/2021	457 YEE CONTIRBUTION	01-21410-00	638.54
ICMA-VNTGPT TRSFR AGT 457	INV0000218	05/28/2021	DC 457 MGMT MATCH	01-21410-00	900.00
			Vendor 11032 - ICMA-VNTGPT TRSFR AGT 457 Total:		**16406.06**
Vendor: 11069 - IRS/FEDERAL PAYROLL TAXES					
IRS/FEDERAL PAYROLL TAXES	INV0000171	05/14/2021	FEDERAL TAX WITHHOLDING	01-21000-00	9548.93
IRS/FEDERAL PAYROLL TAXES	INV0000172	05/14/2021	MEDICARE TAX	01-21200-00	3207.48
IRS/FEDERAL PAYROLL TAXES	INV0000175	05/14/2021	SOCIAL SECURITY TAX	01-21200-00	13714.76
IRS/FEDERAL PAYROLL TAXES	INV0000228	05/28/2021	FEDERAL TAX WITHHOLDING	01-21000-00	11525.36
IRS/FEDERAL PAYROLL TAXES	INV0000229	05/28/2021	MEDICARE TAX	01-21200-00	3637.32
IRS/FEDERAL PAYROLL TAXES	INV0000232	05/28/2021	SOCIAL SECURITY TAX	01-21200-00	15552.42
			Vendor 11069 - IRS/FEDERAL PAYROLL TAXES Total:		**57186.27**
Vendor: 11652 - PPBI-DIRECT DEPOSIT					
PPBI-DIRECT DEPOSIT	DFT0000078	05/14/2021	PAYROLL EFT	01-21520-00	70136.15
PPBI-DIRECT DEPOSIT	DFT0000107	05/28/2021	PAYROLL EFT	01-21520-00	80756.18
			Vendor 11652 - PPBI-DIRECT DEPOSIT Total:		**150892.33**
Vendor: 11593 - PERS HEALTH BENEFIT SERV					
PERS HEALTH BENEFIT SERV	MAY 2021	05/31/2021	MAY 2021 HEALTH PREMIUM	01-21510-00	6633.64
PERS HEALTH BENEFIT SERV	MAY 2021	05/31/2021	MAY 2021 HEALTH PREMIUM	01-21510-00	34059.70
PERS HEALTH BENEFIT SERV	MAY 2021	05/31/2021	MAY 2021 HEALTH PREMIUM	01-51030-09	101.01
PERS HEALTH BENEFIT SERV	MAY 2021	05/31/2021	MAY 2021 HEALTH PREMIUM	01-51030-09	-0.20
PERS HEALTH BENEFIT SERV	MAY 2021	05/31/2021	MAY 2021 HEALTH PREMIUM	01-51210-01	715.00
PERS HEALTH BENEFIT SERV	MAY 2021	05/31/2021	MAY 2021 HEALTH PREMIUM	01-51210-02	715.00
PERS HEALTH BENEFIT SERV	MAY 2021	05/31/2021	MAY 2021 HEALTH PREMIUM	01-51210-09	1573.00
PERS HEALTH BENEFIT SERV	MAY 2021	05/31/2021	MAY 2021 HEALTH PREMIUM	01-51210-09	55.49
PERS HEALTH BENEFIT SERV	MAY 2021	05/31/2021	MAY 2021 HEALTH PREMIUM	11-51030-11	1395.73
PERS HEALTH BENEFIT SERV	MAY 2021	05/31/2021	MAY 2021 HEALTH PREMIUM	11-51210-11	858.00
PERS HEALTH BENEFIT SERV	MAY 2021	05/31/2021	MAY 2021 HEALTH PREMIUM	12-51210-12	1001.00
			Vendor 11593 - PERS HEALTH BENEFIT SERV Total:		**47107.37**
Vendor: 11594 - PERS RETIREMENT SYSTEM					
PERS RETIREMENT SYSTEM	INV0000152	05/14/2021	PERS RETIREMENT	01-21410-00	2188.38
PERS RETIREMENT SYSTEM	INV0000153	05/14/2021	PERS RETIREMENT	01-21410-00	5843.06
PERS RETIREMENT SYSTEM	INV0000154	05/14/2021	PERS RETIREMENT	01-21410-00	46.96
PERS RETIREMENT SYSTEM	INV0000155	05/14/2021	PERS RETIREMENT	01-21410-00	47.12
PERS RETIREMENT SYSTEM	INV0000163	05/14/2021	PERS RETIREMENT	01-21410-00	1148.94
PERS RETIREMENT SYSTEM	INV0000164	05/14/2021	PERS RETIREMENT	01-21410-00	2255.85
PERS RETIREMENT SYSTEM	INV0000165	05/14/2021	PERS RETIREMENT	01-21410-00	1065.44
PERS RETIREMENT SYSTEM	INV0000166	05/14/2021	PERS RETIREMENT	01-21410-00	1359.95
PERS RETIREMENT SYSTEM	INV0000167	05/14/2021	PERS RETIREMENT	01-21410-00	3410.36
PERS RETIREMENT SYSTEM	INV0000168	05/14/2021	PERS RETIREMENT	01-21410-00	3906.52
PERS RETIREMENT SYSTEM	INV0000212	05/28/2021	PERS RETIREMENT	01-21410-00	2345.35
PERS RETIREMENT SYSTEM	INV0000213	05/28/2021	PERS RETIREMENT	01-21410-00	6270.39
PERS RETIREMENT SYSTEM	INV0000214	05/28/2021	PERS RETIREMENT	01-21410-00	860.69
PERS RETIREMENT SYSTEM	INV0000215	05/28/2021	PERS RETIREMENT	01-21410-00	863.60
PERS RETIREMENT SYSTEM	INV0000220	05/28/2021	PERS RETIREMENT	01-21410-00	1148.94
PERS RETIREMENT SYSTEM	INV0000221	05/28/2021	PERS RETIREMENT	01-21410-00	2255.85
PERS RETIREMENT SYSTEM	INV0000222	05/28/2021	PERS RETIREMENT	01-21410-00	1065.44
PERS RETIREMENT SYSTEM	INV0000223	05/28/2021	PERS RETIREMENT	01-21410-00	1359.95
PERS RETIREMENT SYSTEM	INV0000224	05/28/2021	PERS RETIREMENT	01-21410-00	3411.39
PERS RETIREMENT SYSTEM	INV0000225	05/28/2021	PERS RETIREMENT	01-21410-00	3907.69
PERS RETIREMENT SYSTEM	MAY 2021-MISC	05/31/2021	UNFUNDED ACCRUED-MISC	01-51090-02	3207.74
PERS RETIREMENT SYSTEM	MAY 2021-MISC	05/31/2021	UNFUNDED ACCRUED-MISC	01-51090-09	10049.03
PERS RETIREMENT SYSTEM	MAY 2021-MISC	05/31/2021	UNFUNDED ACCRUED-MISC	11-51090-11	6216.77
PERS RETIREMENT SYSTEM	MAY 2021-MISC	05/31/2021	UNFUNDED ACCRUED-MISC	12-51090-12	7409.03
PERS RETIREMENT SYSTEM	MAY 2021-MISC	05/31/2021	UNFUNDED ACCRUED-MISC	39-51090-25	1504.52

Expense Approval Report

By Vendor Name

Payment Dates 5/1/2021 - 5/31/2021

Vendor Name	Payable Number	Post Date	Description (Item)	Account Number	Amount
PERS RETIREMENT SYSTEM	MAY 2021-SAF	05/31/2021	UNFUNDED ACCRUED-SAFE	01-51090-01	9359.34
			Vendor 11594 - PERS RETIREMENT SYSTEM Total:		**82508.30**
Vendor: 11911 - SEIU LOCAL 620					
SEIU LOCAL 620	INV0000169	05/14/2021	SEIU UNION DUES	01-21600-00	179.62
SEIU LOCAL 620	INV0000170	05/14/2021	SEIU UNION DUES	01-21600-00	210.52
SEIU LOCAL 620	INV0000226	05/28/2021	SEIU UNION DUES	01-21600-00	179.62
SEIU LOCAL 620	INV0000227	05/28/2021	SEIU UNION DUES	01-21600-00	210.52
			Vendor 11911 - SEIU LOCAL 620 Total:		**780.28**
Vendor: 12175 - THE LINCOLN NATIONAL LIFE					
THE LINCOLN NATIONAL LIFE	MAY 2021 GROUP LIFE	05/31/2021	MAY 2021 GROUP LIFE	01-21640-00	140.59
THE LINCOLN NATIONAL LIFE	MAY 2021 GROUP LIFE	05/31/2021	MAY 2021 GROUP LIFE	11-21640-11	0.47
			Vendor 12175 - THE LINCOLN NATIONAL LIFE Total:		**141.06**
			Payroll - Grand Total:		**376746.08**

CAMBRIA COMMUNITY SERVICES DISTRICT

BOARD OF DIRECTORS REGULAR MEETING MINUTES
Thursday, May 13, 2021 2:00 PM

1. OPENING

A. Call to Order

President Steidel called the meeting to order at 2:00 p.m.

B. Pledge of Allegiance

President Steidel led the Pledge of Allegiance.

C. Establishment of Quorum

A quorum was established.

Directors present via Zoom: Cindy Steidel, Donn Howell, Harry Farmer, Karen Dean and Tom Gray.

Staff present via Zoom: General Manager John F. Weigold, IV, District Counsel Timothy Carmel, Finance Manager Pamela Duffield, Fire Chief William Hollingsworth, Facilities & Resources Supervisor Carlos Mendoza, Utilities Department Manager/District Engineer Ray Dienzo and Board Secretary Ossana Terterian

D. Report from Closed Session

District counsel reported that on April 28, 2021 the board held a special closed meeting session for a conference with legal counsel pursuant to Government Code Section 54956.9(d)(1) to discuss the status of Windeler v. CCSD. There was nothing formal to report.

E. President's Report

President Steidel provided an update about the status of the letter the Board sent on the polystyrene ban and indicated that it helped contribute to the action and that ban was upheld and implementation delayed. The President also discussed processes that might be going into effect for voting within the County in early May. The League of Women Voters will be having a webinar to explain the new processes.

F. Agenda Review: Additions/Deletions

President Steidel asked for any additions or deletions. There was none.

2. BOARD MEMBER COMMUNICATIONS

Director Dean had announcements from the NCAC meeting regarding candidacy positions and anyone interested in applying should contact the NCAC at Outreach@NCACSLO.org with a deadline of May 19th. Also, NCAC's special speaker will be Michelle Roast who is a liaison with the Monterey Bay National Marine Sanctuary. The link is on the website.

Director Farmer discussed drought conditions and wanted to bring awareness to the situation.

3. COMMISSION REPORT

A. PROS Chairman's Report

PROS Commission Chairman Steve Kniffen provided a report on the Skatepark, the restrooms and the dog park. They are also looking at updating the PROS bylaws.

Public Comment: There was none.

4. PUBLIC COMMENT

Public Comment: There was none.

5. HEARINGS AND APPEALS

A. Discussion and Consideration of Adoption of Resolution 13-2021 Confirming the Itemized Report of Water and Wastewater Standby or Availability Charges for Collection on the County Tax Roll

General Manager Weigold introduced the item and provided a summary.

President Steidel opened the public hearing.

Public Comment: There was none.

President Steidel closed the public hearing.

Director Gray moved to adopt Resolution 13-2021 as submitted confirming the itemized report of water and wastewater standby or availability charges for collection on the county tax roll.

Director Dean seconded the motion.

Motion Passed Unanimously Ayes – 5 (Steidel, Howell, Farmer, Dean, Gray) Nays– 0 Absent – 0

6. REGULAR BUSINESS

A. Discussion and Consideration to Direct the Policy Committee to Develop an Outdoor Lighting Policy

General Manager Weigold introduced the item and provided a brief summary.

Public Comment: There was none.

Vice President Howell moved to have the Board direct the Policy Committee to develop an Outdoor Lighting Policy.

Director Farmer seconded the motion.

Motion Failed Nays - 3 (Steidel, Dean, Gray) Ayes– 0 (Howell, Farmer) Absent – 0

B. Discussion and Consideration of Adoption of the Budget Policy Revisions Recommended by the Finance Committee

General Manager Weigold introduced the item and provided a brief summary.

Public Comment:
Frank W., Cambria

Director Dean moved to adopt the budget policy revisions recommended by the Finance Committee.

Director Gray seconded the motion.

Motion Passed Ayes – 4 (Steidel, Howell, Dean, Gray); Nays – 1 (Farmer); Absent – 0

C. Discussion and Consideration of Adoption of the Reserve Policy Revisions Recommended by the Finance Committee

General Manager Weigold introduced the item and provided a brief summary.

Public Comment: There was none.

Director Dean moved to adopt the reserve policy revisions recommended by the Finance Committee.

Director Gray seconded the motion.

Motion Passed Ayes – 4 (Steidel, Howell, Dean, Gray); Nays – 1 (Farmer); Absent – 0

A. BOARD MEMBER, COMMITTEE AND LIAISON REPORTS

A. Public Comment: The President will be asking for public comment before the reports.

Public Comment:
Crosby Swartz, Cambria

B. Finance Committee's Report

Director Gray had submitted a written report as part of the agenda.

C. Policy Committee's Report

Vice President Howell reported that for its next meeting, they are working on issues of correspondence, purchase of used equipment, and use of surveillance cameras on District property.

D. Resources and Infrastructure Committee's Report

Director Dean had submitted a written report as part of the agenda.

E. Other Liaison Reports and Ad Hoc Committee Reports

Director Farmer and Director Dean had submitted written reports as part of the agenda. President Steidel wanted clarification on a report from Director Gray. He stated that along with Director Farmer, they are getting input about Forest Management from stakeholders and experts.

Director Farmer reported that there hasn't been contact yet with Land Conservancy because of slow turnaround time. The two meetings will reflect how to approach Forest Management, local and broad based. No firm date yet.

Director Dean stated that she and Director Farmer, were assigned an ad hoc committee to address intent to serve letters, have a final meeting set and will present recommendations to the Board in the near future.

Director Gray stated that he has been working with Vice President Howell on an ad hoc committee defining a work plan for completing the update for the policy manual, trying to finalize a list of policies that need to be looked at/updated – hopefully next month they will have something for the Board.

7. FUTURE AGENDA ITEM(S)

President Steidel asked for any future agenda items. There were none.

8. PUBLIC COMMENT ON CLOSED SESSION ITEMS

Public Comment: There was none.

9. ADJOURN TO CLOSED SESSION

President Steidel adjourned to closed session at 3:17 p.m.

A. CONFERENCE WITH REAL PROPERTY NEGOTIATORS Pursuant to Government Code 54956.8
Property: 2284 Center Street (APN: 013-264-021)
Agency Negotiators: John F. Weigold, IV, General Manager
Negotiating Party: Cambria Historical Society
Under Negotiation: Price and Terms of Payment

For further detail on the CCSD meeting, please visit the district's website to review the meeting recording or visit SLO-Span's website: https://slo-span.org/static/meetings-CCSD.php. CCSD written comments can be reviewed on the district's meeting webpage.

CAMBRIA COMMUNITY SERVICES DISTRICT

BOARD OF DIRECTORS REGULAR MEETING MINUTES
Thursday, May 20, 2021 2:00 PM

1. OPENING

A. Call to Order

President Steidel called the meeting to order at 2:00 p.m.

B. Pledge of Allegiance

President Steidel led the Pledge of Allegiance.

C. Establishment of Quorum

A quorum was established.

Directors present via Zoom: Cindy Steidel, Donn Howell, Harry Farmer, Karen Dean and Tom Gray.

Staff present via Zoom: General Manager John F. Weigold, IV, District Counsel Timothy Carmel, Finance Manager Pamela Duffield, Fire Chief William Hollingsworth, Facilities & Resources Supervisor Carlos Mendoza, Utilities Department Manager/District Engineer Ray Dienzo and Board Secretary Ossana Terterian.

D. Report from Closed Session

District Counsel reported the Board discussed real property negotiations pursuant to Government Code 54956.8 from the 5/31/21 closed session. There was no reportable action.

E. President's Report

President Steidel had no report.

F. Agenda Review: Additions/Deletions

President Steidel asked for any additions or deletions. There were none.

2. BOARD MEMBER COMMUNICATIONS

There were none.

3. PUBLIC SAFETY

A. Sheriff's Department Report

Commander MacDonald was available and provided a summary of the Sheriff's Department Report.

B. CCSD Fire Chief's Report

Chief Hollingsworth provided a report on recent activities in Cambria.

4. PUBLIC COMMENT

Public Comment:
Tina Dickason, Cambria
Michael Lyons, Cambria
Christine Heinrichs, Cambria

5. CONSENT AGENDA

A. Consideration to Adopt the April 2021 Expenditure Report

B. Consideration to Adopt the April 8, 2021 and April 15, 2021 Regular Meeting Minutes and April 13, 2021 and April 28, 2021 Special Meeting Minutes

C. Consideration to Adopt Resolution 14-2021 Regarding the Continued Local State of Emergency Declaration

D. Consideration to Direct Staff to Issue a Request For Proposal (RFP) for Zone 2 to 7 Transmission Main Santa Rosa Creek Pedestrian Bridge Project

Director Gray motioned to approve the consent agenda.

Director Dean seconded the motion.

Motion Passed Unanimously Ayes – 5 (Steidel, Howell, Farmer, Dean, Gray) Nays– 0 Absent – 0

6. REGULAR BUSINESS

President Steidel requested that agenda item 6E be addressed after agenda item 6A because of the length of the presentation and discussion. She also asked input from the Directors regarding taking public comment after the presentation. All Directors concurred.

A. Discussion and Consideration to Introduce Ordinance 01-2021 Amending Article IV of Title 3, Section 3.04.030 of the Cambria Community Services District Municipal Code Changing Reference to the Sustainable Water Facility (SWF) to the Water Reclamation Facility (WRF)

General Manager Weigold introduced the item and provided a summary.

Public Comment:
Christine Heinrichs, Cambria
Tina Dickason, Cambria
Michael Lyons, Cambria

Vice President Howell moved to introduce Ordinance 01-2021 amending Article IV of Title 3, Section 3.04.030 of the Cambria Community Services District Municipal Code changing reference to the Sustainable Water Facility (SWF) to the Water Reclamation Facility (WRF) by title only and waive further reading.

Director Gray seconded the motion.

Motion Passed Ayes – 4 (Steidel, Howell, Dean, Gray); Nays– 1 (Farmer); Absent – 0

B. Discussion and Consideration Regarding the Parks, Recreation, and Open Space (PROS) Commission Project Recommendations for the Community Park Restroom Design

General Manager Weigold introduced the item and provided a summary. He then turned it over to Facilities and Resources Supervisor Mendoza. Mr. Bahringer and Mr. Johansson were on hand to answer any questions.

Public Comment: None.

Director Gray moved to accept option #3 - reduced potable water option.

Director Dean seconded the motion.

Motion Passed Unanimously Ayes – 5 (Steidel, Howell, Farmer, Dean, Gray) Nays– 0 Absent – 0

C. Discussion and Consideration of Third Quarter Budget Report for FY 2020/21 and Adoption of Resolution 15-2021 Amending the Fiscal Year 2020/21 Budget

General Manager Weigold introduced the item and provided a summary. He then turned it over to Finance Manager Duffield for further explanation.

Public Comment: None.

Director Dean moved to adopt Resolution 15-2021 Amending the Fiscal Year 2020/21 Budget.

Director Gray seconded the motion.

Motion Passed Unanimously Ayes – 5 (Steidel, Howell, Farmer, Dean, Gray) Nays– 0 Absent – 0

D. Discussion and Consideration of Strategic Plan Status Report and Update

Director Gray motioned to move items 6D, 7A, 7B, 7C, and 7D to the June 10, 2021 regular meeting.

Director Farmer seconded the motion.

Motion Passed Unanimously Ayes – 5 (Steidel, Howell, Farmer, Dean, Gray) Nays– 0 Absent – 0

E. Discuss and Consider Urban Water Management Plan (UWMP) Demand Components and Proposed Water Shortage Stages of the 2020 Water Shortage Contingency Plan (WSCP)

General Manager Weigold introduced the item and provided a summary. He then turned it over to District Engineer Dienzo to present the plan. Program Manager Bland also presented a slide discussing the 2020 UWMP model.

President Steidel suggested a break from 4:23pm to 4:30pm.

Public Comment:

Public comment was taken after the presentation to allow for the public to hear the presentation first.

Crosby Swartz, Cambria (submitted 2 written comments for the record)
Elizabeth Bettenhausen, Cambria
Christine Heinrichs, Cambria
Tina Dickason, Cambria
Laura Swartz, Cambria
Michael Lyons, Cambria

Director Farmer motioned at 4:51pm to extend the meeting to 6:00pm. All were in favor.

Vice President Howell moved to consider recommendations made by the Board during the discussions and for staff to go forward to include a tiered approach for surcharges in considering the Urban Water Management Plan (UWMP) demand components and proposed water shortage stages of the 2020 Water Shortage Contingency Plan (WSCP).

Director Gray seconded the motion.

Motion Passed Ayes – 4 (Steidel, Howell, Dean, Gray); Nays 1 - (Farmer); Absent 0

7. MANAGER REPORTS

Items 7A, 7B, 7C, and 7D were moved to the June 10, 2021 regular meeting.

A. Public Comment: The President will be asking for public comment before the reports.

This item wasn't discussed and was moved to the June 10, 2021 regular meeting.

B. General Manager's Report

This item wasn't discussed and was moved to the June 10, 2021 regular meeting.

C. Finance Manager's Report

This item wasn't discussed and was moved to the June 10, 2021 regular meeting.

D. Utilities Report

This item wasn't discussed and was moved to the June 10, 2021 regular meeting.

8. FUTURE AGENDA ITEM(S)

President Steidel asked for any future agenda items. There were none.

9. ADJOURN

President Steidel adjourned the meeting at 6:00 p.m.

For further detail on the CCSD meeting, please visit the District's website to review the meeting recording or visit SLO-Span's website: https://slo-span.org/static/meetings-CCSD.php. CCSD written comments can be reviewed on the District's meeting webpage.

CAMBRIA COMMUNITY SERVICES DISTRICT

TO: Board of Directors AGENDA NO. **5.C.**

FROM: John F. Weigold, IV, General Manager

Meeting Date: June 17, 2021 Subject: Consideration of Adoption of Resolution 20-2021 Regarding the Continued Local State of Emergency Declaration

RECOMMENDATIONS:
It is recommended that the Board of Directors consider adoption of Resolution 20-2021 declaring a continued local state of emergency in the Cambria Community Services District due to the coronavirus pandemic.

FISCAL IMPACT:
The District continues to work with customers challenged with paying for their water and wastewater utility services, due to the impact of the COVID-19. Listed below is a recap of the billing cycle, the number & dollar amount of late customers, as of May 4, 2021 and the number & dollar amount of customers on a payment plan, as of June 7, 2021:

Billing Cycle	Late #	$	Pmt Pln	$
Jan-Feb 2020	1	70.81	0	-
Mar-Apr 2020	3	606.10	0	-
May-June 2020	3	630.20	0	-
Jul-Aug 2020	16	5,037.43	0	-
Sep-Oct 2020	16	3,757.36	0	-
Nov-Dec 2020	24	7,703.68	1	196.98
Jan-Feb 2021	92	34,129.19	4	2,769.03
Mar-Apr 2021	0	-	4	2,037.66
	155	51,934.77	9	5,003.67

Due to the conversion of the Tyler Incode system, the updated late customers report, by billing cycle was not available. The customers on a payment plan, along with the amount due have been updated.

The overall fiscal impacts and any potential FEMA grant reimbursement associated with the COVID-19 are unknown at this time.

DISCUSSION:
As the Board is aware, the State and County of San Luis Obispo have adopted a number of executive orders declaring a public health emergency and imposing restrictions on the general population to help control the spread of the COVID-19 virus. The Board of Directors adopted Resolution 52-2020 on November 19, 2020, which requires the Board to determine whether a local state of emergency continues to exist once a month. As the COVID-19 virus continues to ravage the State and country, it is recommended that the Board adopt Resolution 20-2021 declaring a continued local state of emergency.

Attachment: Resolution 20-2021

RESOLUTION 20-2021
June 17, 2021

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE CAMBRIA COMMUNITY SERVICES DISTRICT DECLARING A CONTINUED LOCAL STATE OF EMERGENCY DUE TO THE CORONAVIRUS (COVID 19) PANDEMIC

WHEREAS, on March 23, 2020 The Board of Directors ("Board") adopted Resolution 09-2020 declaring a state of emergency to exist in the Cambria Community Services District as a result of the coronavirus pandemic; and

WHEREAS, on November 20, 2020, the Board adopted Resolution 52-2020, which requires the Board to determine whether a local state of emergency continues to exist within the District once per month.

NOW, THEREFORE, IT IS HEREBY RESOLVED by the Board of Directors of the Cambria Community Services District that a local state of emergency continues to exist in the Cambria Community Services District as a result of the coronavirus pandemic.

PASSED AND ADOPTED THIS 17th day of June 2021.

Cindy Steidel, President
Board of Directors

ATTEST:

Ossana Terterian
Board Secretary

APPROVED AS TO FORM:

Timothy J. Carmel
District Counsel

CAMBRIA COMMUNITY SERVICES DISTRICT

TO: Board of Directors AGENDA NO. **6.A.**

FROM: John F. Weigold IV, General Manager
Ray Dienzo, Utilities Department Manager/District Engineer

Meeting Date: June 17, 2021 Subject: Public Hearing to Discuss and Consider the Adoption of Resolution 23-2021 Adopting the 2020 Urban Water Management Plan (UWMP) Demand Components and Resolution 24-2021 Adopting the 2020 Water Shortage Contingency Plan (WSCP)

RECOMMENDATIONS:
Staff recommends that the Board of Directors discuss and consider the adoption of Resolution 23-2021 adopting the 2020 Urban Water Management Plan (UWMP) and Resolution 24-2021 adopting the 2020 Water Shortage Contingency Plan (WSCP).

FISCAL IMPACT:
The FY 2020-21 adopted Water Fund budget includes an amount of $92,192 (Water Ops $71,729 and SWF $20,463) for the UWMP activity. There is no financial impact associated with this action.

DISCUSSION:
Staff updated the Urban Water Management Plan (UWMP). This updated 2020 UWMP incorporates changes since 2015 UWMP that California Department of Water Resources (DWR) has compiled in their 2020 UWMP guidebook. The Public Draft of the 2020 UWMP was released on May 28, 2021. The 2020 WSCP is included as Chapter 8 of the 2020 UWMP, but it will be adopted as a stand-alone Plan.

At the June 10, 2021 Board meeting staff presented the major elements of the respective draft 2020 UWMP and 2020 WSCP for Board discussion and consideration:

Staff incorporated Board feedback in the Final Draft of the 2020 UMWP and WSCP.

Once adopted, staff will submit these Plans to the California Department of Water Resources by July 1, 2021.

To fulfill the requirements of Water Code Section 10642 of the UWMP Act, CCSD will make the Final 2020 UWMP available online (www.cambriacsd.org) and at CCSD’s public office, between the hours of 9:00 am and 4:00 pm, for public review by July 17, 2021, within 30 days of adoption.

Attachments:
1. Resolution 23-2021 to Adopt the 2020 Urban Water Management Plan
2. Resolution 24-2021 to Adopt the 2020 Water Shortage Contingency Plan

RESOLUTION NO. 23-2021

June 17, 2021

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE CAMBRIA COMMUNITY SERVICES DISTRICT ADOPTING THE 2020 URBAN WATER MANAGEMENT PLAN

WHEREAS, the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-1984 Regular Session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, prepare an Urban Water Management Plan, the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, the District is an urban water supplier providing water to a population over 6,000; and

WHEREAS, the Urban Water Management Plan ("Plan") shall be periodically reviewed at least once every five years, and the District shall make any amendments or changes to its Plan which are necessitated by the review; and

WHEREAS, the District prepared and circulated for public review a draft 2020 Urban Water Management Plan, and a properly noticed public hearing regarding said Plan was held by the District on June 17, 2021.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Cambria Community Services District as follows:

1. The 2020 Urban Water Management Plan is hereby adopted and ordered filed with the Board Secretary; The General Manager is hereby authorized and directed to file the 2020 Urban Water Management Plan with the California Department of Water Resources within 30 days after this date.

2. The General Manager is hereby authorized and directed to implement the Water Conservation Programs as set forth in the 2020 Urban Water Management Plan, which include recommendations to the District regarding necessary procedures, rules, and regulations to carry out effective and equitable water conservation and water recycling programs.

PASSED AND ADOPTED THIS 17th day of June, 2021, by the following vote:

Ayes:
Nays:
Absent:
Abstain:

____
Cindy Steidel, President
Board of Directors

ATTEST:

____
Ossana Terterian
Board Secretary

APPROVED AS TO FORM:

____
Timothy J. Carmel
District Counsel

RESOLUTION NO. 24-2021
June 17, 2021

RESOLUTION OF THE CAMBRIA COMMUNITY SERVICES DISTRICT (DISTRICT) BOARD OF DIRECTORS (BOARD), CALIFORNIA ADOPTING THE 2020 WATER SHORTAGE CONTINGENCY PLAN (WSCP) AND AUTHORIZING ITS SUBMITTAL TO THE DEPARTMENT OF WATER RESOURCES

WHEREAS, The California Urban Water Management Planning Act, (Wat. Code §10610, et seq. (UWMPA)), mandates that every urban supplier of water providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000-acre feet of water annually, prepare and adopt, in accordance with prescribed requirements, a Water Shortage Contingency Plan (WSCP) as part of its Urban Water Management Plan (UWMP); and

WHEREAS, the UWMPA specifies the requirements and procedures for adopting such WSCPs; and

WHEREAS, pursuant to recent amendments to the UWMPA, urban water suppliers are required to adopt and electronically submit their WSCPs to the California Department of Water Resources by July 1, 2021; and

WHEREAS, pursuant to the UWMPA, “urban water supplier” means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor of water, regardless of the basis of right, which distributes or sells for ultimate resale to customers; and

WHEREAS, the District meets the definition of an urban water supplier for purposes of the UWMPA and is required to prepare and adopt and WSCP as part of its 2020 UWMP; and

WHEREAS, the District has prepared a WSCP in accordance with the UWMPA, and in accordance with applicable legal requirements, has undertaken certain coordination, notice, public involvement, public comment, and other procedures in relation to its WSCP; and

WHEREAS, in accordance with the UWMPA, the District has prepared its WSCP with its own staff, with the assistance of consulting professionals, and in cooperation with other governmental agencies, and has utilized and relied upon industry standards and the expertise of industry professionals in preparing its WSCP, and has also utilized Department of Water Resources’ 2020 Urban Water Management Plan Guidebook, including its related appendices, in preparing its WSCP; and

WHEREAS, in accordance with applicable law, including but not limited to Water Code §10642, a public hearing was held on June 17, 2021 at 2:00 p.m., or soon thereafter; in order to provide members of the public and other interested entities with the opportunity to be heard in connection with proposed adoption of the WSCP and issues related thereto.

Due to the COVID-19 State of Emergency and pursuant to the Governor's Executive Order N-29-20, the meeting will be held via Web Conference and Live Stream video and it is anticipated that there will be no physical location from which members of the public may participate. The Public can listen or watch the Live Stream video on the District's website at: https://www.cambriacsd.org; and

WHEREAS, pursuant to said public hearing on the District's WSCP, the District, among other things, encouraged the active involvement of members of the community from diverse social, cultural, and economic backgrounds within the District's service area with regard to the WSCP, and encouraged community input regarding the District's WSCP; and

WHEREAS, the District Board has reviewed and considered the purposes and requirements of the UWMPA, the contents of the WSCP, and the documentation contained in the administrative record in support of the WSCP, and has determined that the factual analyses and conclusions set forth in the WSCP are legally sufficient; and

WHEREAS, the District Board desires to adopt the WSCP and to incorporate it as part of its 2020 UWMP prior to July 1, 2021 in order to comply with the UWMPA.

WHEREAS, §10652 of the California Water Code provides that the California Environmental Quality Act (CEQA Division 13 (commencing with §21000 of the Public Resources Code) does not apply to the preparation and adoption of a WSCP as part of UWMP, pursuant to California Water Code §10632.

NOW THEREFORE BE IT RESOLVED, by District Board as follows:

1. The Water Shortage Contingency Plan (WSCP) is hereby adopted as amended by changes incorporated by the Board as a result of input received (if any) at the public hearing and ordered filed with the Board Secretary and shall be incorporated into the District's 2020 UWMP;

2. The General Manager is hereby authorized and directed to include a copy of this Resolution in the District's WSCP and/or in the District's 2020 UWMP;

3. The General Manager is hereby authorized and directed, in accordance with Water Code §10621(d) and §10644(a)(1)-(2), to electronically submit a copy of the WSCP, as part of its 2020 UWMP, to the Department of Water Resources no later than July 1, 2021;

4. The General Manager is hereby authorized and directed, in accordance with Water Code §10644(a), to submit a copy of the WSCP, as part of its 2020 UWMP, to the California State Library, and to any city or county within which the District provides water supplies no later than thirty (30) days after this adoption date;

5. The General Manager is hereby authorized and directed, in accordance with Water Code §10645, to make the WSCP available for public review at the

District's offices during normal business hours and on its website at https://www.cambriacsd.org no later than thirty (30) days after filing a copy of the WSCP, as part of its 2020 UWMP, with the Department of Water Resources;

6. The General Manager is hereby authorized and directed to implement the WSCP in accordance with the UWMPA and to provide recommendations to the Board regarding the necessary budgets, procedures, rules, regulations, or further actions to carry out the effective and equitable implementation of the WSCP.

7. The Board finds and determines that this Resolution is not subject to CEQA pursuant to Water Code §10652 because CEQA does not apply to the preparation and adoption of a WSCP or to the implementation of the actions taken pursuant to such plans. Because this Resolution comprises the Board's adoption of its WSCP and involves its implementation, no CEQA review is required.

8. Pursuant to CEQA, the Board directs staff to file a Notice of Exemption with the San Luis Obispo County Clerk's Office within five (5) working days of adoption of this Resolution.

9. The document and materials that constitute the record of proceedings on which this Resolution and the above findings have been based are located at the District's Office located at 1316 Tamsen Street, Suite 201, Cambria, CA 93428. The custodian for these records is the Board Secretary.

PASSED AND ADOPTED THIS 17th day of June, 2021, by the following vote:

Ayes:
Nays:
Absent:
Abstain:

Cindy Steidel, President
Board of Directors

ATTEST:

APPROVED AS TO FORM:

Ossana Terterian
Board Secretary

Timothy J. Carmel
District Counsel

2020 Urban Water Management Plan

Draft

MAY 2021

CAMBRIA COMMUNITY SERVICES DISTRICT

CAMBRIA COMMUNITY SERVICES DISTRICT

2020 Urban Water Management Plan

MAY 2021

ENGINEER STAMP

Prepared by Water Systems Consulting, Inc.

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ACRONYMS & ABBREVIATIONS

°C	Degrees Celsius
°F	Degrees Fahrenheit
AB	Assembly Bill
AF	Acre Foot
AFY	Acre Feet per Year
AHHG	Area of Historic High Groundwater
AMR	Automatic Meter Reader
APA	Administrative Procedures Act
AWWA	American Water Works Association
BMP	Best Management Practice
CALWARN	California Water/Wastewater Agency Response Network
CAT	Climate Action Team
CCF	Hundred Cubic Feet
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFS	Cubic Feet per Second
CII	Commercial, Industrial, and Institutional
CIMIS	California Irrigation Management Irrigation System
CUWCC	California Urban Water Conservation Council
DCR	DWR SWP Delivery Capacity Report
DDW	SWRCB Division of Drinking Water
DFW	California Department of Fish and Wildlife
DIP	Ductile Iron Pipe
DMM	Demand Management Measure
DWR	California Department of Water Resources
EIR	Environmental Impact Report
EPA	United States Environmental Protection Agency
ERNIE	Emergency Response Network of the Inland Empire
ESA	Endangered Species Act
ET	Evapotranspiration
ETo	Reference Evapotranspiration

GAC	Granulated Activated Carbon
GIS	Geographic Information System
GPCD	Gallons per Capita per Day
GPM	Gallons per Minute
LAFCO	Local Agency Formation Commission
MAF	Million Acre-Feet
MCL	Maximum Contaminant Level
MF	Multi-family
MG	Million Gallons
MGD	Million Gallons per Day
MOU	Memorandum of Understanding
MSL	Mean Sea Level
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
QWEZ	Qualified Water Efficient Landscaper
RIX	Rapid Infiltration and Extraction
RPA	Reasonable and Prudent Alternative
RUWMP	Regional Urban Water Management Plan
RWQCB	Regional Water Quality Control Board
SBX7-7	Senate Bill 7 of Special Extended Session 7
SF	Single Family
SOC	Synthetic Organic Chemicals
SOI	Sphere of Influence
SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solids
TCE	Trichloroethylene
UV	Ultraviolet
UWMP	Urban Water Management Plan
UWMP Act	Urban Water Management Planning Act
VOC	Volatile Organic Compound
WBIC	Weather Based Irrigation Controller
WSCP	Water Shortage Contingency Plan
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

ES

URBAN WATER MANAGEMENT PLAN

Executive Summary

This section summarizes the 2020 Urban Water Management Plan (UWMP) for the Cambria Community Services District (CCSD). It describes the 2020 UWMP in a manner that is accessible to non-technical readers. This summary describes the fundamental purposes of the UWMP, including water service reliability, future challenges, and strategies for managing risks to water reliability.

CCSD provides water service, wastewater collection and treatment, fire protection, garbage collection, and a limited amount of street lighting and recreation to the unincorporated town of Cambria within San Luis Obispo County. A map of CCSD's service area is shown in **Figure ES-1**.

The Urban Water Management Planning Act (UWMP Act) requires an urban water supplier, providing water for municipal purposes to more than 3,000 customers or serving more than 3,000 acre-feet per year (AFY) to adopt an UWMP every five years, demonstrating water supply reliability under normal as well as drought conditions. This UWMP was prepared in compliance with California Water Code (CWC) requirements for UWMPs following guidance from California Department of Water Resources (DWR) and is intended to guide long-term water resources planning for CCSD.

IN THIS SECTION

- Outreach and Engagement
- Water Demand Projections
- Water Sources and Uses
- Water Supply Reliability

Purpose and Organization of the Plan

This UWMP provides DWR with a detailed summary of present and future water resources and demands within CCSD's service area and assesses CCSD's water resource needs. Specifically, the UWMP provides water supply planning for a 25-year planning period in five-year increments and identifies water supplies needed to meet existing and future demands. The demand analysis identifies supply reliability under three hydrologic or rainfall conditions: an average (or normal) year, a single-dry year, and multiple dry years (drought conditions). This 2020 UWMP serves as an update to the 2015 UWMP and complies with new requirements and regulations.

New to the 2020 UWMP, water suppliers are required to prepare a standalone Water Shortage Contingency Plan (WSCP) that can be updated independently of the UWMP. The WSCP documents a supplier's plans to manage and mitigate an actual water shortage condition, should one occur because of drought or other impacts on water supplies. An overview of the WSCP is described in the body of this UWMP, and the WSCP is included as **Chapter 8**. The WSCP is being proposed for adoption in conjunction with the 2020 UWMP to meet CWC requirements.

Outreach and Engagement

CCSD has coordinated with nearby water suppliers and regional public agencies during the preparation of its UWMP. Recognizing that coordinating among other relevant public agencies is a key requirement for its UWMP, CCSD notified these agencies of plans to develop and update this planning document. CCSD also provided a public review period for the Draft UWMP and held a public hearing to solicit input from stakeholders and the public.

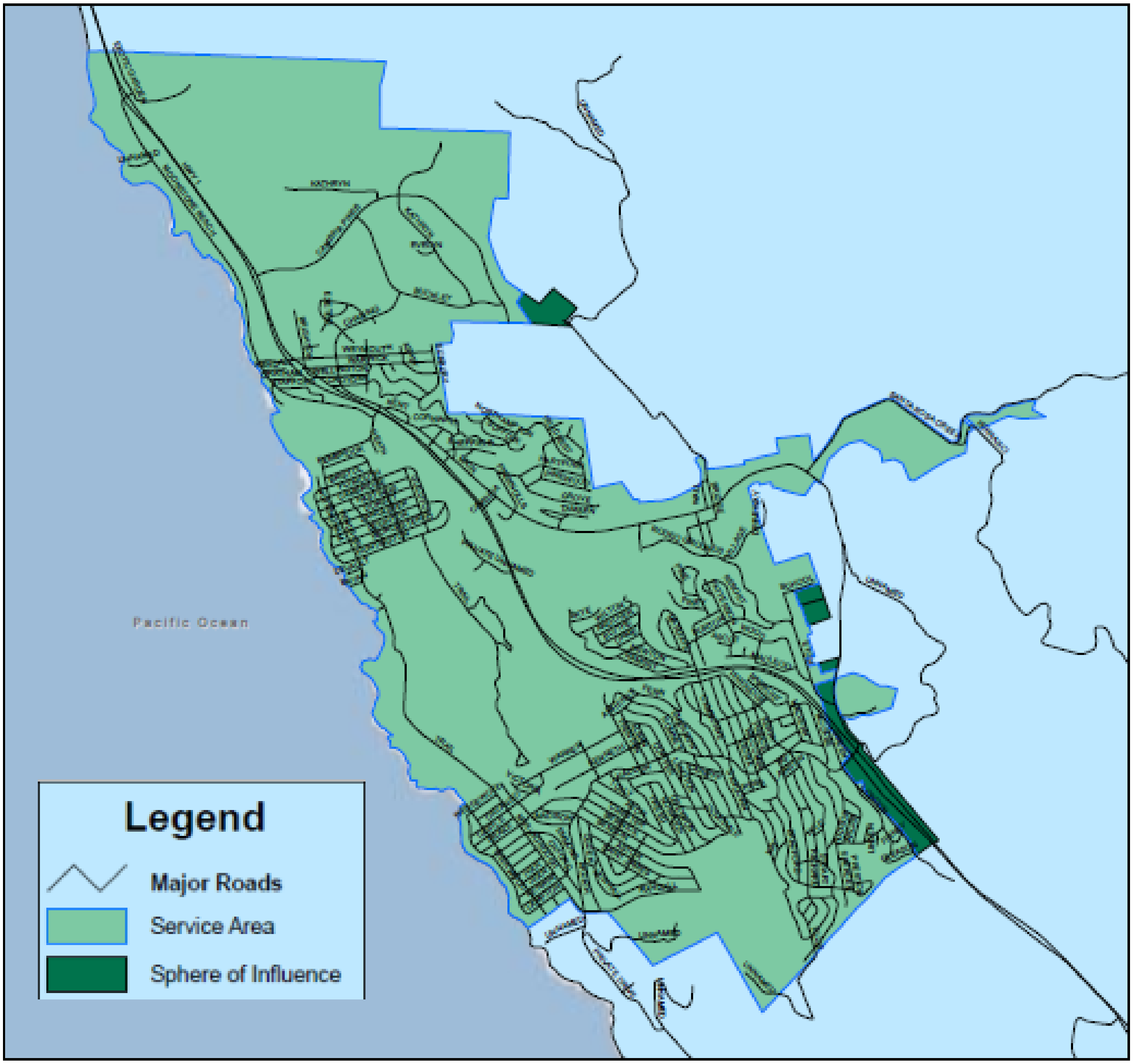


Figure ES-1. CCSD Service Area

Cambria is known for its outstanding natural environment, which includes native forests of Monterey Pine, creek-side areas, and a scenic coastline. The beauty of the area combined with a mild climate tempered by sea breezes has led to Cambria's popularity and attraction to retirees and tourists. Rainfall averages approximately 12 inches per year and is generally limited to the winter months.

Water Demands and Uses

CCSD serves potable drinking water to its customers. Potable drinking water demand includes all municipal uses (residential and commercial). Over the last five years, CCSD used an average of 536 acre-feet per year (AFY) of potable water. CCSD residential demand accounts for about 66% of the total demand in 2020 and a summary of 2020 demands are shown in **Table ES-1**.

Table ES-1. 2020 Water Demands, AFY

USE TYPE	VOLUME
Single Family	340
Multi-Family	18
Commercial	114
Losses	61
Other	8
Total:	**539**

The Water Conservation Bill of 2009 (SBX7-7) requires individual retail water suppliers to set water conservation targets for 2020 to support an overall State goal of reducing urban potable per capita water use by 20% by 2020. CCSD's investments in water conservation have helped its customers achieve its 2020 SBX7-7 water use reduction target. CCSD's 2020 per capita water use target is 105 gallons per capita per day (GPCD) while the actual consumption in 2020 was 79.8 GPCD. CCSD is continuously implementing demand management measures to continue meeting its SBX7-7 water use target and position for future State-mandated water use efficiency standards that are currently under development by DWR.

The timing of future growth in CCSD service area is subject to the permitting and approval of future projects by other agencies, economic conditions, and other factors that may not be under the direct control of the CCSD. Therefore, any projections on population growth should be viewed with caution. Due to the building moratorium in Cambria, there has been no population growth between 2010 and 2020. For the purposes of future water planning in this UWMP, it is assumed that new service connections will not be allowed until 2026. From 2026 – 2043, a population growth rate of approximately 1% per year for single family only is projected, until a goal of 4,650 residential units is reached, as show in **Table ES-2.** Current and projected demands, based on projected water use by customer category and assumptions regarding passive savings, are shown in **Table ES-3**.

Table ES-2 Current and Projected Population

POPULATION SERVED	2020	2025	2030	2035	2040	2045
Cambria CSD	6,032	6,000	6,300	6,500	6,800	6,900
TOTAL	**6,032**	**6,000**	**6,300**	**6,500**	**6,800**	**6,900**

Table ES-3. Projected Demands for Water, AFY

USE TYPE	PROJECTED WATER USE 2025	2030	2035	2040	2045
Single Family	350	350	360	370	370
Multi-Family	20	20	20	20	20
Commercial	140	150	150	160	160
Losses	60	60	70	70	70
Other Potable	10	10	10	10	10
TOTAL:	**580**	**590**	**610**	**630**	**630**

Beginning in year 2030, approximately 50 AF per year of no-net-increase in diversion from aquifer recycled water use is anticipated by converting existing CCSD customers from potable, groundwater-source-based use to non-potable outdoor irrigation using recycled water as feasible. From 2035 on an additional 50 AF of outdoor irrigation with recycled water is estimated for future project demands. Landscape irrigation feasibility is based on an earlier 2004 Recycled Water Master Plan and will be driven by available funding and potential downstream habitat concerns. Current and projected potable and recycled water demands are shown in **Table ES-4.**

Table ES-4. Total Gross Water Use

	2020	2025	2030	2035	2040	2045
Potable and Raw Water From Table 4-1R and 4-2R	539	580	590	610	630	630
Recycled Water Demand[1] From Table 6-4R	-	-	50	100	100	100
TOTAL WATER USE:	**539**	**580**	**640**	**710**	**730**	**730**

[1] Recycled Water Demand does not include demand associated with the Seawater Intrusion Barrier since the demand for this use is met using treated Wastewater Effluent.

Water Supplies

The CCSD's water supply portfolio consists of groundwater from two coastal aquifers, the San Simeon and Santa Rosa aquifers. Municipal production from the San Simeon and Santa Rosa aquifers is limited by the constraints contained with the CCSD's Water Rights License (Permit No. 17287 and 20387) and Waste Discharge Requirements and Water Recycling Requirements (WDR) (Permit No. R3-2019-0051). **Table ES-5** shows the historical and current water use by aquifer.

Table ES-5. Historical and Current by Source, AFY.

GROUNDWATER TYPE	LOCATION OR BASIN NAME	2016	2017	2018	2019	2020
Alluvial Basin	San Simeon Creek Basin	247	360	298	409	397
Alluvial Basin	Santa Rosa Creek Basin	247	217	238	121	142
	TOTAL:	**494**	**578**	**536**	**530**	**540**

Table ES-6 lists the projected volume of water supplies for the CCSD service area for potable and non-potable supplies. The projected amount of reasonably available volume of potable supply shown in **Table ES-6** is based on analysis of different year types and historic production amounts. Additional detail regarding this analysis is available in **Section 7.1.2.**

Table ES-6. Projected Water Supplies, AFY

		PROJECTED WATER SUPPLY									
		2025		2030		2035		2040		2045	
WATER SUPPLY	ADDITIONAL DETAIL ON WATER SUPPLY	REASONABLY AVAILABLE VOLUME	TOTAL RIGHT OR SAFE YIELD	REASONABLY AVAILABLE VOLUME	TOTAL RIGHT OR SAFE YIELD	REASONABLY AVAILABLE VOLUME	TOTAL RIGHT OR SAFE YIELD	REASONABLY AVAILABLE VOLUME	TOTAL RIGHT OR SAFE YIELD	REASONABLY AVAILABLE VOLUME	TOTAL RIGHT OR SAFE YIELD
Groundwater (not desalinated)	San Simeon Creek Basin and Santa Rosa Creek Basin	725[1]	1,017	725	1,017	725	1,017	725	1,017	725	1,017
Recycled Water	Water Reclamation Facility	21		21		21		21		21	
Recycled Water	Landscape Irrigation (excludes golf courses)			50		100		100		100	
	TOTAL:	**746**	**1,017**	**796**	**1,017**	**846**	**1,017**	**846**	**1,017**	**846**	**1,017**

[1] Based on historic production in an average year type (i.e., 2018). See Section 7.1.2.2 for additional information.

Water Supply Reliability

Every urban water supplier in California is required to assess the reliability of its water service under a normal year, a single-dry year, and multiple dry years hydrologic conditions, and specifically to assess the drought risk over the next five years. Water service reliability depends on variability of supplies and availability of infrastructure to meet projected demand. Evaluating the water service reliability is critical for water management as it can help identify potential shortfalls before they occur. Water managers can then take proactive steps to mitigate shortages by encouraging water use efficiency, securing new water supplies, and/or investing in infrastructure.

For this 2020 UWMP, the supply reliability assessment considered factors that could limit the expected quantity of current and projected water sources through 2045. Multiple drought scenarios were considered, the quantitative impacts of the aforementioned factors on water supply and demand were evaluated, and possible methods for addressing these issues were identified.

CCSD's water service reliability assessment results indicates that water shortages can be avoided over the next 25 years under normal, single-dry, and five consecutive dry years conditions through supplemental supplies provided by the WRF. Permitting of the WRF is crucial to ensure CCSD's water supplies are reliable during drought conditions. The long-term five consecutive dry year supply and demand comparison is shown in **Table ES-7**.

Table ES-7. Multiple Dry Year Supply and Demand Comparison

		2025	2030	2035	2040	2045
First	Supply Totals	725[1]	725	725	725	725
Year	Demand Totals	580	590	610	630	630
-	**DIFFERENCE:**	**145**	**135**	**115**	**95**	**95**
Second	Supply Totals	733	733	733	733	733
Year	Demand Totals	580	590	610	630	630
-	**DIFFERENCE:**	**153**	**143**	**123**	**103**	**103**
Third	Supply Totals	717[2]	717	717	717	717
Year	Demand Totals	580	590	610	630	630
-	**DIFFERENCE:**	**137**	**127**	**107**	**87**	**87**
Fourth	Supply Totals	717	717	717	717	717
Year	Demand Totals	580	590	610	630	630
-	**DIFFERENCE:**	**137**	**127**	**107**	**87**	**87**
Fifth	Supply Totals	744	744	744	744	744
Year	Demand Totals	580	590	610	630	630
-	**DIFFERENCE:**	**164**	**154**	**134**	**114**	**114**

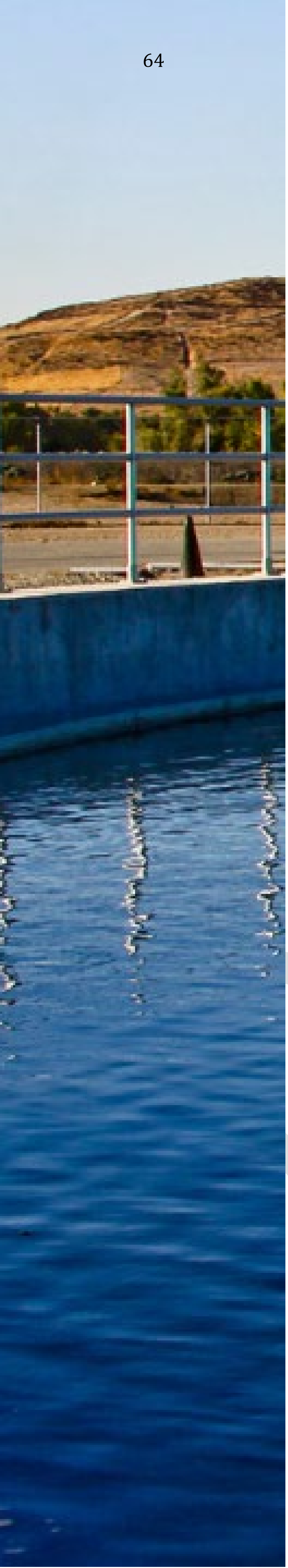
[1] Supply availability for each year of the Multiple Dry Year Scenario is based on actual production for the Base Years, as defined in Section 7.1.2.

[2] In the third, fourth and fifth year of the Multiple Dry Year Scenario, 250 AF of additional supply is assumed to be available from the WRF. This additional supply is necessary to meet the projected demands without conservation. Additional information on the WRF and its ability to augment groundwater supplies is available in Section 6.2.2.

For the drought risk assessment that assesses surpluses or shortfalls over a five-year drought extending from today through 2025, WSCP Use Reductions or water conservation measures are required to reduce demand because it is assumed that a regular Coastal Development Permit WRF will not obtained till 2025. The short-term five consecutive dry year supply and demand comparison is shown in **Table ES-8**.

Table ES-8. DWR 7-5 Five-Year Drought Risk Assessment Tables to Address Water Code Section 10635(b)

2021	Gross Water Use	580
	Total Supplies	725
	Surplus/Shortfall without WSCP Action	145
	PLANNED WSCP ACTIONS (USE REDUCTION AND SUPPLY AUGMENTATION)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	0
	Revised Surplus/Shortfall	145
	Resulting Percent Use Reduction from WSCP Action	0%
2022	Gross Water Use	580
	Total Supplies	733
	Surplus/Shortfall without WSCP Action	153
	PLANNED WSCP ACTIONS (USE REDUCTION AND SUPPLY AUGMENTATION)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	0
	Revised Surplus/Shortfall	153
	Resulting Percent Use Reduction from WSCP Action	0%
2023	Gross Water Use	580
	Total Supplies	467
	Surplus/Shortfall without WSCP Action	-113
	PLANNED WSCP ACTIONS (USE REDUCTION AND SUPPLY AUGMENTATION)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	116
	Revised Surplus/Shortfall	3
	Resulting Percent Use Reduction from WSCP Action	20%
2024	Gross Water Use	580
	Total Supplies	467
	Surplus/Shortfall without WSCP Action	-113
	PLANNED WSCP ACTIONS (USE REDUCTION AND SUPPLY AUGMENTATION)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	116
	Revised Surplus/Shortfall	3
	Resulting Percent Use Reduction from WSCP Action	20%
2025	Gross Water Use	580
	Total Supplies	494
	Surplus/Shortfall without WSCP Action	-86
	PLANNED WSCP ACTIONS (USE REDUCTION AND SUPPLY AUGMENTATION)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	116
	Revised Surplus/Shortfall	30
	Resulting Percent Use Reduction from WSCP Action	20%



Water Shortage Contingency Plan

CCSD has developed a comprehensive WSCP to provide reliability during shortage situations. A water shortage occurs when the water supply available is insufficient to meet the normally expected customer water use at a given point in time. A shortage may occur due to several reasons, such as water supply quality changes, climate change, drought, regional power outage, and catastrophic events (e.g., earthquakes). Additionally, the State may declare a statewide drought emergency and mandate that water suppliers reduce demands, as occurred in 2014. The purpose of the WSCP is to conserve the available water supply and protect the water supply's integrity while also protecting and preserving public health, welfare, and safety. Preparation provides the tools to maintain reliable supplies and reduce the impacts of supply interruptions during a water shortage.

The WSCP serves as the operating manual that CCSD will use to respond through proactive, rather than reactive, mitigation strategies to address water shortages. The WSCP is used to provide guidance to CCSD's Board of Directors, staff, and the public by identifying anticipated water shortages and response actions to manage any water shortage with predictability and accountability in an efficient manner. The WSCP is not intended to provide absolute direction; rather, it is intended to provide a working framework and options to help guide the CCSD's response to water shortages.

CCSD's WSCP is incorporated into the UWMP as a separate Chapter that can be modified as needed. The WSCP includes six shortage stages to identify and respond to water shortage emergencies. **Table ES-9** shows the six WSCP shortage stages, which trigger a series of actions that may include measures to reduce demand, augment supply, change typical operations, or impose mandatory prohibitions. The actions are intended to increase supplies or reduce demand to mitigate the impact of a water shortage condition.

As mentioned above, there are long-term and short-term water supply shortages with significant overlap in regard to stages, mandatory prohibitions, and consumption reduction methods as described in the following sections. **Table ES-10** summarizes the possible actions identified by CCSD staff to implement during a water shortage as well as the criteria that would trigger each water shortage stage. This table of actions is designed as a menu of options; CCSD is not required to implement each action for each stage. Actions identified in earlier stages may also be used in later stages (e.g., actions identified in Stages 1-3 may be implemented in Stage 4 as well as other Stage 4 actions, etc.).

Table ES-9. Water Shortage Contingency Plan Levels

SHORTAGE LEVEL	PERCENT SHORTAGE RANGE[1] (NUMERICAL VALUE AS A PERCENT)	SHORTAGE RESPONSE ACTIONS
1	Up to 10%	**"Water Conservation is a Way of Life"** Inform customers of existing conservation ordinances and incentive programs; water waste prohibitions always in effect
2	Up to 20%	**"Water Shortage Watch"** - Citations for violations of shortage response actions - Commence public outreach campaign - If Stage 3 is imminent, then schedule Board Hearing at least 14 days prior to Stage 3 action
3	Up to 30%	**"Water Shortage Warning"** - All of the above, plus increased restrictions on use of potable water - Increase public outreach campaign to include weekly Farmer's Market booth and product giveaways or demos - If Stage 4 is imminent, schedule Board Hearing at least 14 days prior to action
4	Up to 40%	**"Water Shortage Emergency"** - All of the above, and establish water use allocations - Board meeting second month of billing cycle - recommend remaining in Stage 4 or moving to Stage 5, 3, 2, or 1 - Prepare WRF for operation
5	Up to 50%	**"Extreme Water Shortage Emergency"** - All of the above, and reduce allocation, enforce excess use penalty - Mandatory audits for customers exceeding allocation - Board Meeting at second month of enforcement billing cycle, recommend remaining at Stage 5, move to Stage 6, 4, 3, 2, or 1 - Operate WRF as needed
6	>50%	**"Exceptional Water Shortage Emergency"** - Continue allocation enforcement; potable water for human health, sanitation, and fire protection only - Board Meeting at second month of enforcement billing cycle, recommend remaining at Stage 6, or move to Stage 5, 4, 3, 2 or 1 - Operate WRF as needed

Table ES-10. Shortage Response Actions

STAGE	CRITERIA	SUGGESTED ACTIONS
1 – UP TO 10% WATER USE REDUCTION	Baseline - Water Use Efficiency is a Way of Life Dry season starts in June or later Rainfall at 100% of normal SS WL at 100% of normal WBE/WBW well levels at 100% of normal 9P2/SS4 gradient at 100% of normal	**THE FOLLOWING ARE PROHIBITED AT ALL TIMES UNDER CHAPTER 4.08 OF THE CCSD MUNICIPAL CODE:** The watering of grass, lawns, ground-cover, shrubbery, open ground, crops, and trees herein after collectively called "landscape or other irrigation," in a manner or to an extent which allows excess water to run-off the area being watered. Every water user is deemed to have under his or her control at all times his or her water distribution lines and facilities and to know the manner and extent of his or her water use and excess run-off; The watering of grass, lawns, ground-cover, shrubbery, open ground, crops or trees or other irrigation within any portion of the district in violation of the following schedule and procedures: a. Watering shall be accomplished with a person in attendance; b. Watering shall not take place between the hours of ten a.m. and six p.m.; and c. Watering shall be limited to the amount of water necessary to maintain landscaping. The washing of sidewalks, walkways, driveways, parking lots, windows, buildings, and all other hard-surfaced areas by direct hosing unless utilizing high-pressure, low-volume systems; The escape of water through breaks or leaks within the water user's plumbing or distribution system for any substantial period of time within which such break or leak should reasonably have been discovered and corrected. Water must be shut off within two hours after the water user discovers such leak or break or receives notice from the district of such leak or break, whichever occurs first. Such leak or break shall be corrected within an additional six hours; The serving of water to customers by any eating establishment except when specifically requested; Except as approved in advance in writing by the general manager of the district, the use of water by governmental entities or agencies for: (1) routine water system flushing for normal maintenance, (2) routine sewer system flushing for normal maintenance, and (3) fire personnel training; Washing vehicles by use of an unrestrained hose. Use of a bucket for washing a vehicle and rinsing with a hose with a shutoff at the point of release is permitted subject to non-wasteful applications. Vehicle is defined as any mechanized form of transportation including, but not limited to, passenger cars, trucks, recreational vehicles (RVs), campers, all-terrain vehicles (ATVs), motorcycles, boats, jet skis, and off-road vehicles; Use of potable water from the district's water supply system for compacting or dust control purposes; Using unmetered water from any fire hydrant, except as required for fire suppression; It is unlawful for any consumer to remove, replace, alter, or damage any water meter or components thereof.
		Landscape irrigation using non-potable water sources is encouraged; no restrictions. Irrigation of parks, school ground areas, and road median landscaping will not be permitted more than twice a week. Irrigation of ornamental turf on public medians with potable water is prohibited. No application of potable water to outdoor landscapes (turf and ornamental landscapes) within 48 hours before, during, or after a rainfall event with measurable rainfall. Measurable rainfall for the region is defined as greater than or equal to 0.5 inches.

STAGE	CRITERIA	SUGGESTED ACTIONS
		New landscaping should be limited to native or drought tolerant plants when a Stage 1 water conservation program is in effect. Limits on watering duration. Watering or irrigating of lawns, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than 15 minutes per day per station. This subsection does not apply to landscape irrigation systems that exclusively use high efficiency irrigation equipment, very low-flow drip type irrigation systems when no emitter produces more than two gallons of water per hour, and weather-based controllers or high-efficiency stream rotor sprinklers. Operators of hotels, motels, and other commercial establishments offering lodgings shall post in each room a notice of water shortage conditions, encouraging water conservation practices. Lodging establishment must offer opt out of linen service. Require covers for pools and spas. Watering to maintain the level of water in swimming pools shall occur only when essential.
2 – UP TO 20% WATER USE REDUCTION	Drought Watch Dry season starts in June or later Rainfall at 91-100% of normal SS WL at 91-100% of normal WBE/WBW well levels at 91-100% of normal 9P2/SS4 gradient at 91-100% of normal	Up to 3 days per week landscape irrigation when using potable water; no more than 15 minutes per day per station. Car washing is only permitted using a commercial carwash that recirculates water or by high pressure/low volume wash systems. Commercial car wash and laundry systems. Installation of new or replacement non re-circulating water systems in commercial conveyor car wash or commercial laundry systems is prohibited. Use of graywater, as that term is defined in the California Health & Safety Code, or recycled water for irrigation is permitted on any day and at any time, subject only to any permits issued by the County. Construction operations receiving water from a construction meter or water truck shall not use water unnecessarily for any purpose other than those required by regulatory agencies. Construction projects requiring watering for new landscaping materials shall adhere to the designated irrigation requirements set forth in this plan and shall only install native or drought-tolerant plant species. District will commence public outreach campaign regarding water shortage watch restrictions including presentations and/or materials provided to local schools and street signage.
3 – UP TO 30% WATER USE REDUCTION	Water Shortage Warning Dry season starts in May or later Rainfall at 81-90% of normal SS WL at 81-90% of normal WBE/WBW well levels at 81-90% of normal 9P2/SS4 gradient at 81-90% of normal	Irrigation on public medians with potable water is prohibited. Decorative water features that use potable water must be drained and kept dry. Wash only full loads of laundry and/or dishes. Filling, refilling, or replenishing swimming pools, spas, ponds, streams, and artificial lakes is prohibited. Tune-up irrigation system by checking for and repairing leaks and damaged sprinklers. Up to two days per week of landscape irrigation when using potable water; no more than 15 minutes per day per station. Shorten showers and turn off faucets while brushing teeth or shaving. District will expand outreach campaign to include a staffed booth at the weekly Farmer's Market. Water efficient product giveaways will be provided, budget permitting.

STAGE	CRITERIA	SUGGESTED ACTIONS
		Fix leaky faucets, toilets, showerheads, pipes, and other water plumbing immediately.
4 – UP TO 40% WATER USE REDUCTION	Drought Emergency Dry season starts in April or later Rainfall at 71-80% of normal WBE/WBW well levels at 71-80% of normal 9P2/SS4 gradient at 71-80% of normal	Up to one day per week of landscape irrigation when using potable water; no more than 10 minutes per day per station. Maintenance of existing landscaping necessary for fire protection as specified by the Fire Chief of the Cambria CSD Fire Department; if fire-protection landscaping is not sustainable by irrigation one (1) days per week, irrigation may be increased to not more than two (2) days per week; Maintenance of existing landscaping for erosion control; if erosion-control landscaping is not sustainable by irrigation one (1) day per week, may be irrigated up to two (2) days per week. Implement monthly meter reading; customer notification re: percentage of allocation used Existing pools shall not be emptied and refilled using potable water unless required for public health and safety purposes. No new will serves for projects including pool or spa installation will be permitted. Staff directed to communicate with water users in the 90th percentile of their customer class to help reduce consumption. Previous waivers for watering or water use in excess of drought restrictions will be revoked. Washing of personal vehicles at home (including autos, trucks, trailers, motor homes, boats, or others) is prohibited. Water use allocation per permanent resident: 3 units per month. Commercial water use allocation: 3 units per EDU or fraction thereof; or average of last 12 months water use, whichever is less. Vacation rental allocation: 3 units per month. Upon the declaration of a water shortage emergency, no new water meters allowed, except for health and safety, unless water demand is offset to a net zero increase. Achieving net zero water increase is when potable water use of proposed development is no greater than current demand within the District's service area prior to installation of the new meters. The District will separately develop a "Net Zero Water Increase Program." The objective of the Program shall be to provide a means to continue sustainable growth during continuing water shortage conditions. No new temporary construction meter permits will be issued by the District. The District will suspend consideration of annexations to its service area unless the annexation increases the water supply available to the District by more than the anticipated demands of the property to be annexed. Staff directed to prepare WRF for operation.
5 – UP TO 50% WATER USE REDUCTION	Extreme Drought Emergency Dry season starts in March or earlier Rainfall at 61-70% of normal SS WL at 61-70% of normal WBE/WBW well levels at 61-70% of normal	No irrigation of turf, landscapes and/or ornamental gardens with potable water sources. Water use for public health and safety purposes only. Customer rationing may be implemented. No new construction meters will be issued. Dedicated irrigation meters will be locked by CCSD staff. Staff directed to perform mandatory water audits for water users in the 90th percentile. No replacement water may be provided for ponds or lakes. Aeration equipment should be managed in such a way as to eliminate evaporative loss of water.

STAGE	CRITERIA	SUGGESTED ACTIONS
	9P2/SS4 gradient at 61-70% of normal	Water use allocation per permanent resident: 2 units per month. Commercial water use allocation: 2 units per EDU or fraction thereof; or 75% of average of last 12 months water use, whichever is less. Vacation rental allocation: 2 units per month. Penalty charges for violation of water use allocations. Water use that exceeds allocation by less than 25% will be subject to a five-hundred percent (500%) surcharge levied on all usage above the customer's allocation. Water use that exceeds allocation by more than 25% will be subject to a one-thousand percent (1000%) surcharge levied on all usage above the customer's allocation. The tiered penalty structure is designed to acknowledge those customers who make a good faith effort to reduce consumption but go over their allocation by a small amount. Staff directed to operate WRF. No water for commercial car washes. No planting of new landscaping (seed, sod, or other plant materials).
6 – GREATER THAN 50% WATER USE REDUCTION	Exceptional Drought Emergency Dry season starts in March or earlier Rainfall at <60% of normal SS WL at <60% of normal WBE/WBW well levels at <60% of normal 9P2/SS4 gradient at <60% of normal	All landscape and non-essential outdoor water use for all Customers in all areas of the District's retail water service area shall be prohibited. Water rationing and penalties for exceeding allocations to remain in effect. Water use for public health and safety purposes only. Staff directed to operate WRF.

1

URBAN WATER MANAGEMENT PLAN

Introduction and Lay Description

This chapter provides a brief overview of the Cambria Community Services District (CCSD) and the purpose of this 2020 Urban Water Management Plan (UWMP). It also describes how the UWMP is organized and its relation to other local and regional planning efforts that CCSD is involved in.

The Cambria Community Services District provides water service to the unincorporated town of Cambria within San Luis Obispo County. The Cambria Community Services District provides water supply, wastewater collection and treatment, fire protection, garbage collection, and a limited amount of street lighting and recreation. When it was formed in 1976, the Cambria Community Services District became a successor to an earlier Cambria County Water District, which was formed in 1959.

CCSD has a five-member elected Board of Directors. Land use authority for the service area is under the auspices of San Luis Obispo County, which also provides the area services for police, flood control, and roadways.

IN THIS SECTION

- California Water Code
- UWMP Organization
- Relation to Other Efforts

1.1 The California Water Code

In 1983, the State of California Legislature (Legislature) enacted the Urban Water Management Planning Act (UWMP Act). The law required an urban water supplier, providing water for municipal purposes to more than 3,000 customers or serving more than 3,000 acre-feet per year (AFY) to adopt an UWMP every five years, demonstrating water supply reliability under normal as well as drought conditions. The UWMP Act applies to wholesale and retail suppliers.

Since the original UWMP Act was passed, it has undergone significant expansion, particularly since the CCSD's previous UWMP was prepared in 2015. Prolonged droughts, groundwater overdraft, regulatory revisions, and changing climatic conditions affect the reliability of each water supplier as well as the statewide water reliability overseen by California Department of Water Resources (DWR), the State Water Resources Control Board (State Water Board), and the Legislature. Accordingly, the UWMP Act has grown to address changing conditions, and the current requirements are found in Sections 10610-10656 and 10608 of the California Water Code (CWC).

DWR provides guidance for urban water suppliers by preparing an Urban Water Management Plan Guidebook 2020 (Guidebook) (California Department of Water Resources, 2021), conducting workshops, developing tools, and providing program staff to help water suppliers prepare comprehensive and useful water management plans, implement water conservation programs, and understand the requirements in the CWC. Suppliers prepare their own UWMPs in accordance with the requirements and submit them to DWR. DWR then reviews the plans to make sure they have addressed the requirements identified in the CWC and submits a report to the Legislature summarizing the status of the plans for each five-year cycle. The Guidebook, finalized in April 2021, was used to complete this 2020 UWMP.

The purpose of this UWMP is for CCSD to evaluate long-term resource planning and establish management measures to ensure adequate water supplies are available to meet existing and future demands. The UWMP provides a framework to help water suppliers maintain efficient use of urban water supplies, promote conservation programs and policies, ensure that sufficient water supplies are available for future beneficial use, and provide a response mechanism during drought conditions or other water supply shortages.

The UWMP is a valuable planning tool used for multiple purposes including:

- Provides a standardized methodology for water utilities to assess their water resource needs and availability.
- Serves as a resource to the community and other interested parties regarding water supply and demand, conservation, and other water-related information.
- Provides a key source of information for cities and counties when considering approval of proposed new developments and preparing regional long-range planning documents such as city and county General Plans.
- Informs other regional and Statewide water planning efforts, such as Integrated Regional Water Management Plans and the California Water Plan.

CWC 10632 also includes updated requirements for suppliers to prepare a Water Shortage Contingency Plan (WSCP). The WSCP documents a supplier's plans to manage and mitigate an actual water shortage condition, should one occur because of drought or other impacts on water supplies. In the 2015 UWMP cycle, the WSCP was part of the UWMP. For the 2020 update, the WSCP is required to be a standalone document so that it can be updated independently of the UWMP but must be referenced in and attached to the 2020 UWMP. The WSCP is provided in **Chapter 8** of this UWMP.

1.2 UWMP Organization

CCSD generally followed DWR's recommended organizational outline in the preparation of its 2020 UWMP.

Below is a summary of the information included in the various chapters of CCSD's 2020 UWMP:

Chapter 1 – Introduction and Overview.

This chapter provides background information on the UWMP process, new regulatory requirements, and an overview of the information covered throughout the remaining chapters.

Chapter 2 – Plan Preparation.

This chapter provides information on the processes used for developing the UWMP, including efforts in coordination and outreach.

Chapter 3 – System Description.

This chapter describes CCSD's water system, service area, population demographics, local climate, and land uses.

Chapter 4 – System Water Use.

This chapter describes and quantifies the current and projected water uses through 2045 within the water service area.

Chapter 5 – Baselines and Targets.

This chapter describes the Water Conservation Act of 2009, also known as SBX7-7 (SB 7), Baseline, Targets, and 2020 Compliance.

Chapter 6 – System Supplies.

This chapter describes and quantifies the current and projected potable and non-potable water supplies.

Chapter 7 – Water Supply Reliability.

This chapter describes the water service reliability through 2045 and includes the Drought Risk Assessment (DRA) for the next five years.

Chapter 8 – Water Shortage Contingency Plan (WSCP).

This chapter includes the standalone WSCP.

Chapter 9 – Demand Management Measures.

This chapter describes CCSD's efforts to promote conservation and reduce water demand, including discussions of specific demand management measures.

Chapter 10 – Plan Adoption, Submittal, and Implementation.

This chapter describes the steps taken to prepare CCSD's 2020 UWMP, hold a public hearing, adopt and submit the 2020 UWMP, and implementation of the adopted UWMP.

1.3 UWMPs in Relation to Other Efforts

This UWMP characterizes water use, estimates future demands and supply sources, and evaluates supply reliability for normal, single-dry, and five consecutive dry years. The UWMP also requires a standalone WSCP, which is provided in **Chapter 8**.

In addition to the 2020 UWMP, CCSD is involved in several other internal and external planning efforts and collaborates with a variety of stakeholders to achieve coordination and consistency between various planning documents locally and regionally.

Documents that were leveraged in preparation of this UWMP are:

- 2020 Cambria Decision Support System (DSS) Model Update and Demand Analysis
- CCSD Water Rights License
- CCSD Waste Discharge Requirements and Water Recycling Requirements
- 2016-2019 AWWA Water Audits
- 2020 Wastewater Annual Report
- 2017 CCSD and Cambria Community Healthcare Districts Multi Jurisdictional Hazard Mitigation Plan

1.4 UWMPs and Grant or Loan Eligibility

In order for a water supplier to be eligible for a grant or loan administered by DWR, and potentially other agencies, the supplier must have a current UWMP on file that meets the requirements set forth by the CWC. A current UWMP must also be maintained by the supplier throughout the term of any grants or loans received. CCSD has prepared the 2020 UWMP under guidance from DWR's 2020 UWMP Guidebook.

1.5 Demonstration of Consistency with the Delta Plan for Participants in Covered Actions

CCSD does not receive imported water from the Delta. Therefore, this section is not applicable.

2

URBAN WATER MANAGEMENT PLAN

Plan Preparation

This chapter of the UWMP provides information on the processes used for developing the UWMP, including efforts in coordination and outreach.

IN THIS SECTION

- Plan Preparation
- Coordination and Outreach

DWR's 2020 UWMP schedule is summarized below.

DATE	EVENT
December 2020	Draft Guidebook released
December 2020-January 2021	DWR Workshops
March 2021	Draft Final Guidebook released
April 2021	Final Guidebook released
July 1, 2021	UWMPs due to DWR

A DWR review sheet checklist is provided in **Appendix A**.

2.1 Basis for Preparing a Plan

As mentioned in **Chapter 1**, the CWC requires suppliers with 3,000 or more service connections, or those supplying 3,000 AFY or more to prepare an UWMP. Suppliers are required to update UWMPs at least once every five years on or before July 1, in years ending in six and one, incorporating updated and new information from the five years preceding each update. CCSD's 2020 UWMP must be submitted to DWR by July 1, 2021.

CCSD is preparing an individual UWMP and is not a member of a Regional UWMP or Regional Alliance. In 2020, CCSD served approximately 6,032 people in its service area, through 4,034 metered connections, and supplied approximately 540 AFY of potable water to customers. CCSD has included all mandatory 2020 data in the development of this UWMP. CCSD does not sell or purchase water from other suppliers.

Throughout this UWMP, water volume is represented in units of AFY, unless otherwise noted, and data is presented on a calendar year basis. Required DWR tables presenting this information are provided in **Table 2-1**, **Table 2-2**, and **Table 2-3.**

Table 2-1. DWR 2-1R Public Water Systems

PUBLIC WATER SYSTEM NUMBER	PUBLIC WATER SYSTEM NAME	NUMBER OF MUNICIPAL CONNECTIONS 2020	VOLUME OF WATER SUPPLIED 2020
CA4010014	Cambria CSD	4,034	539
	TOTAL:	**4,034**	**539**

Table 2-2. DWR 2-2 Plan Identification

TYPE OF PLAN	MEMBER OF RUWMP	MEMBER OF REGIONAL ALLIANCE	NAME OF RUWMP OR REGIONAL ALLIANCE
Individual UWMP	No	No	Not Applicable

Table 2-3. DWR 2-3 Agency Identification

TYPE OF SUPPLIER	YEAR TYPE	FIRST DAY OF YEAR		UNIT TYPE
		DD	**MM**	
Retailer	Calendar Years	01	01	Acre Feet (AF)

2.2 Coordination and Outreach

CCSD coordinated with multiple neighboring and stakeholder agencies to prepare the 2020 UWMP. The coordinated efforts were conducted to 1) inform these agencies of CCSD's efforts and activities; 2) gather high quality data for use in developing this UWMP; and 3) coordinate planning activities with other related regional plans and initiatives.

CWC Section 10621 requires that Suppliers notify cities and counties to which they serve water that the UWMP and WSCP are being updated and reviewed. The CWC specifies that this must be done at least 60 days prior to the public hearing. To fulfill this requirement, CCSD sent letters of notification of preparation of the 2020 UWMP and 2020 WSCP to all cities and counties within CCSD's service area 60 days prior to the public hearing as indicated in **Table 2-4** and attached as **Appendix B.**

Table 2-4. Agency Coordination. Table to be updated upon UWMP completion.

AGENCY/ORGANIZATION	PARTICIPATED IN PLAN DEVELOPMENT	COMMENTED ON DRAFT	ATTENDED PUBLIC MEETINGS	WAS CONTACTED FOR ASSISTANCE	WAS NOTIFIED OF PLAN AVAILABILITY[1]	WAS SENT A NOTICE OF INTENTION TO ADOPT 60 DAYS PRIOR TO PUBLIC HEARING
WATER SUPPLIERS						
San Simeon Community Services District					x	x
PUBLIC AGENCIES						
County of San Luis Obispo					x	x
California Department of Water Resources (DWR)					x	x
California State Library					x	x

[1] Was notified of availability of Draft UWMP and directed to an electronic copy of the draft plan on the CCSD website.

On April 16, 2021, CCSD notified all cities and counties within the service area of their intent to update the UWMP and WSCP by July 1, 2021. This notification served as the 60-day noticing required by the CWC. A copy of this letter is included in **Appendix B**. Per Government Code 6066, the public hearing was noticed in the local newspaper on June 3, 2021 and noticed again on June 8, 2021. The hearing notices are attached as **Appendix C**. The public hearing was held on June 17, 2021 at the Board of Directors meeting prior to the UWMP and WSCP adoption.

In addition, CCSD maintained a copy of the 2020 UWMP and WSCP in its office and at **www.cambriacsd.org** prior to the public hearing.

CCSD's Final 2020 UWMP and WSCP were formally adopted by CCSD's Board of Directors on June 17, 2021. A copy of the Adoption Resolution is included in **Appendix D**. A hard copy of CCSD's Final 2020 UWMP and WSCP were sent to the California State Library, DWR (electronically using the WUEdata reporting tool), and all cities and counties within the CCSD's service area within 30 days of adoption.

To fulfill the requirements of Water Code Section 10642 of the UWMP Act, CCSD made its Final 2020 UWMP available online (**www.cambriacsd.org**) and at CCSD's public office, between the hours of 9:00 am and 4:00 pm, for public review within 30 days of adoption, on July 17, 2021.

Should CCSD need to amend the adopted 2020 UWMP or WSCP in the future, CCSD will hold a public hearing for review of the proposed amendments to the document. CCSD will send a 60-day notification letter to all cities and counties within CCSD's service area and notify the public. Notification to the public with be published twice in the newspaper, the first notice being a minimum of two weeks prior to the public hearing. Once the amended document is adopted, a copy finalized version will sent to the California State Library, DWR (electronically using the WUEdata reporting tool), and all cities and counties within CCSD's service area within 30 days of adoption.

The finalized version will also be made available to the public both online (**www.cambriacsd.org**) and in person at CCSD's public office during normal business hours.

URBAN WATER MANAGEMENT PLAN

3 System Description

This chapter describes CCSD's water system, service area, population demographics, local climate, and land uses.

CCSD water supply, wastewater collection and treatment, fire protection, garbage collection, and a limited amount of street lighting and recreation. When it was formed in 1977, CCSD became a successor to an earlier Cambria County Water District, which was formed in 1959. The CCSD has a five-member elected Board of Directors. Land use authority for the service area is under the auspices of San Luis Obispo County, which also provides the area services for police, flood control, and roadways.

IN THIS SECTION

- Service Area
- Current and Projected Population
- Demographics
- Land Uses

3.1 General Description

CCSD provides water service to the unincorporated town of Cambria within San Luis Obispo County. Cambria is located along Highway 1 on the North Coast of San Luis Obispo County approximately 35 miles north of the City of San Luis Obispo. The community is relatively isolated to access north and south from Highway 1 due to the Pacific Ocean being immediately to the west, and the Santa Lucia Mountain Range lying to the east. Highway 46 connects into Highway 1 approximately four miles south of Cambria and provides the main inland connector route to Highway 101, which is approximately 22 miles inland. To travel inland towards Paso Robles, the route along Highway 46 passes over a summit at 1,720 feet above sea level.

The District's service area is also within the Coastal Zone and subject to the Local Coastal Program that was first developed by the County and certified by the California Coastal Commission in 1988. In addition to providing water service within its Urban Services Boundary, the CCSD provides water and wastewater services via a contract to the Hearst San Simeon State Parks campground, which is approximately 2 miles north of Cambria, near the intersection of Highway 1 and Simeon Creek Road. Providing water service beyond its current boundary and previously contracted areas is subject to the Measure P, which was voter-approved during 2006. This measure requires amending the CCSD's water master plan, completing supporting environmental review, and obtaining voter approval before water service could be extended. Land use is guided through conformance with the San Luis Obispo County North Coast Area Plan, Coastal Zone Land Use Ordinance, and Framework for Planning Coastal Zone, General Plan Land Use, and Circulation Elements.

A view of the Beach in Cambria

Prior to 1959, the community water supply was provided by the Cambria Development Company, and earlier by the J.D. Campbell Water Company. The District currently serves a year-round population of about 6,032 as well as a large number of visitors to the Central Coast. **Figure 3-1** shows CCSD service area and sphere of influence areas, which was last adopted by the San Luis Obispo County LAFCO in 2007. The CCSD service area covers approximately four (4) square miles.

The District's potable water is supplied solely from groundwater wells in the San Simeon and Santa Rosa Creek aquifers (underflow of these streams). The California Department of Water Resources Bulletin No. 118 identifies these two sources as the San Simeon and Santa Rosa groundwater basins, numbers 3-35 and 3-36, respectively. **Appendix E** contains the Bulletin 118 summary description of each of the two aquifers, neither of which is listed as being in overdraft status by the State.

Due to the steep and varying topography of the service area, there are eight pressure zones within the District's water distribution system. The area is served via a system of five groundwater wells, three-distribution system pumping stations, pressure reducing stations, and four tank sites.

3.2 Service Area Boundary Maps

Figure 3-1 shows an overview of CCSD's service area.

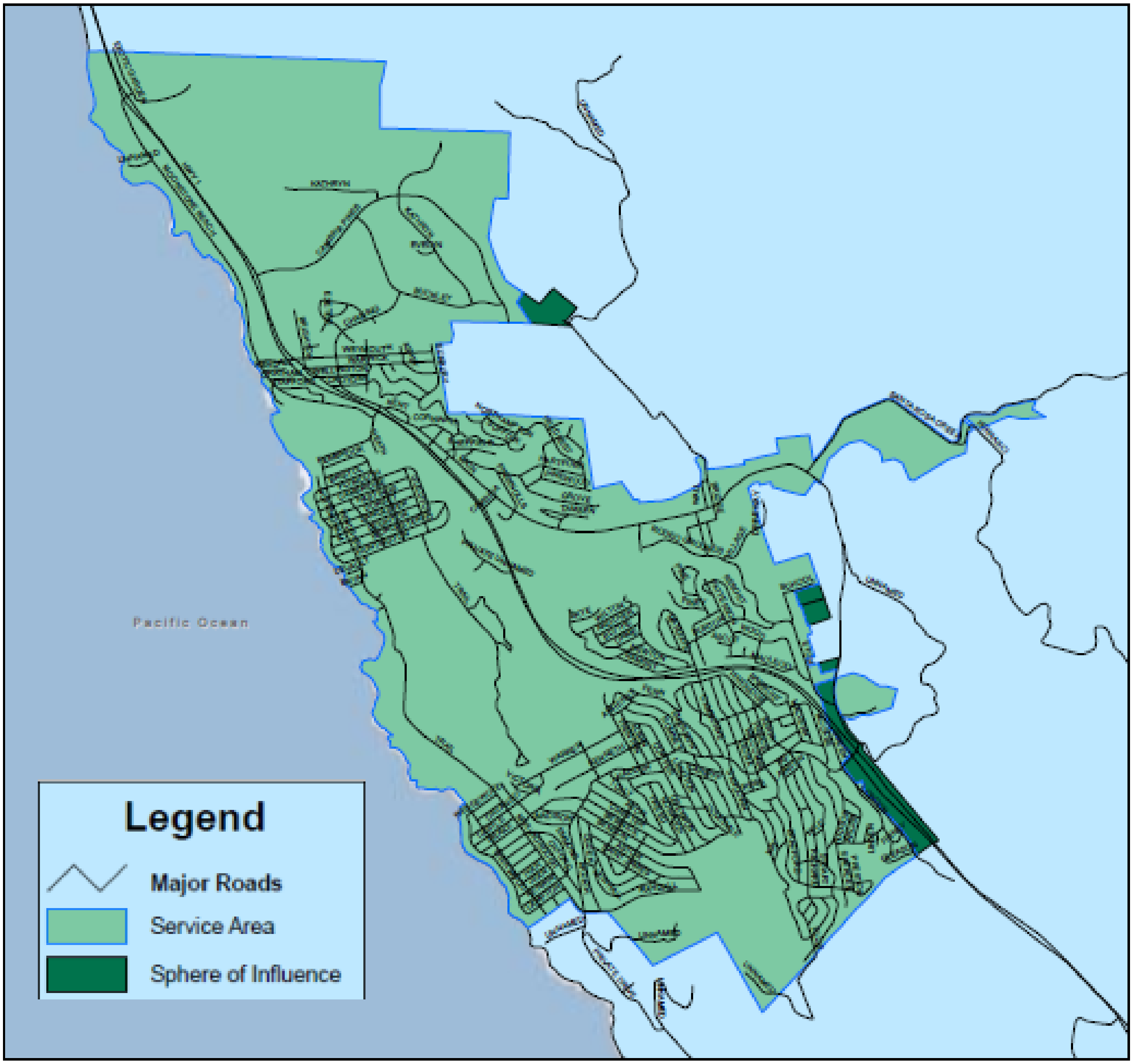


Figure 3-1. CCSD Service Area

Cambria is known for its outstanding natural environment, which includes native forests of Monterey Pine, creek-side areas, and a scenic coastline. The beauty of the area combined with a mild climate tempered by sea breezes has led to Cambria's popularity and attraction to retirees and tourists. Rainfall averages approximately 12 inches per year and is generally limited to the winter months.

Cambria is within an original Rancho Santa Rosa Mexican land grant area. The town was established in the late 1860s to accommodate shipping of mining and agricultural products in the central coast region. Its importance as a commercial center dissipated around 1900 as mines were depleted and shipping moved further inland by railroad. Today, visitor serving commercial establishments consist of hotels, motels, restaurants, and retail shops. The California States Park operated Hearst Castle is approximately five miles north of Cambria, which also serves to draw tourism to the area.

Much of the water service area is hilly terrain, with lower lying areas existing along the coastline, the Santa Rosa Creek channel, Main Street, and the Highway 1 corridor. The water service area elevations range from near sea level to approximately 550 feet above sea level. There are two commercial retail areas along Main Street, consisting of East Village and West Village. Much of the hilly areas outside of the lower lying commercial areas were subdivided into 25-foot-wide residential lots during the late 1920s by the Cambria Land Development Company.

The dominant geologic feature of San Luis Obispo County and the Cambria area is the Santa Lucia Mountain Range. The San Simeon Creek and Santa Rosa Creek basins lie on the westerly slope of the Santa Lucia Range where drainage is to the Pacific Ocean. The maximum elevation of the Santa Rosa basin is 2,933 feet on Cypress Mountain, and the highest point in the San Simeon basin is 3,432 feet on Rocky Butte.

The Santa Lucia Mountains are made up largely from the Franciscan formation, which in the San Simeon and Santa Rosa basins, is composed of a mélange of greywacke, metavolcanic rocks, and graywacke. The Franciscan formation is partially overlain with uplifted marine sediments of the late Jurassic, Cretaceous, Tertiary, and Quaternary periods. The most recent formations are Holocene alluvial deposits of gravel, sand, silt, and clay, which make up the streambeds of the creeks. These deposits are the only apparent water-bearing formations within the Santa Rosa and San Simeon drainage basins.

Aerial view of the San Simeon aquifer area

3.3 Service Area Climate

The area served by CCSD generally experiences pleasant weather for the most part of the year. Climate data from the California Irrigation Management Information System (CIMIS) collected from Station #160 San Luis Obispo West from November 2000 to December 2020, which collects, precipitation, evapotranspiration (ETo), and temperature data, was evaluated (CIMIS, 2021). The area benefits from a relatively low evapotranspiration rate when compared to inland areas due to its location being along the coast. The area also has a Mediterranean rainfall pattern with rains typically occurring during the November through March period. On average, the annual total precipitation is 11.7 inches, with average monthly precipitation ranging from 0 inches to 2.9 inches. The peak summertime irrigation period combined with seasonal tourism results in the maximum daily water demands occurring during the summer. **Table 3-1** shows the monthly averages for precipitation and temperature from 2000 through 2020.

Figure 3-2 shows the annual precipitation from 2001 through 2020 and illustrates which years fall above or below the annual average precipitation for this period. As shown by this figure, the area can experience multiple years under the average precipitation, making water management more critical to ensure communities are prepared for the next drought.

CCSD's average monthly temperature ranges from about 51 to 60 degrees Fahrenheit (°F). On average, July through October are the warmest months of the year.

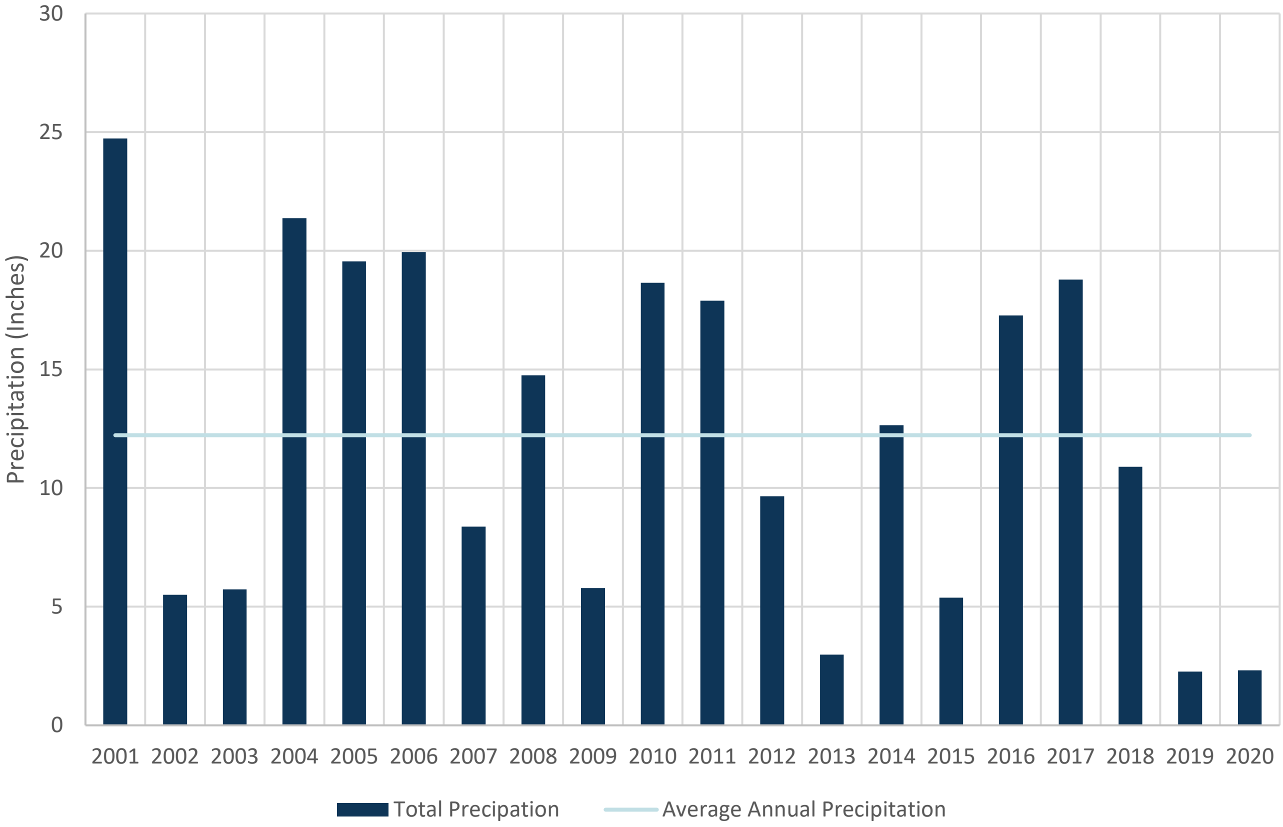


Figure 3-2. CIMIS San Luis Obispo West Station (#160) Annual Precipitation from 2001 to 2020

Table 3-1. CIMIS Station 160 Average Monthly Climate Data (2000-2020)

MONTH	AVERAGE PRECIPITATION (INCHES)	AVERAGE ETO (INCHES)	AVERAGE AIR TEMP (°F)
January	2.9	2.2	51.5
February	2.4	2.6	51.7
March	1.7	3.8	53.2
April	0.7	4.6	52.5
May	0.3	5.6	55.6
June	0.1	5.8	58.1
July	0.1	6.0	59.7
August	0.0	5.5	60.4
September	0.0	4.7	60.6
October	0.7	3.9	59.8
November	1.1	2.6	55.3
December	2.0	2.1	51.3
YEARLY AVERAGE	**11.7**	**47.2**	**55.8**

3.4 Service Area Population and Demographics

The CCSD has had a water connection moratorium in place since November of 2001 due to concerns over long-term reliability of its water supply and a need to increase water storage for fire suppression. To address these concerns, the CCSD completed a series of water master planning studies, which were incorporated by reference into a program-level water master plan EIR (PEIR) that was certified by the CCSD Board on August 21, 2008. The prior studies recommended a multifaceted approach that included improvements to the potable distribution system to enhance firefighting, water conservation, recycled water for non-potable irrigation, and further augmenting and drought-proofing the local potable supply using seawater desalination. Over the years, the CCSD has made steady progress, including the completion of its Pine Knolls storage tanks, and an interconnecting water distribution main across an open space area (the East-West Ranch pipeline, which interconnects the Lodge Hill distribution system with the Park Hill distribution system). In response to a 2014 drought emergency, the CCSD more recently completed its Water Reclamation Facility (WRF) project, which went into service during early 2015. The WRF currently operates under an emergency coastal development permit, which includes conditions to complete a regular coastal development permit. The CCSD is currently in the process of responding to an Information Hold for the regular coastal development permit application, which was submitted in 2014 and subsequently revised due to project modifications. The application will also be supported by Task 2 of the proposed Instream Flow Study, which addresses localized pumping impacts from the WRF. Task 2 work is planned for completion by December 31, 2021.

The earlier 2008 water master plan programmatic EIR addressed growth inducement concerns through the adoption of a build-out reduction program mitigation measure. The build-out reduction program was based on detailed geographical information system mapping and analysis coupled with financial modeling. This work was further reviewed by a local citizens' committee, which met for over a year during its development. The result was a recommended build-out goal of 4,650 existing and future residences. This essentially allowed for an existing water connection wait list of 666 lot owners to proceed at a pace estimated to spread out over 22 years into the future, once the moratorium is lifted, and potentially some number of residential connections not currently on the wait list.

San Luis Obispo County also completed work on the Cambria and San Simeon Acres Community Plans of the North Coast Area plan. The County Board of Supervisors certified their EIR on the community plans, which adopted an alternative for 4,650 existing and future housing units and was subsequently incorporated into the San Luis Obispo County North Coast Area Plan. The County also has a growth management ordinance in place that sets maximum growth rates following review of a periodic Resource Management System report to the County Board of Supervisors (periodic reviews are completed every two years). Layered on top of the County's growth management ordinance, are conditions imposed by the California Coastal Commission from earlier Coastal Development Permits that may also affect the CCSD's growth rate.

The timing of future growth is subject to the permitting and approval of future projects by other agencies, economic conditions, and other factors that may not be under the direct control of the CCSD. Therefore, any projections on population growth should be viewed with caution. Due to the building moratorium in Cambria, there has been no population growth between 2010 and 2020. For the purposes of future water planning in this UWMP it is assumed that new service connections will not be allowed until 2026. From 2026 – 2043, a population growth rate of approximately 1% per year for single family only is projected, until a maximum of 4,650 residential units is reached. The baseline population is calculated using average household size (HHS) from the 2010 U.S. Census for single family (2.18 HHS), 2019 American Community Survey data for occupied multi-family (2.36 HHS), and airDNA data for vacation rental units (4.44 HHS). **Table 3-2** below display CCSD's current and projection population data rounded to the nearest hundred.

Table 3-2. DWR 3-1R Current and Projected Population

Population projections have been rounded to the nearest hundred.

POPULATION SERVED	2020	2025	2030	2035	2040	2045
Cambria CSD	6,032	6,000	6,300	6,500	6,800	6,900
TOTAL	**6,032**	**6,000**	**6,300**	**6,500**	**6,800**	**6,900**

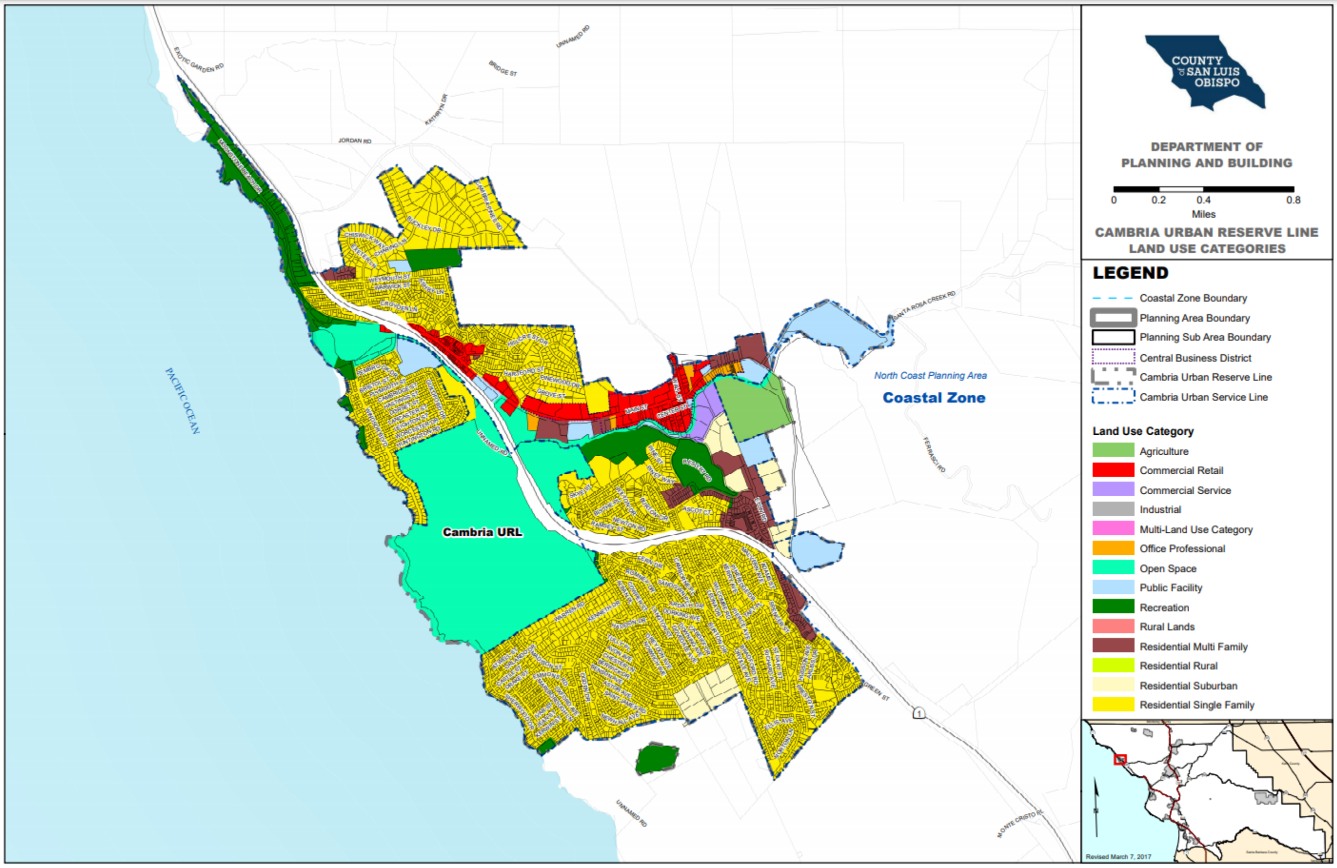
3.4.1 Other Social, Economic, and Demographic Factors

According to the 2010 U.S. Census, Cambria had a total population of 6,032, with a median age of 57.1 years. The 2010 vacancy rate of 32% indicates a high percentage of homes may be second or vacation homes. In contrast, the US average for vacancy during 2019 was 12.1 percent[i]. For 2010, the average household size was 2.18 persons per home. When including the vacant homes, the average 2010 household drops to 2.03 persons per home.

The 2010 census data indicated approximately 13.4% of all households in Cambria were within a low-income group (i.e., annual income earned less than $24,999). Cambria's 2010 median income was approximately $72,100. To project low-income water demands it was assumed that the 13.4% were evenly distributed between the single-family and multifamily water use sectors. The projected low-income demands using this approach are shown in **Table 4-6** on page 4-5.

3.5 Land Uses within Service Area

The urban part of Cambria encompasses approximately 2,351 gross acres, with a net acreage of approximately 1,790 acres, not counting the land in the road rights of way and beach areas along the bay or ocean. Cambria primarily consists of residential uses (57.1%) with combinations of commercial (4.8%) and public institutional (4.0%) uses along Main Street. The surrounding outlying areas are devoted to agricultural uses (2.2%), primarily grazing. Additionally, a large portion of land is zoned as open space (28.8%), which includes the State-owed floodplain and riparian vegetation at the mouth of the Santa Rosa Creek and areas which have too steep of slopes for residential development (Cambria Community Services District, July 2008)[1]. Cambria's land use is shown in **Figure 3-3**.



Sources: County of San Luis Obispo, Department of Planning and Building, ParcelQuest, USGS National Hydrography Dataset, California Department of Finance

Figure 3-3. Land Use Map

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[1] U.S. Census Bureau; American Community Survey, 2019 American Community Survey 5-Year Estimates, Table DOO4; generated by Melissa Bland; using data.census.gov; <https://data.census.gov/cedsci/>; (5 May 2021).

URBAN WATER MANAGEMENT PLAN

4 Water Use Characterization

This chapter describes and quantifies CCSD's past, current, and projected water uses through 2045.

IN THIS SECTION

- Non-Potable vs. Potable Water Use
- Past and Current Use
- Projected Water Demand
- Projected Water Demand for Lower Income Households
- Climate Change Impacts

Accurately tracking and reporting current water demands allow a water supplier to properly analyze the use of its resources and conduct good resource planning. Estimating future demand as accurately as possible allows water agencies to manage their water supply and appropriately plan their infrastructure investments. Assessments of future growth and related water demand, done in coordination with local planning agencies, provide essential information for developing demand projections.

This section describes the urban water system demands, including calculating baseline (base daily per capita) water use and interim and urban water use targets. It quantifies the current water system demand by category and projects them over the planning horizon of the 2020 UWMP. These projections include metered, and billed water, non-revenue water that is metered and may not be billed and possibly be covered by special agreements, system water losses, as well as water use target compliance.

The section also includes a detailed description of how the baseline and targets were calculated.

4.1 Non-Potable Versus Potable Water Use

Recycled water is addressed comprehensively in **Chapter 6** of this UWMP, but a summary of recycled water demand is included in **Table 4-3**. **Chapter 4** addresses potable water demand and also provides for the reporting of raw water demand for the year 2020, which is reported in **Table 4-1**.

4.2 Past, Current, and Projected Water Use by Sector

Actual and projected CCSD potable water uses for the various customer types metered are shown in **Table 4-1**, **Table 4-2**, and **Table 4-3**.

CCSD tracks registered vacation rental homes, which are used as for-profit commercial enterprises to serve outside visitors, but for the purposes of this UWMP has included them as part of the single family residential demands.

The CCSD does not buy or sell water to other water agencies in the area.

4.2.1 Past and Current Water Use

Water use over the past five years has notably reduced from pre-drought levels before 2014. Over the last five years, the average CCSD water use was 535 AFY. The most recent peak in demand occurred in 2013 with a total demand of 731 AFY. It is anticipated that the CCSD's customers will continue to implement conservation behaviors and keep demands lower than pre-drought levels, but that is not guaranteed.

4.2.2 Distribution System Water Losses

Distribution system water losses are also known as "apparent and real losses". The real water losses from the water distribution system are typically leaks within the CCSD distribution system and the supplier's storage facilities, up to the point of customer consumption. Apparent losses may be caused by customer meter inaccuracies, unauthorized consumption, and data handling errors.

Presented in **Table 4-4**, "water loss" is the difference between water production and water consumption and represents "lost" water from both apparent and real losses. Please note that water losses in the following table are NOT equivalent to the estimated non-revenue water presented in **Table 4-1** and **Table 4-2**. Non-revenue water use may include other types of water use including unbilled metered and unmetered authorized consumption.

This 2020 UWMP includes an AWWA audit of the CCSD's CY 2019 period, which began on January 1, 2019 (**Appendix F**). Water loss for CY 2016-2019 can also be found in **Table 4-4**. The 46.2 AF of water loss in 2019 is low (**8.7% of total demand**) when compared with the standard value of 10% or less as being within a reasonable operating range. However, from review of **Table 4-2**, the losses being used in future projections are increasing to 10% and above. CCSD will need to discuss plans to maintain reasonably low water loss amounts in the future.

4.2.3 Projected Water Use

The future water demand and associated conservation for the years 2020 to 2045 were calculated using the Decision Support System (DSS Model). The DSS Model is an Excel-based proprietary software created by Maddaus Water Management, which is endorsed by the California Urban Water Conservation Council. Background information on the DSS Model is presented in **Appendix G**. The future water demands do meet the SBX7-7 reduction targets, which will be discussed in **Chapter 5**.

Projected populations are described in **Chapter 3**. **Table 4-2** and **Table 4-3** present projected demands through 2045.

Chapter 5 discusses CCSD meeting the SBX7-7 target. While the 2020 GPCD was below the SB 7 target, future demand could increase due to a variety of factors and this UWMP conservatively projects demand to proactively develop water resources management strategies for these potential demands. However, the CCSD is aware that future water use standards are under development by DWR, which will supersede SBX7-7 standards, and will likely require demands to be lower than the SBX7-7 target.

Therefore, the CCSD plans to continue encouraging efficient water use and implementing water use efficiency measures to support meeting future water use standards and to enhance resiliency for drought and other water shortage conditions as described in **Chapter 7**, **Chapter 8**, and **Chapter 9**.

4.2.4 Characteristic Five-Year Water Use

In addition to past and projected uses, the UWMP more closely analyzes anticipated conditions for the next five years (2021 – 2025). In the next five years, CCSD anticipates that demands may increase by approximately 40 AFY from current conditions. This increase is based on normal year conditions representing a "rebound" from current 2020 use, which is likely lower than typical unconstrained demand as many of the CCSD's residents continue to conserve water after the most recent drought that ended in 2017.

Details on an analysis for the next five years are discussed in **Chapter 7**.

Table 4-1. DWR 4-1R Actual Demands for Water

USE TYPE	ADDITIONAL DESCRIPTION	LEVEL OF TREATMENT WHEN DELIVERED	2020 VOLUME
Single Family	Includes vacation rental water use	Drinking Water	340
Multi-Family		Drinking Water	18
Commercial		Drinking Water	114
Losses	Non-revenue water	Drinking Water	61
Other		Drinking Water	8
-		**TOTAL:**	**539**

Table 4-2. DWR 4-2R Projected Demands for Water

		PROJECTED WATER USE				
USE TYPE	ADDITIONAL DESCRIPTION	2025	2030	2035	2040	2045
Single Family	Includes vacation rental home water use	350	350	360	370	370
Multi-Family		20	20	20	20	20
Commercial		140	150	150	160	160
Losses	Non-revenue water	60	60	70	70	70
Other Potable		10	10	10	10	10
	TOTAL:	**580**	**590**	**610**	**630**	**630**

[1] Projections from the DSS Model completed by Maddaus Water Management.

[2] Projected demands have been rounded to the nearest 10 AFY.

Table 4-3. DWR 4-3R Total Gross Water Use

	2020	2025	2030	2035	2040	2045
Potable and Raw Water From Table 4-1R and 4-2R	539	580	590	610	630	630
Recycled Water Demand[1] From Table 6-4R	-	-	50	100	100	100
TOTAL WATER USE:	**539**	**580**	**640**	**710**	**730**	**730**

[1] Recycled Water Demand does not include demand associated with the Seawater Intrusion Barrier since the demand for this use is met using treated Wastewater Effluent.

Table 4-4. DWR 4-4R 12 Month Water Loss Audit Reporting

REPORT PERIOD START DATE		
MM	**YYYY**	VOLUME OF WATER LOSS*
01	2016	66
01	2017	120
01	2018	53
01	2019	46

[1] Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.

[2] Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

4.3 Water Use for Lower Income Households

Table 4-5 indicates whether or not CCSD has included future water savings in this 2020 UWMP, where that information is located, and that lower income residential demands have been included.

The 2010 census data indicated approximately 13.4 percent (%) of all households in Cambria were within a low-income group (i.e., annual income earned less than $24,999). Cambria's 2010 median income was approximately $72,100. To project low-income water demands it was assumed that the 13.4% were evenly distributed between the single-family and multi-family water use sectors.

The projected low-income demands using this approach are shown in

Table 4-6.

Table 4-5. DWR 4-5R Inclusion in Water Use Projections

Are Future Water Savings Included in Projections? Refer to Appendix K of UWMP Guidebook.	Yes
Are Lower Income Residential Demands Included in Projections?	Yes

Table 4-6. CCSD Low-Income Projected Water Demands (AF)

USE TYPE	2025	2030	2035	2040	2045 (OPT)
Single Family	47	48	48	50	50
Multi-Family	2	2	2	2	2
TOTAL	**50**	**50**	**51**	**52**	**52**

4.4 Estimated Water Savings

The projected demands presented in this 2020 UWMP include estimated plumbing code savings, which are considered passive savings. CCSD’s process of estimating future water savings, the passive savings methodology, can be found in **Appendix G**. This more recent analysis has shown that future demands can be further reduced depending upon the level of conservation required of any newly constructed homes, as well as continuation of current conservation practices on existing homes. The analyses described in **Appendix G** are summarized in **Figure 4-1** (Maddaus Water Management, Inc., April 2021). The supporting analysis for this plot assumed a 1% annual growth rate until 2042, 0.5% in 2043 and no growth after reaching buildout goal in 2043.

Figure 4-1 shows the existing CCSD production in blue, which illustrates the exceptional level of conservation achieved in response to the area’s epic drought. The DSS Modeling effort conservatively assumed customer demand would increase from current rates but would not rebound to pre-drought (2013) levels at its starting point. From here, the Demand Projection without Plumbing Code plot line shows demands with no conservation occurring, including ones that are currently mandated by the existing plumbing code. The Demand Projection with Plumbing Code plot line shows the future demands with the benefit of the existing plumbing code’s more water efficient requirements taken into consideration. The third projection, Demand Projection Average Demand with Plumbing Code AND Climate Change, shows future demand with the benefit of the passive savings from the existing plumbing code and the projected effects of climate change (discussed below in **Section 4.5**).

4.5 Climate Change Considerations

The effects of climate change on demand were evaluated in the demand projections in **Figure 4-1** (Maddaus Water Management, Inc., April 2021). The demand is anticipated to increase due to climate change. To capture the effects of climate change, the bump was feathered in starting with no increase initially, rising to a 2.38% climate change factor by 2050. Additional information regarding the climate change estimates can be found in **Appendix G**. However, given the uncertainty regarding these projections the non-climate change demand estimates were utilized.

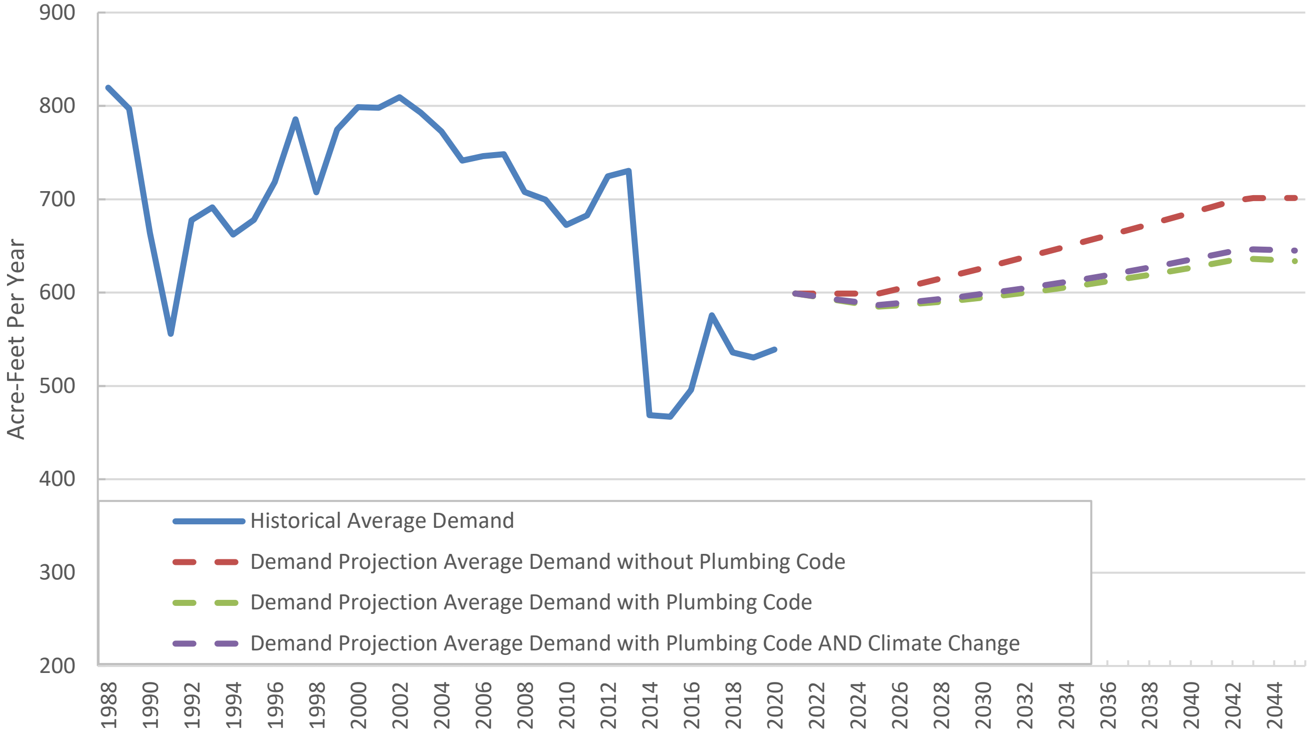


Figure 4-1. CCSD Demand Projections

5

URBAN WATER MANAGEMENT PLAN

SBX7-7 Baseline, Targets and 2020 Compliance

This chapter describes the Water Conservation Act of 2009, also known as SBX7-7, Baseline, Targets, and 2020 Compliance. The goal of this chapter is to demonstrate compliance with the 2020 targeted water-use reduction of 20 percent.

Senate Bill 7 of Special Extended Session 7 (SBX7- 7) was incorporated into the UWMP Act in 2009 and requires that all water suppliers increase water use efficiency with the overall goal to decrease per-capita water consumption within the state by 20 percent by the year 2020. SBX7-7 required DWR to develop certain criteria, methods, and standard reporting forms through a public process that water suppliers could use to establish their baseline water use and determine their water conservation targets.

IN THIS SECTION

- Target and Baseline Method Summary
- Baselines & Targets
- SBX7-7 Forms and Tables
- 2020 Compliance

SBX7-7 and DWR's Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use (California Department of Water Resources, February 2016) specify methodologies for determining the baseline water demand, 2015 interim urban water use target and the 2020 urban water use target for CCSD as described in the following sections. The SBX7-7 Verification Forms, which are required to be submitted to DWR to demonstrate compliance with the SBX7-7 requirements, are presented in **Appendix H.** This section also demonstrates that CCSD achieved its 2020 water use target.

5.1 SBX7-7 Forms and Tables

The SBX7-7 Verification Form was submitted as part of the CCSD 2015 UWMP to establish the baseline and 2020 water use target, which remains valid because there are no changes to the service area. A summary of the SBX7-7 Verification Form is presented in **Table 5-1**.

CCSD selected SBX7-7 Method 3, which uses 95% of the Central Coast Hydrologic Region baseline, or 117 GPCD, for the selected target. The selected target must meet the minimum water use reduction defined as 95 percent of the established 5-year GPCD of 111 GPCD, making the 2020 target **105 GPCD**.

As part of the 2020 UWMP, CCSD must demonstrate compliance with its 2020 water use target by completing SBX7-7 2020 Compliance Form. This form is an abbreviated version of the SBX7-7 Verification Form solely for 2020 compliance calculations. A summary of the 2020 SBX7-7 2020 Compliance Form is shown in **Table 5-2**.

CCSD first met the 2020 compliance target in 2010 and continues to reduce GPCD use overall. However, in 2020, there was an almost 17 GPCD increase from the 2015. This increase could potentially be attributed to reduced water conservation requirements in 2020 and to increased residential usage associated with the California Governer's March 19, 2020 COVID-19 Stay Home Order. Even with this increased demand, CCSD complied with the 2020 SBX7-7 target. A copy of the completed SBX7-7 Forms is included in **Appendix H**.

Table 5-1. DWR 5-1R Baselines and Targets Summary

BASELINE PERIOD	START YEAR	END YEAR	AVERAGE BASELINE GPCD*	CONFIRMED 2020 TARGET *
10-15 Year	1997	2006	112	105
5 Year	2003	2007	111	

*All values are in Gallons per Capita per Day (GPCD)
*All cells in this table are populated manually from the supplier's SBX7-7 Verification Form.

Table 5-2. DWR 5-2R 2020 Compliance

	OPTIONAL ADJUSTMENTS TO 2020 GPCD						
ACTUAL 2020 GPCD*	EXTRAORDINARY EVENTS*	ECONOMIC ADJUSTMENT*	WEATHER NORMALIZATION*	TOTAL ADJUSTMENTS*	ADJUSTED 2020 GPCD*	2020 GPCD* (ADJUSTED IF APPLICABLE)	SUPPLIER ACHIEVED TARGETED REDUCTION IN 2020
79.8	0	0	0	0	0	0	Yes

*All values are in Gallons per Capita per Day (GPCD)
*All cells in this table are populated manually from the supplier's SBX7-7 Verification Form.

6

URBAN WATER MANAGEMENT PLAN

Water Supply Characterization

Chapter 6 describes and quantifies the sources of water available to CCSD's supply portfolio, and actions that are anticipated to meet future water demands.

The water supply characterization is an assessment of CCSD's water supply during a normal year, a single dry year, a drought period lasting five consecutive years, and future projections through 2045. As part of the water supply analysis, this chapter includes a water service reliability and risk assessment of the San Simeon and Santa Rosa basins to understand the effects of short-term and long-term water management decisions.

IN THIS SECTION

- Water Supply Analysis
- Projected Water Supplies

6.1 Water Supply Analysis Overview

The CCSD's water supply portfolio consists of groundwater from two coastal aquifers, the San Simeon and Santa Rosa aquifers. The California Department of Water Resources Bulletin No. 118 identifies these two sources as the San Simeon and Santa Rosa groundwater basins, numbers 3-35 and 3-36, respectively. **Appendix E** contains the Bulletin 118 summary description of each of these aquifers, neither of which is listed as being in overdraft status by the SWRCB. The basins are recharged primarily by underflow from the San Simeon and Santa Rosa Creeks. A map of the San Simeon and Santa Rosa aquifers is shown in **Figure 6-1**.

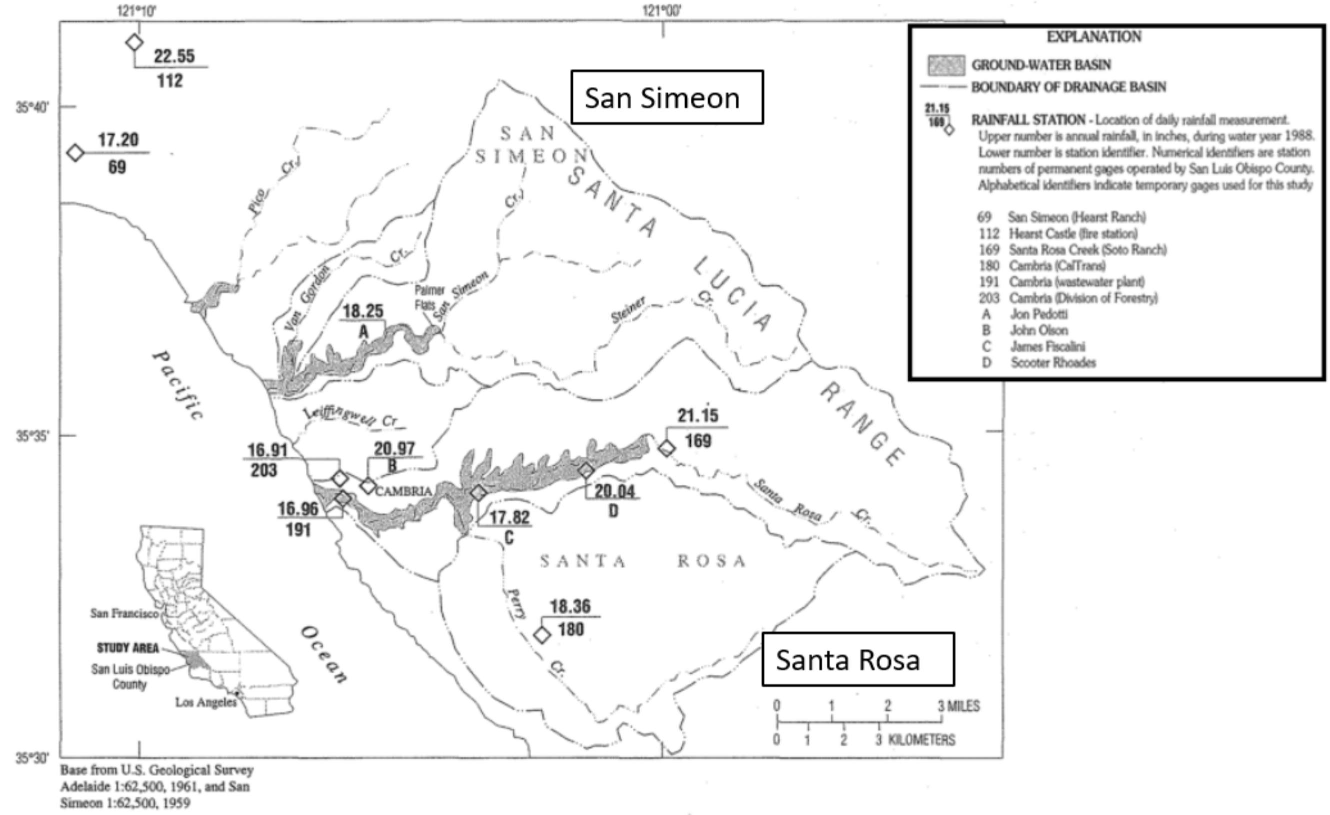


Figure 6-1. Map of San Simeon and Santa Rosa Aquifers

6.2 UWMP Water Supply Characterization

6.2.1 Purchased or Imported Water

The CCSD does not purchase or import water from outside sources.

6.2.2 Groundwater

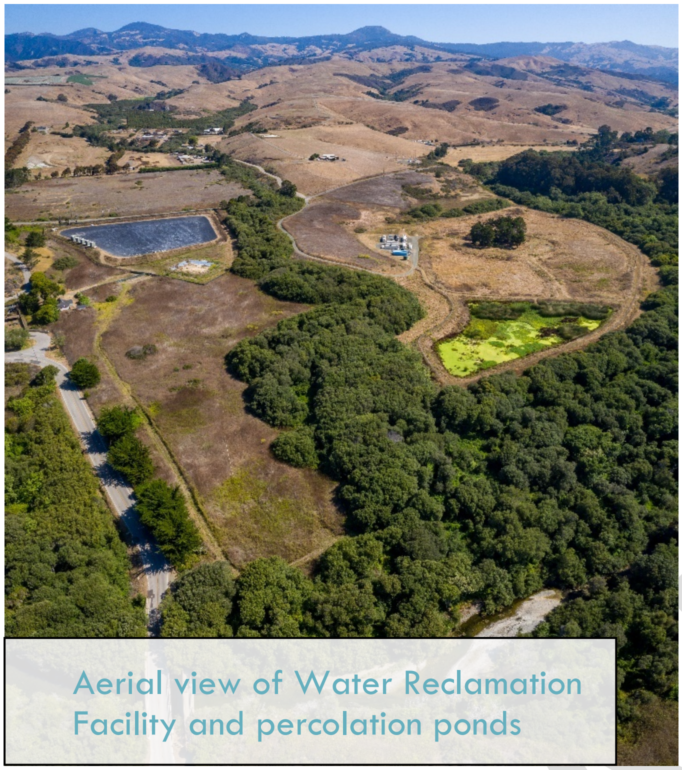
The San Simeon Creek aquifer wells have been the CCSD's primary water supply since they were installed in 1979. The San Simeon aquifer groundwater is also of better quality than the Santa Rosa aquifer primarily due the San Simeon aquifer having lower hardness and lower iron and manganese concentrations. The Santa Rosa Creek aquifer was the community's sole water source prior to installation of the San Simeon creek aquifer wells, and prior to the CCSD becoming the community's local water purveyor. During the mid-1970s and prior to the operation of the CCSD's San Simeon well field, localized areas along the lower Santa Rosa Creek channel experienced land subsidence as well as seawater intrusion. The establishment of the San Simeon wells as the primary water source has lessened the municipal demand on the Santa Rosa Creek aquifer, which has helped mitigate and avoid seawater intrusion and subsidence.

CCSD relies on 5 production wells: Well SS1, Well SS2, and Well SS3, in the San Simeon aquifer and Well SR3 and Well SR4 in the Santa Rosa aquifer. CCSD also uses Wells WBE, WBW, SS4, and 9P2 for monitoring the aquifer levels. Under normal conditions, CCSD splits their production between the two aquifers using an 80/20 ratio. Thus, approximately 80% of their supply come from the San Simeon aquifer and 20% comes from the Santa Rosa aquifer. If the production limits are reached in one aquifer, then the 80/20 split is adjusted accordingly to protect that aquifer.

Santa Rosa Creek Estuary

The CCSD also provides wastewater collection and treatment, with treated secondary wastewater effluent being pumped approximately 2.5 miles north of town to the CCSD's property located down gradient from its San Simeon aquifer potable wells. During the late 1970s to 1994, treated secondary wastewater effluent was surface applied with sprayers onto the ground surface. This past practice was changed to using four percolation basins, which were completed during 1994. The percolated wastewater effluent in this area forms a groundwater mound, which helps slow freshwater flow towards the ocean while also preventing seawater from intruding inland. The percolation ponds are still used today for wastewater effluent discharge, typically with only one of the four ponds operated at any given time.

In response to exceptional drought conditions and an emergency water shortage in 2014, CCSD completed its Water Reclamation Facility (WRF) project on the lower San Simeon Creek property. The WRF extracts water from an existing well (State Well Number 27S/8E-9P7, also known as Well 9P7) at the CCSD's treated wastewater effluent percolation ponds, treats the extracted water using an advanced water treatment plant, and re-injects the treated water at the CCSD's San Simeon Creek aquifer's potable well field. The WRF was designed to meet the SWRCB's requirements for indirect



Aerial view of Water Reclamation Facility and percolation ponds

potable reuse of recycled water. The WRF's source water will vary depending on seasonal rainfall and time of year. Typically, it will be a combination of percolated treated wastewater effluent, creek underflow, and dilute saltwater, with the latter coming from a deeper saltwater wedge of seawater. **Figure 6-2** provides an overview of the WRF.

Per the application submitted for the WRF's regular Coastal Development Permit (CDP), an estimated 21 AF of WRF production is estimated to occur during a normal year (described in further detail in **Section 7.1.2** on page 7-3) , which is based on a 9-hour daily runtime up to 4 working days per week for a minimum of eight weeks per year at a product water reinjection rate of 400 gpm. Should the IPR system operate continuously over a six-month dry season, its total production would be approximately 250 AFY. A start year of 2025 has been chosen as a conservative estimate to obtain the regular CDP. Actual operating conditions/restrictions for the WRF will not be finalized until approval of the regular CDP.

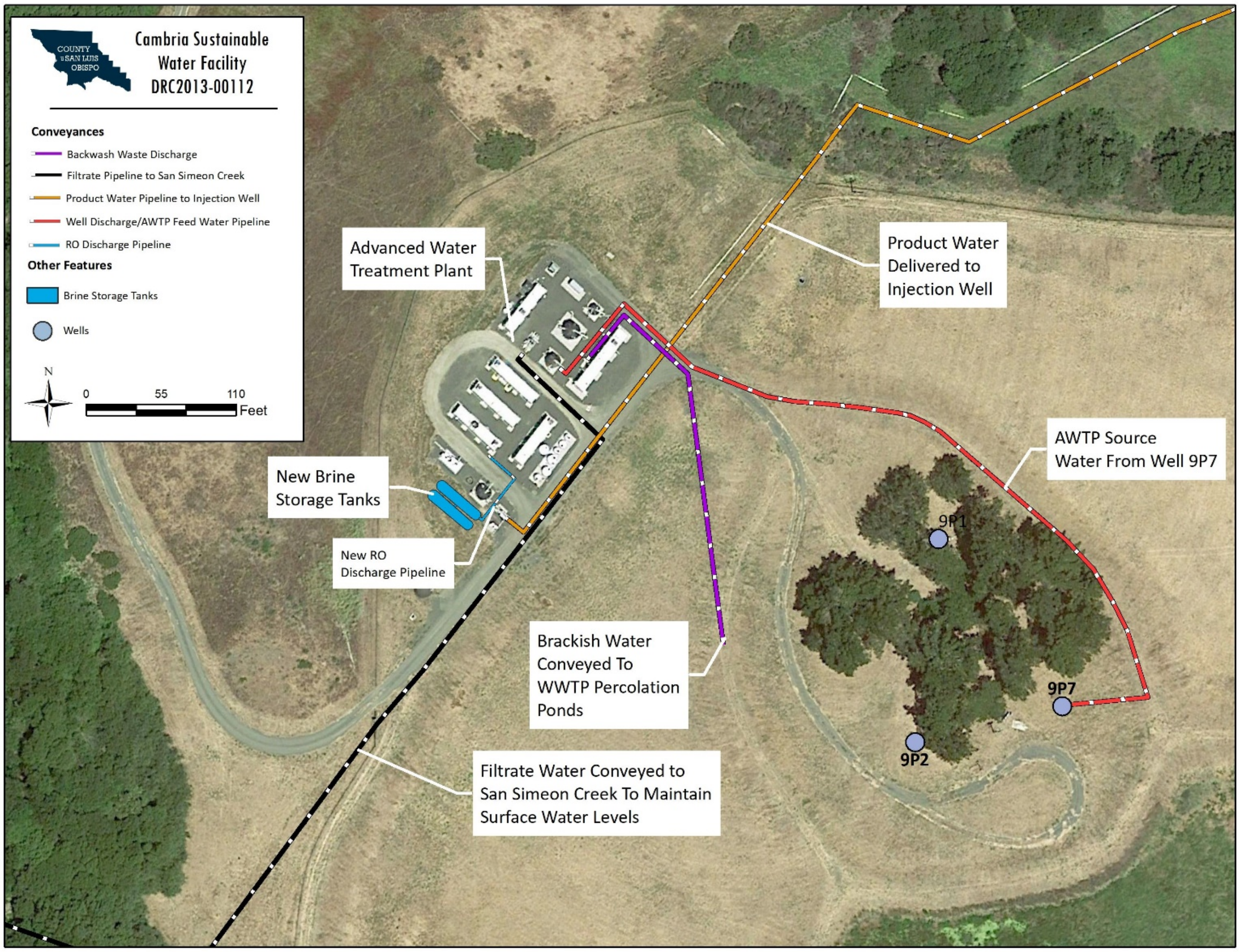


Figure 6-2. Overview of the Water Reclamation Facility

Figure 6-3 shows the annual CCSD pumping from each aquifer for the period of 1987 through 2020. Production dropped substantially during 2014 and 2015 in response to the community's conservation efforts, which included the CCSD Board's emergency drought declaration on January 30, 2014. The 2014 Stage 3 declaration included a prohibition on using potable water for all outdoor irrigation.

The Santa Rosa well field is Cambria's oldest supply source and was relegated to a back-up and augmentation role following start-up of the San Simeon well field in 1979. In 1999 the Santa Rosa well field was shut down after the discovery of an MTBE plume from a nearby gas station. An emergency well SR-4 and associated treatment plant were subsequently installed further upstream from the existing Santa Rosa well field and placed into operation during August of 2001. In response to the 2014 drought emergency, the CCSD separated the Santa Rosa well SR-1 from the potable system and converted it to non-potable use. This coincided with rebuilding the well head treatment facility and bringing well SR-3 back online during midsummer of 2014. Additionally, the CCSD completed its WRF on the lower San Simeon Creek aquifer, which went into operation during January 2015.

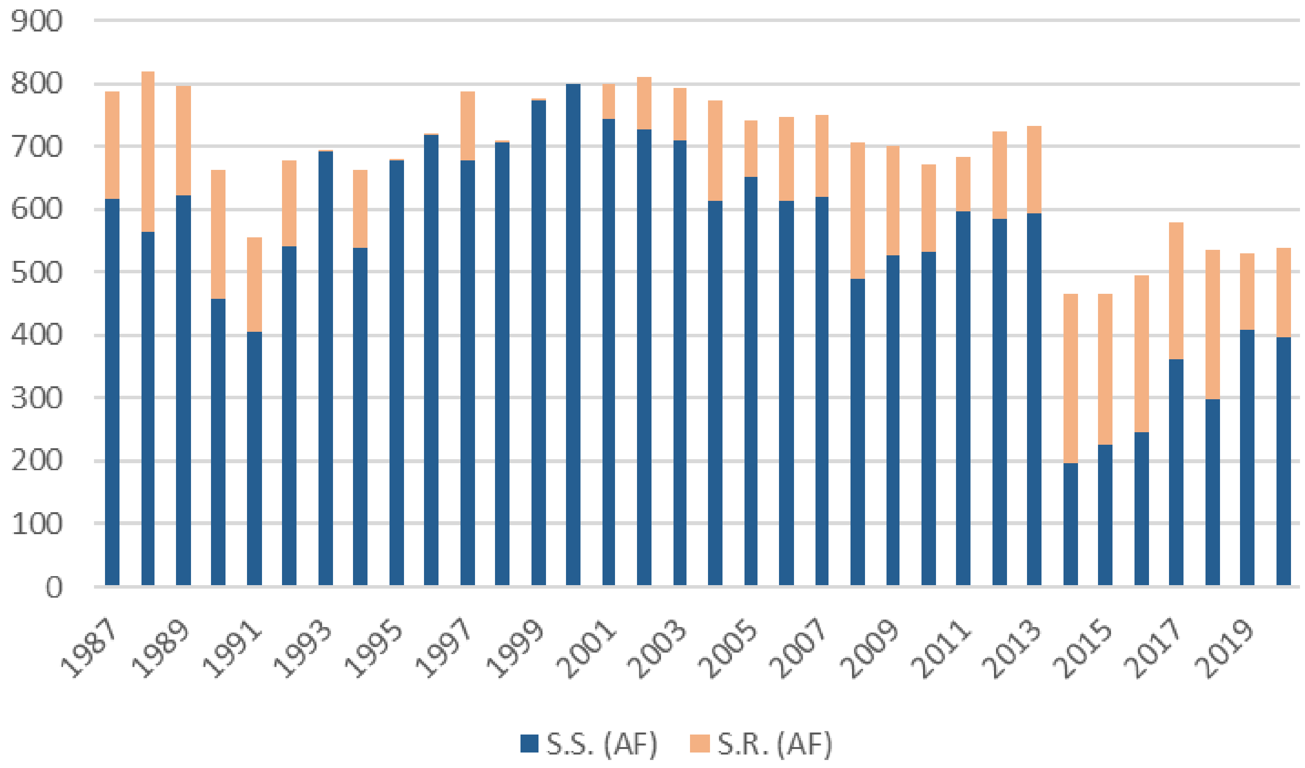


Figure 6-3. CCSD Groundwater Production

6.2.2.1 Basin Description

In addition to the following summary, the CCSD's November 19, 2015 adopted Groundwater Management Plan (**Appendix I**) describes groundwater planning for the area's San Simeon Creek groundwater basin and Santa Rosa Creek groundwater basin. Each of these basins are within the north coast area of San Luis Obispo County. Additionally, USGS Report 98-4061 (**Appendix J**) provides a more detailed discussion on the hydrogeology, water quality, and water budgets of these two basins.

The San Simeon and Santa Rosa aquifers are relatively shallow and porous, with the groundwater levels typically recharged every year during the wet or rainy season. With District and other pumping, groundwater levels generally exhibit a characteristic pattern of consistent high levels during the wet season, steady decline during the dry season, and rise when the wet season resumes.

During the wet season, the aquifers are continuously recharged via surface water flow from San Simeon and Santa Rosa Creeks. However, when the dry season begins recharge is reduced or eliminated and the amount of water in storage in the aquifer and groundwater levels decline. At the point that recharge from surface water ceases, there is a limited or finite amount of water available within the aquifers to support municipal, agricultural and environment needs until it refills during the next wet season. During drought years, when surface water flows and associated recharge stop earlier in the year and there is extended amount of time that the District and other users must rely upon the finite amount of water in these aquifers.

Besides the physical characteristics of the aquifers, there are key permitting conditions that effect how the CCSD may operate its well fields. Municipal production from the San Simeon and Santa Rosa aquifers is limited by the constraints contained with the CCSD's Water Rights License (Permit No. 17287 and 20387) and Waste Discharge Requirements and Water Recycling Requirements (WDR) (Permit No. R3-2019-0051). The three main operational conditions that effect how CCSD uses their wells are the wet and dry season production, WBE and WBW well level, and the SS4 and 9P2 gradient.

Wet and Dry Season Production Limits

The Water Rights License production are limits shown in **Table 6-1**. The SWRCB license allows a maximum of 799 AFY annually from the San Simeon aquifer, while limiting dry season pumping to 370 AFY maximum from the time that the creek ceases flow at the Palmer Flats gauging station, until October 31. The Santa Rosa Creek license limits the Santa Rosa aquifer pumping to 218 AFY annually, with a dry season pumping limit of 155.3 AFY from May 1 to October 31. Pumping rates are limited to an average 30-day direct diversion rate of 1.43 cubic feet per second (cfs, or 641.83 gpm) for the San Simeon aquifer; and 0.59 cfs (264.81 gpm) for the Santa Rosa aquifer. Diversions to provide water to riparian users as required by the SWRCB are excluded from licensed totals. This amount of water is not necessarily actually available in a given year. In addition to the SWRCB licenses, California Coastal Commission Coastal Development Permit 428-10 limits the CCSD's annual diversion from both basins to 1,230 AFY. Copies of licenses are provided in **Appendix K**.

Table 6-1. Water Rights License Production Limits

WATER RIGHTS PRODUCTION LIMITS	
TOTAL ANNUAL AVAILABLE SAN SIMEON SUPPLY	**799 AFY**
Available Dry Season San Simeon Supply	370 AFY
TOTAL ANNUAL AVAILABLE SANTA ROSA SUPPLY	**218 AFY**
Available Dry Season Santa Rosa Supply	155.3 AFY

WBE and WBW Well Level in the Santa Rosa Aquifer

Environmental protection is also a key operating concern associated with the Santa Rosa Creek aquifer wells. To address this concern, a key permit condition requires maintaining a minimum groundwater elevation of 3 feet above mean sea level at the monitoring well WBE and monitoring well WBW. During dry years, these monitoring wells may approach the 3-foot minimum elevation during August to September. It was also found that operation of the nearby Shamel Park irrigation well and tides impact monitoring well WBE. When the 3-foot elevation condition occurs, the CCSD stops use of its Santa Rosa Creek aquifer wells (Wells SR-1, SR-3, and SR-4), and shifts its production to the San Simeon Creek wells.

SS4 and 9P2 Gradient in the San Simeon Aquifer

A primary concern in the San Simeon Creek aquifer is the hydraulic gradient between the percolated mound of treated wastewater at its percolation ponds and the up-gradient potable wells. The WRF helps preserve this gradient by capturing and restoring the water extracted from the percolation pond area to reuse it while maximizing groundwater elevation and storage at the up-gradient potable well field. To ensure protection of riparian habitat during its operation, the WRF includes a discharge of approximately 100 gallons per minute to the head of the San Simeon Creek lagoon to maintain surface water levels. This protective feature is further backed up and the process refined by an adaptive management plan which includes biological monitoring to ensure favorable conditions are being maintained.

The CCSD is also subject to meeting the state's surface water treatment rule (SWTR) due to its groundwater sources being under the influence of surface water. To meet these requirements, the CCSD does not operate its San Simeon Well SS-1 whenever surface flow within the San Simeon Creek occurs within 150 feet of the well. San Simeon Wells SS-2 and SS-3 are outside the SWTR's 150-foot boundary and can continue to operate when there is flow in the creek. The Santa Rosa wells SR-3 and

SR-4 have well head treatment facilities, which allow them to operate while within the SWTR's 150-foot limit.

> The local groundwater aquifers are not adjudicated and are not in an over-drafted condition per DWR.

6.2.2.2 Past Five Years

Table 6-2 below shows CCSD pumping over the last five years. Demand has increased slightly from the low of 467 AFY in 2014 and 2015 but it has not returned to pre-drought demands.

Table 6-2. DWR 6-1R Groundwater Volume Pumped

GROUNDWATER TYPE	LOCATION OR BASIN NAME	2016	2017	2018	2019	2020
Alluvial Basin	San Simeon Creek Basin	247	360	298	409	397
Alluvial Basin	Santa Rosa Creek Basin	247	217	238	121	142
	TOTAL:	**494**	**578**	**536**	**530**	**540**

6.2.3 Surface Water

The CCSD does not withdraw water from streams, lakes, or reservoirs as part of its water supply.

6.2.4 Stormwater

The CCSD does not regulate storm water within its services area, as that responsibility rests with San Luis Obispo County and the Regional Water Quality Control Board. However, the CCSD is a signatory member agency of the County's Integrated Regional Water Management Planning Memorandum of Understanding. This relationship allows for the potential development of future projects that could conceivably integrate storm water projects with improvements towards water supply.

6.2.5 Wastewater and Recycled Water

The CCSD does not have an ocean outfall, but rather discharges all of its treated wastewater effluent into percolation basins located along the lower reach of the San Simeon Creek aquifer to minimize potable groundwater losses at the aquifer/ocean interface. Essentially, all of CCSD's percolated wastewater effluent is used for creating a seawater intrusion barrier. Some of the percolated wastewater effluent is also used as a source water for the CCSD's WRF when the facility is in operation. In addition, an earlier 2004 recycled water master plan developed a recycled water distribution system backbone for future use of treated wastewater effluent for outdoor, non-potable irrigation.

During 2015 and 2016, 92 AF of from the WRF was re-injected into the San Simeon Creek aquifer by the CCSD. Based on modeling estimates by the WRF's geo-hydrologist, approximately 60% of the re-injected water would enter CCSD's San Simeon Creek aquifer potable water wells, which equates to a net recovery amount of 55 AF. All re-injected water is put to beneficial use as gradient control regardless of the volume eventually extracted as potable drinking water.

6.2.5.1 Wastewater Collection, Treatment, and Disposal

The CCSD is responsible for collecting and treating wastewater within its urban services boundary, as well as through a contract with State Parks for the Hearst San Simeon Creek campground. The CCSD maintains approximately 59 miles of sanitary sewers and force mains, 10 lift stations, a wastewater treatment plant, a 2.5-mile-long effluent discharge pipeline, and four effluent percolation ponds to provide these services. The CCSD's wastewater treatment plant provides a secondary level of treatment using an activated sludge process. In recent years, plant operators have modified the secondary process to simulate a Modified Ludzak-Ettinger (MLE) process to further reduce nitrate concentration in the effluent. The operator-installed modifications will be followed with more permanent upgrades in the future. **Table 6-3** lists the volume of wastewater collected within the service area.

6.2.5.2 Recycled Water System Description

A 2004 recycled water master plan commissioned by the CCSD developed a backbone distribution system, which was laid out to be reasonably close to the most significant outdoor irrigation customers. These included a planned community park on the east Fiscalini Ranch property, an existing commercial nursery, as well as the middle and elementary schools.

6.2.5.3 Potential, Current, and Projected Recycled Water Uses

Table 6-5 provides a summary of potential recycled water use by user categories suggested within the March 2020 DWR UWMP Guidebook. Essentially, the CCSD installed percolation ponds for its treated wastewater effluent during 1994, which serves as a seawater barrier between the ocean and up-gradient San Simeon Creek potable wells. In 2014, the CCSD completed the WRF project, which included indirect potable reuse of the percolated wastewater effluent.

Planned vs. Actual Use of Recycled Water

In accordance with methodology recommended within the 2020 DWR UWMP Guidebook, **Table 6-6** compares recycled water use from the 2015 UWMP estimate with actual 2020 use. This shows that the treated wastewater percolated into the groundwater basin at the lower reach of the San Simeon Creek aquifer continues to be the most significant use. The volume of wastewater effluent decreased substantially after potable water conservation measures were adopted in January of 2014 in response to the drought and water shortage emergency. Other reduction measures included the State Parks campground closing its restrooms and showers by replacing them with porta-potties.

Table 6-3. DWR 6-2R Wastewater Collected within Service Area in 2020

WASTEWATER COLLECTION			RECIPIENT OF COLLECTED WASTEWATER			
NAME OF WASTEWATER COLLECTION AGENCY	WASTEWATER VOLUME METERED OR ESTIMATED	WASTEWATER VOLUME COLLECTED FROM UWMP SERVICE AREA IN 2020	NAME OF WASTEWATER AGENCY RECEIVING COLLECTED WASTEWATER	WASTEWATER TREATMENT PLANT NAME	WASTEWATER TREATMENT PLANT LOCATED WITHIN UWMP AREA	WWTP OPERATION CONTRACTED TO A THIRD PARTY
Cambria Community Services District	Metered	475	Cambria Community Services District Wastewater Treatment Plant	Cambria Community Services District Wastewater Treatment Plant	Yes	No
	TOTAL:	**475**				

Table 6-4. DWR 6-3R Wastewater Treatment and Discharge within Service Area in 2020

							2020 VOLUMES				
WASTEWATER TREATMENT PLANT NAME	DISCHARGE LOCATION NAME OR IDENTIFIER	DISCHARGE LOCATION DESCRIPTION	WASTEWATER DISCHARGE ID NUMBER	METHOD OF DISPOSAL	PLANT TREATS WASTEWATER GENERATED OUTSIDE THE SERVICE AREA	TREATMENT LEVEL	WASTEWATER TREATED	DISCHARGED TREATED WASTEWATER	RECYCLED WITHIN SERVICE AREA	RECYCLED OUTSIDE OF SERVICE AREA	INSTREAM FLOW PERMIT REQUIREMENT
Cambria Community Services District Wastewater Treatment Plant	Percolation Ponds	CCSD Property south of San Simeon Creek Rd.	3 400 102001	Percolation ponds	Yes	Secondary, Undisinfected	475	-	475	-	-
						TOTAL:	**475**	**-**	**475**	**-**	**-**

[1] Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

[2] If the Wastewater Discharge ID Number is not available to the UWMP preparer, access the SWRCB CIWQS regulated facility website at https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?inCommand=reset&reportName=RegulatedFacility

Table 6-5. DWR 6-4R Recycled Water within Service Area in 2020

Name of Supplier Producing (Treating) the Recycled Water:	Cambria Community Services District
Name of Supplier Operating the Recycled Water Distribution System:	Cambria Community Services District Wastewater Treatment Plant
Supplemental Volume of Water Added in 2020:	0 AF
Source of 2020 Supplemental Water:	n/a

BENEFICIAL USE TYPE	POTENTIAL BENEFICIAL USES OF RECYCLED WATER	AMOUNT OF POTENTIAL USES OF RECYCLED WATER	DESCRIPTION OF 2020 USES	LEVEL OF TREATMENT	2020	2025	2030	2035	2040	2045
Agricultural irrigation										
Landscape irrigation (ex: golf courses)	Year 2030 includes the conversion of existing potable water irrigation customers to non-potable recycled water. 2030-2045 represents future non-potable irrigation demands			Tertiary	-	-	50	100	100	100
Golf course irrigation										
Commercial use										
Industrial use										
Geothermal and other energy production										
Seawater intrusion barrier	Use of existing percolation pond operation			Secondary, Disinfected - 23	475	475	443	413	433	443
Recreational impoundment										
Wetlands or wildlife habitat										
Groundwater recharge (IPR)	Included with seawater barrier									
Reservoir water augmentation (IPR)										
Direct potable reuse										
Other										
-				**TOTAL:**	**475**	**475**	**493**	**513**	**533**	**543**
Internal Reuse (Not included in Statewide Recycled Water Volume).										

*IPR - Indirect Potable Reuse

For 2020, the volume of wastewater collected from the service area is from metered effluent data, which was reported to the Water Board within the CCSD's annual self-monitoring report. Besides indoor metered water use, this value also includes any infiltration and inflow into the collection system. For subsequent years, the volume of wastewater collected from the service area is estimated to grow slightly with population growth. All wastewater collected is used as a seawater intrusion barrier; for the CCSD's Sustainable Water Facility (an indirect potable reuse project constructed during 2014); or, as landscape irrigation. Beginning in year 2030, approximately 50 AF per year of no-net-increase in diversion from aquifer recycled water use is anticipated by converting existing CCSD customers from potable, groundwater-source-based use to non-potable outdoor irrigation using recycled water. Form 2035 on an additional 50 AF of outdoor irrigation with recycled water is estimated for future project demands. Landscape irrigation feasibility is based on an earlier 2004 Recycled Water Master Plan and will be driven by available funding and potential downstream habitat concerns. Because of potential downstream habitat concerns, the 2004 recycled water master plan bifurcated recycled water demands between the conversion of existing groundwater-based customer uses; and potential future project demands.

Table 6-6. DWR 6-5R 2015 Recycled Water Use Projection Compared to 2020 Actual

BENEFICIAL USE TYPE	2015 PROJECTION FOR 2020	2020 ACTUAL USE
Agricultural Irrigation		
Landscape Irrigation (excludes golf courses)	-	-
Golf Course Irrigation		
Commercial Use		
Industrial Use		
Geothermal and Other Energy Production		
Seawater Intrusion Barrier	598	475
Recreational Impoundment		
Wetlands or Wildlife Habitat		
Groundwater Recharge (IPR)*		
Surface Water Augmentation (IPR)*		
Direct Potable Reuse		
TOTAL:	**598**	**475**

6.2.5.4 Actions to Exchange and Optimize Future Recycled Water Use

Table 6-7 summarizes potential methods to encourage future recycled water use. The actions listed provide a summary of potential measures to consider as a means to encourage future end use of recycled water.

Table 6-7. DWR 6-6R Methods to Expand Future Recycled Water Use

NAME OF ACTION	DESCRIPTION	PLANNED IMPLEMENTATION YEAR	EXPECTED INCREASE OF RECYCLED WATER USE
Mandatory use ordinance/project conditions of approval	None of these actions have been adopted as policy. Regardless, they are memorialized here for future reference and discussion.	2030	50
Mandatory use ordinance/project conditions of approval	None of these actions have been adopted as policy. Regardless, they are memorialized here for future reference and discussion.	2035	50
-		**TOTAL:**	**100**

6.2.6 Desalinated Water Opportunities

The CCSD had a project cooperation agreement in place with the Army Corps of Engineers (Army Corps) to complete a water supply project, which was authorized under Section 219 of the Federal Water Resources Development Act (WRDA). This effort lost momentum following the federal ban on earmarking of project funds. Additionally, on December 9, 2011, the California Coastal Commission voted unanimously to object to the Army Corps' consistency determination regarding a proposed geotechnical investigation for desalination intake wells near Santa Rosa State Beach in Cambria. Regardless, the Army Corps did complete a study identifying various long term water supply alternatives during 2013. This study found the treatment of brackish water near San Simeon Creek Road to be the most technically feasible alternative. The WRF was the more feasible alternative when compared to the brackish water alternative as described in the 2013 Army Corps study.

To date of this UWMP, federal funding and subsequent environmental analyses remain to be completed to rekindle the earlier Army Corps efforts. This would likely require the Army Corps to redefine its project by incorporating the WRF. Possible use of federal funds could conceivably be used to fund a Reverse Osmosis reject water disposal pipeline, solar arrays, and a subterranean cut off wall downstream from the reinjection well (to increase the percentage of re-injected water that would make its way to the potable wells).

6.2.7 Water Exchanges and Transfers

This section details information regarding CCSD's transfers and/or exchanges.

6.2.7.1 Exchanges

The CCSD does not have any existing water transfer agreements in place with other agencies. A major factor is the remote location of Cambria in comparison to the State Water Project aquifer and Nacimiento reservoir pipeline, which are along routes located further inland and east of the Santa Lucia mountain range from Cambria. However, earlier water master planning had investigated the potential for a water transfer agreement with certain member agencies of the Whale Rock Commission, which use the Whale Rock Reservoir located approximately 13 miles south of Cambria near Cayucos. The Whale Rock Reservoir exchange alternative would involve the CCSD reaching an agreement with certain Whale Rock Commission member agencies that have entitlements to Nacimiento Reservoir water in exchange for the use of an equivalent allocation from the Whale Rock reservoir.

6.2.7.2 Transfers

A water transfer can be a temporary or permanent sale of water or a water right by the water right holder, a lease of the right to use water from the water right holder, or a sale or lease of a contractual right to water supply. Water transfers can also take the form of long-term contracts for the purpose of improving long-term supply reliability. The potential exists for the formation of voluntary exchange agreements with local agricultural interests. Such agreements may include fallowing certain irrigated areas during drought periods in exchange for compensation resulting from the loss of income producing crops. Currently, the CCSD has no exchange agreements in place.

6.2.7.3 Emergency Interties

Emergency interties are addressed in **Chapter 7**, Water Supply Reliability.

6.2.8 Future Water Projects

Past CCSD water master planning recommended a three-pronged approach towards achieving a long-term reliable water supply, which consists of water conservation, recycled water for non-potable irrigation, and seawater desalination. This supply approach, along with distribution system improvements for improving fire flow and fire storage, were incorporated into a Water Master Plan Program Environmental Impact Report (WMP PEIR), which was certified by the CCSD on August 21, 2008. The California Environmental Protection Act (CEQA) allows tiering from such program EIRs to further address project-specific environmental concerns. Therefore, subsequent supply projects may incorporate the earlier the WMP PEIR while addressing project-specific environmental concerns within project-specific environmental clearances.

Table 6-8. DWR 6-7R Expected Future Water Supply Projects or Programs

NAME OF FUTURE PROJECTS OR PROGRAMS	JOINT PROJECT WITH OTHER SUPPLIERS	AGENCY NAME	DESCRIPTION	PLANNED IMPLEMENTATION YEAR	PLANNED FOR USE IN YEAR TYPE	EXPECTED INCREASE IN WATER SUPPLY TO SUPPLIER
Recycled Water	No			2030	All Year Types	50-100
Water Reclamation Facility	No		Indirect Potable Reuse	2025	All Year Types	21-250

Per the application submitted for the WRF's regular Coastal Development Permit (CDP), an estimated 21 AF of WRF production is estimated to occur during a normal year, which is based on a 9-hour daily runtime up to 4 working days per week for a minimum of eight weeks per year at a product water reinjection rate of 400 gpm. Should the IPR system operate continuously over a six-month dry season, its total production would be approximately 250 AFY. A start year of 2025 has been chosen as a conservative estimate to obtain the regular CDP.

6.2.9 Summary of Existing and Planned Sources of Water

Table 6-9 and Table 6-10 summarize the CCSD potable water supplies from 2020 through 2045 which includes existing groundwater supplies; planned potable water augmentation projects to improve potable supply reliability during dry periods and droughts; and, the planned future use of recycled water for non-potable irrigation. The totals shown here are not intended to reflect the proposed demand, as the supplies may exceed demand to meet reliability needs.

Table 6-9 lists the actual volume of purchased or imported water for the CCSD service area for potable and non-potable supplies, respectively.

Table 6-10 lists the projected volume of water supplies for the CCSD service area for potable and non-potable supplies. The projected amount of reasonably available volume of potable supply shown in **Table 6-10** is based on analysis of different year types and historic production amounts. Additional detail regarding this analysis is available in **Section 7.1.2**.

Table 6-9. DWR 6-8R Actual Water Supplies

		2020		
WATER SUPPLY	ADDITIONAL DETAIL ON WATER SUPPLY	ACTUAL VOLUME	WATER QUALITY	TOTAL RIGHT OR SAFE YIELD
Groundwater (not desalinated)	San Simeon Creek Basin and Santa Rosa Creek Basin	540	Drinking Water	1,017
Other	Seawater Intrusion Barrier - Use of existing percolation pond operation	475	Recycled Water	-
-	**TOTAL:**	**1,015**		**1,017**

NOTES: California Coastal Commission Coastal Development Permit 428-10 limits the annual diversion from both basins to 1,230 AFY. Per the CCSD's SWRCB diversion licenses, allowable diversions are limited to 218 AFY from the CCSD's Santa Rosa Creek aquifer wells (based on calendar year 2008 pumpage); and 799 AFY from the CCSD's San Simeon Creek aquifer wells (based on calendar year 2000 pumpage). These amounts total 1,017 AFY (see table 6-8) and are exclusive of riparian water use.

Table 6-10. DWR 6-9R Projected Water Supplies

		PROJECTED WATER SUPPLY									
		2025		2030		2035		2040		2045	
WATER SUPPLY	ADDITIONAL DETAIL ON WATER SUPPLY	REASONABLY AVAILABLE VOLUME	TOTAL RIGHT OR SAFE YIELD	REASONABLY AVAILABLE VOLUME	TOTAL RIGHT OR SAFE YIELD	REASONABLY AVAILABLE VOLUME	TOTAL RIGHT OR SAFE YIELD	REASONABLY AVAILABLE VOLUME	TOTAL RIGHT OR SAFE YIELD	REASONABLY AVAILABLE VOLUME	TOTAL RIGHT OR SAFE YIELD
Groundwater (not desalinated)	San Simeon Creek Basin and Santa Rosa Creek Basin	725[1]	1,017	725	1,017	725	1,017	725	1,017	725	1,017
Recycled Water	Water Reclamation Facility	21		21		21		21		21	
Recycled Water	Landscape Irrigation (excludes golf courses)			50		100		100		100	
	TOTAL:	**746**	**1,017**	**796**	**1,017**	**846**	**1,017**	**846**	**1,017**	**846**	**1,017**

[1] Based on historic production in an average year type (i.e., 2012). See Section 7.1.2.2 for additional information.

6.2.10 Special Conditions

6.2.10.1 Climate Change Effects

An external climate change growth rate estimate was applied to the CCSD annual water demand projections with passive savings. Customer category demands were increased by 2.38% by 2050 to capture the effect of climate change. This bump was feathered in linearly starting with a zero increase then rising to 2.38% by 2050. This climate change increase was not applied to the non-revenue water volume. The factor is based on changes in temperature and precipitation from CalAdapt, which is based on analysis from California's Fourth Climate Change Assessment. Estimates were for the grid overlaying the Central Coast region originally prepared for the City of Santa Barbara and based on specific years (2020-2050). This analysis was based on an average of 10 climate models, and representative concentration pathways 8.5, which assumed "business as usual" (i.e., emissions continue to rise strongly through 2050 and plateau around 2100).

> This resulted in a projected maximum temperature increase from 70.1°F (historical average) to 72.8°F in 2050 and an increase in precipitation from an average historical of 17.3 inches per year to 19.1 inches per year.

It should be noted that the increase in projected precipitation reflects fewer storm events of above-average intensity; in other words, precipitation patterns are projected to be infrequent but severe, resulting in greater percentages of runoff to the ocean and less opportunity for natural percolation into the groundwater table.

6.2.10.2 Regulatory Conditions and Project Development

At this time, CCSD does not anticipate regulatory and project specific development that will affect characterization of future water supply availability.

6.2.10.3 Other Locally Applicable Criteria

At this time, CCSD does not anticipate any other locally applicable criteria that will affect characterization of future water supply availability.

6.3 Energy Intensity

CCSD has not performed an energy audit relating to their water production and distribution, however, a water energy audit will be considered in future optimization efforts. In order to estimate the energy associated with water production and distribution from the San Simeon and Santa Rosa Wells to the CCSD customers, CCSD would need to be able to track the runtime, energy draw, and efficiency for each individual well pump, wellhead treatment plant, pumping station, and associated treatment buildings. Currently, CCSD does not have the individual meters to measure energy associated with water production and distribution.

7

URBAN WATER MANAGEMENT PLAN

Water Service Reliability and Drought Risk Assessment

This chapter describes the long-term reliability of CCSD's water supplies. Shorter term reliability planning that may require immediate action, such as drought or a catastrophic supply interruption, is addressed in the Water Shortage Contingency Plan (Chapter 8).

The water supply for Cambria is vulnerable to drought because of the limited amount of groundwater storage capacity in the Santa Rosa and San Simeon basins. Storage is small relative to average annual groundwater pumping and during dry years there is an extended amount of time the District must rely upon the limited storage.

IN THIS SECTION

- Water Service Reliability Assessment
- Drought Risk Assessment

The 2014 drought underscored this vulnerability when projected supplies were less than demands, which led to drought emergency declaration by the CCSD Board. The 2014 emergency declaration led to swift action by the CCSD, which included mandatory conservation measures, restoration of the CCSD's lower Santa Rosa Well SR3 and its iron and manganese removal treatment filter, as well as completion of the WRF on the lower San Simeon Creek aquifer that used brackish water extracted from an existing well located at the CCSD's wastewater treatment plant effluent percolation ponds. With this background in mind, the following sections describe the CCSD's water supply reliability and drought planning, groundwater supply reliability, and related drought analyses and actions.

7.1 Water Service Reliability Assessment

CCSD has completed an assessment of the water service reliability based on their current water supplies. The service reliability assessment considered hydrological variability, climate conditions, as well as other factors that have the potential to affect CCSD's ability to meet their water demands.

7.1.1 Constraints on Water Sources

The CCSD has historically relied upon its two local coastal groundwater aquifers for its water supply. The relatively small storage in these aquifers make them dependent upon seasonal rains to recharge. When such rainfall arrives late or in low amounts, the aquifers dip in elevation to where the threat of seawater intrusion, subsidence, and a reversal in hydraulic gradient between percolated wastewater and potable wells become key concerns. This was the case in 2013-2014 when weather patterns steered the storm track away from and around the central coast and resulted in an annual rainfall well below average.


San Simeon Creek

As with many areas throughout the state, CCSD's water is a limited and shared resource between municipal, agricultural, and environmental needs. The area's two creeks have been inhabited by listed species, such as the south-central coast steelhead, tidewater goby, southwestern pond turtle, and red-legged frog. Therefore, compliance with the Endangered Species Act is a key driver in decision making related to use of the coastal streams as a water resource. Offshore concerns include the area being in common with the southern extent of the federal, Monterey Bay National Marine Sanctuary, as well as State Marine Parks. Agricultural operations along the two coastal valleys include cattle ranching, truck crops, avocado orchards, and vineyards. Municipal water needs include providing service to visitor-serving uses such as hotels, motels, campgrounds, as well as residential needs.

The community's isolated location along the coast has made it difficult to connect to distant water supplies, such as the State Water Project and Nacimiento Water Project. For many years, the CCSD pursued seawater desalination as a means to diversify and secure a more reliable supply source. However, the regulatory climate (including denials by state agencies), environmental sensitivity of the area, and growth inducement concerns associated with seawater desalination have proven to be a formidable deterrent toward completing a seawater desalination project. When supplies were limited in the 2014 drought, CCSD considered using a brackish water well at its wastewater effluent percolation ponds. This led to the design and construction of the WRF, which met indirect potable reuse regulations for recycled water that allowed re-injecting the highly treated brackish water back into the San Simeon Creek aquifer near the CCSD's potable well field. In addition to the WRF, the CCSD also restored a well along the lower reach of Santa Rosa Creek (Well SR3), which allowed access to deeper groundwater in this portion of the aquifer.

7.1.2 Year Type Characterization

Scenarios for analysis of supply reliability are based on deliveries in historic water years characterized as “normal” or “average” water years, and “single dry” water years and combinations of these into “consecutive dry water years.” See **Section 7.1.2.1** below for description of these types of years and the reliability during them.

7.1.2.1 Types of Years

Recharge into the CCSD’s local groundwater aquifers is dominated by net stream percolation. In most years, the availability of stream flow far exceeds the amount required to replenish the aquifer storage depleted during the previous dry season (both streams are intermittent and cease flowing for a number of months in summer and fall). Wet years do not provide additional storage reserve because once the basins are full; any additional stream recharge is rejected. As a result, the amount of groundwater in storage at the beginning of the dry season is essentially the same over a broad range of hydrologic year types ranging from slightly dry to wet.

Droughts in the two aquifer systems are very threshold dependent. For progressively smaller amounts of annual rainfall and stream flow, the annual amount of available groundwater remains about the same until the point at which winter stream flow is inadequate to fully replenish the basins. Statistical analysis of San Luis Obispo rainfall and local stream discharge was combined with groundwater modeling to determine that incomplete recharge occurs when annual rainfall is less than 10.31-10.95 inches and the average recurrence interval of rainfall less than amount is approximately 18-25 years (Konyenburg & Yates, 1998). For even smaller amounts of annual rainfall, water supply conditions worsen up to the point at which there is no stream flow (and no recharge) at all. Beyond that point, further decreases in rainfall do not make water supply conditions any worse. Zero stream flow occurs with 9.78-9.85 inches of annual rainfall (slightly different for the two basins), corresponding to an average recurrence interval of 31-32 years.

The most extensive rainfall history for the area is from the Cal Poly weather station, which has records dating from the 1872-1873 water year to the present. This weather station is also within proximity of the rainfall isohyet precipitation contour line that crosses Cambria, which indicates a reasonable correlation would be expected between the two locations. **Figure 7-1** provides a plot of the Cal Poly annual rainfall totals, while **Figure 7-2** provides a map showing the isohyet precipitation contours for San Luis Obispo County. From **Figure 7-2**, the amount of rainfall increases substantially within the San Simeon and Santa Rosa watersheds with increasing elevation. This is due to the Santa Lucia mountain range being east of Cambria, and the predominantly inland, west to east direction of storm paths off the Pacific (because storm clouds hold less moisture as they increase in elevation, precipitation totals will typically increase with rising elevations along the area’s western facing mountain slopes). The Cal Poly weather station data was also compared to the San Luis Obispo County Santa Rosa at Main rainfall gauge located at the Corner of Santa Rosa Creek Road and Main Street in Cambria.

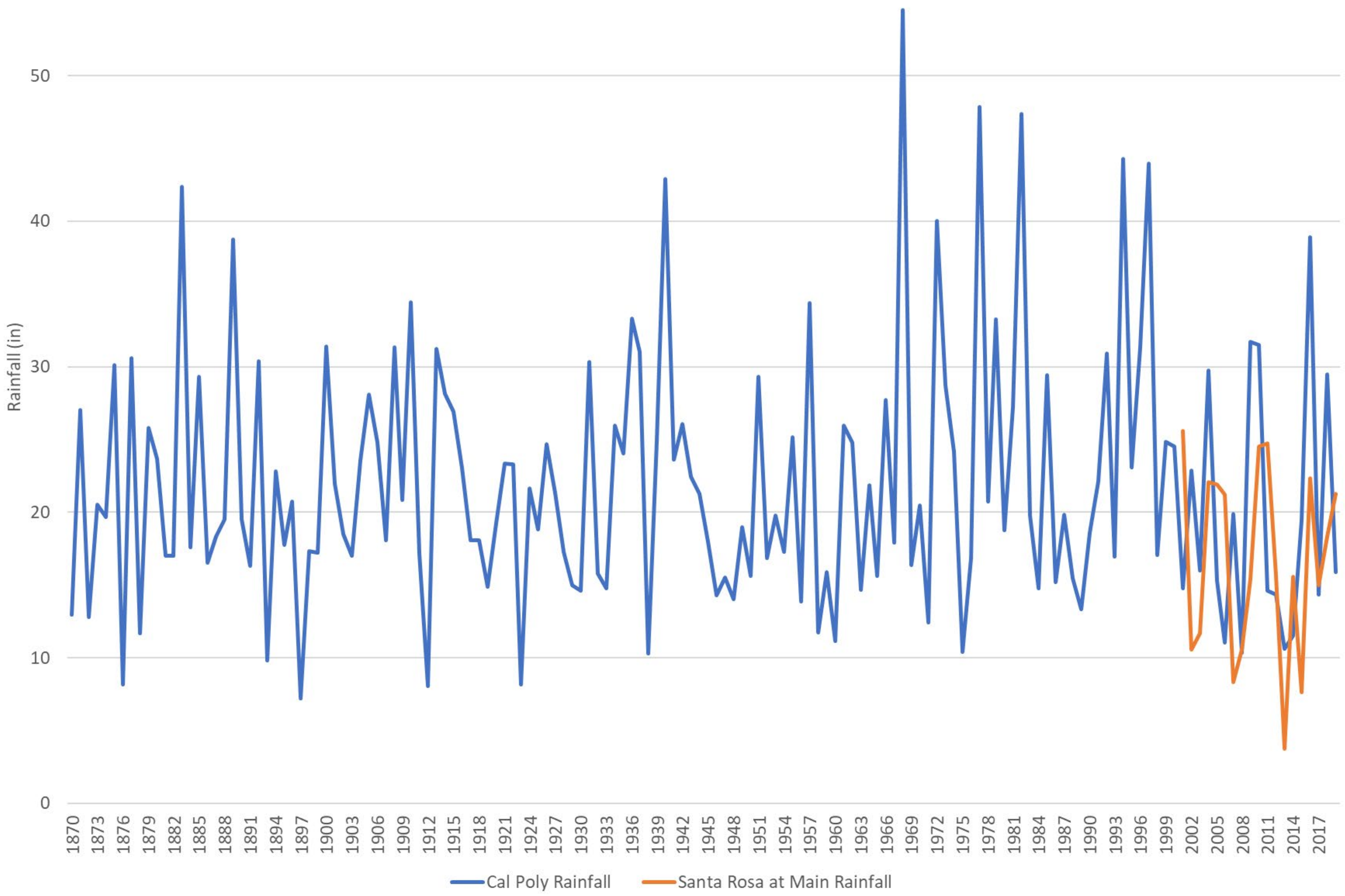


Figure 7-1. Rainfall Totals from Cal Poly Station and Santa Rosa at Main Station

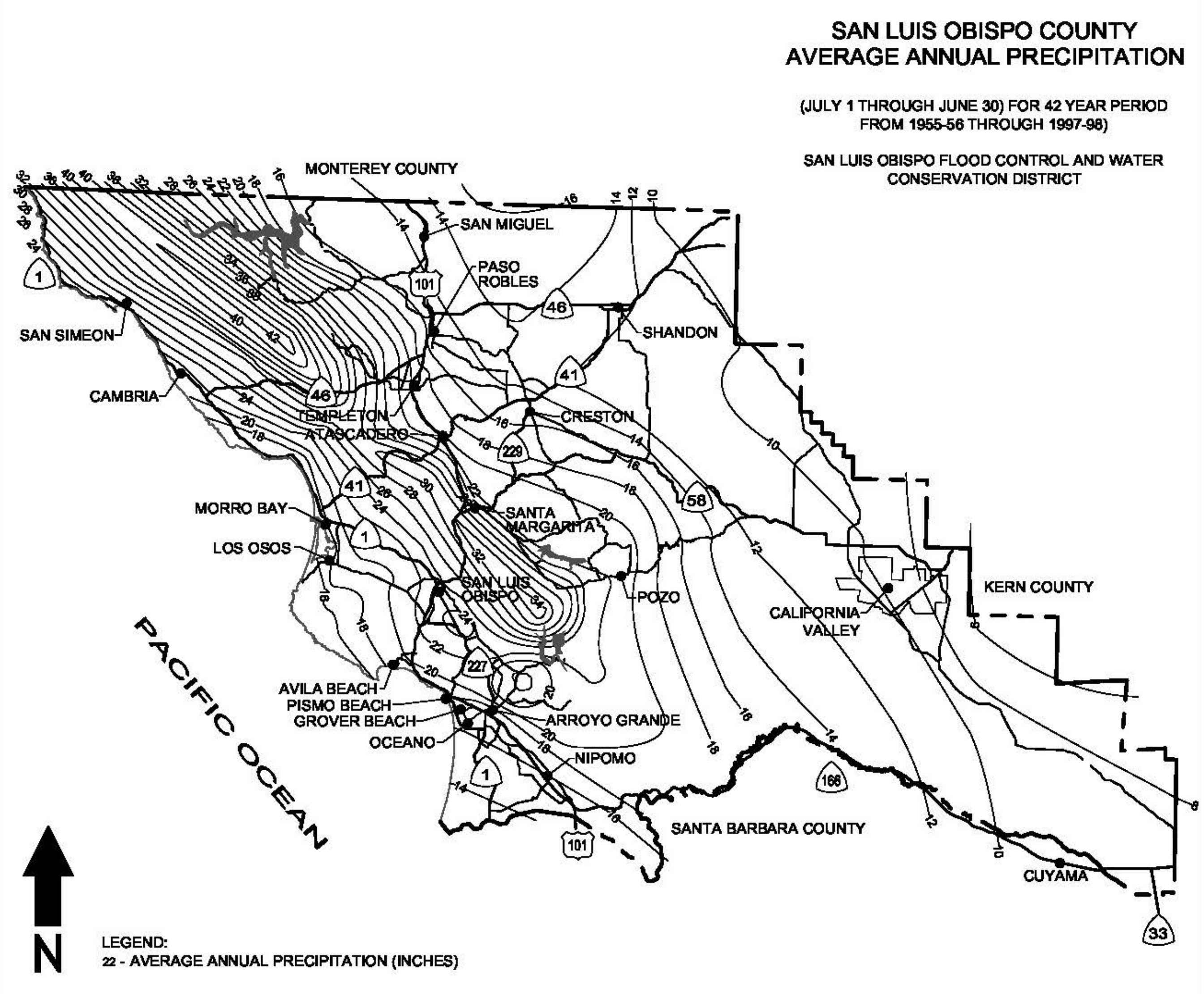


Figure 7-2. San Luis Obispo County Average Annual Precipitation

CCSD production limits are tied to a wet and a dry season production. Water Rights Licenses issued by the SWRCB to the CCSD allow a maximum of 799 AF annually from the San Simeon aquifer, while limiting dry season pumping to 370 AF maximum from the time that the creek ceases flow at the Palmer Flats gauging station until October 31. The Santa Rosa Creek SWRCB Water Rights Licenses limits the Santa Rosa aquifer pumping to 218 AF annually, with a dry season pumping limit of 155.3 AF from May 1 to October 31. Because of their Water Rights Licenses, CCSD tracks the length of dry season from the time that the creek ceases flow at the Palmer Flats gauging station until October 31 each year. The length of dry season was used to identify the base years described in this chapter.

The base years were developed using the historical length of San Simeon dry season from 1987-2020, as shown in **Figure 7-3**. A normal or average year represents the average water supply available to the supplier. The average length of dry season was 110 days which corresponds to a dry season starting in July which occurred in 2012.

The single dry year is the year that represents the lowest water supply available to the Supplier. The longest dry season occurred in 1990 (188 days) and 2014 (187 days). The single-dry year selected was 2014 due to the fact that it occurred during the more recent drought.

The five-consecutive year drought is defined as the driest five-year historical sequence for the Supplier (CWC Section 10612). For consecutive dry years, the maximum five-year average dry season length was used which was 2012-2016. The base years are summarized in **Table 7-1**.

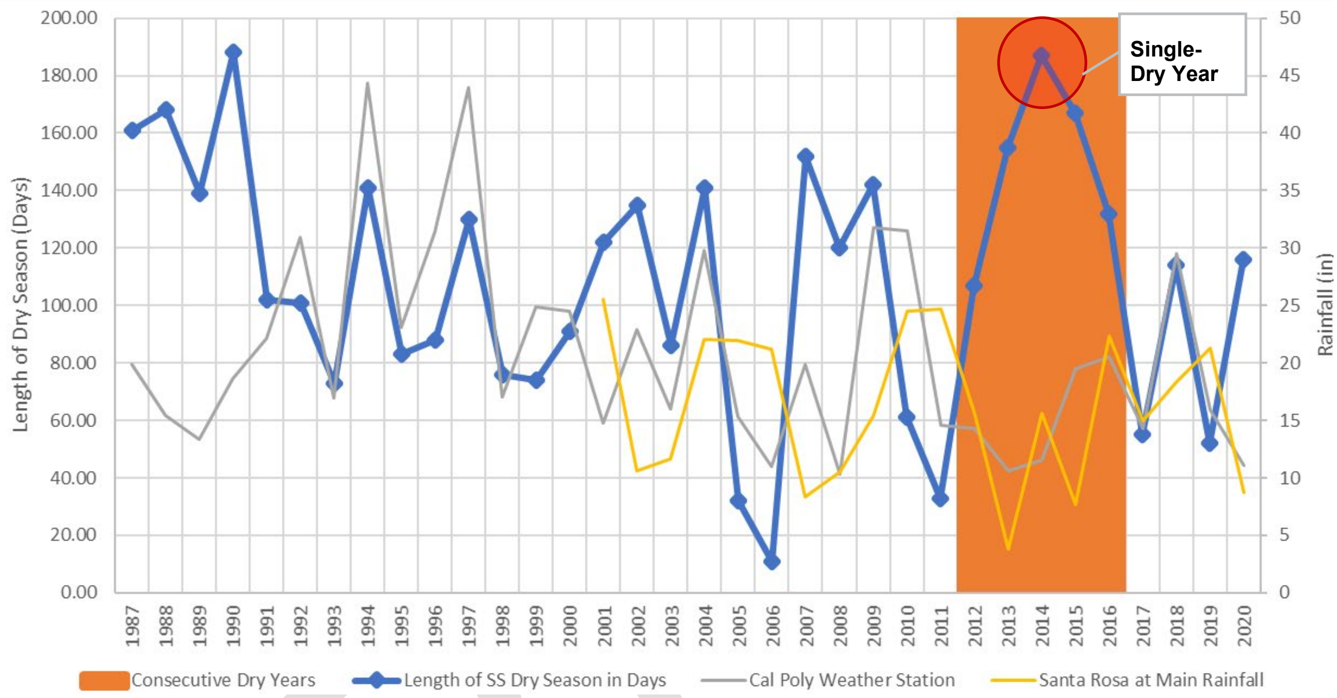


Figure 7-3. Length of Dry Season

The hydrologic consequences of a year with zero stream recharge were simulated by the U.S. Geological Survey (USGS) using groundwater flow models of the two aquifers (Yates and Van Konynenburg, 1998). Groundwater levels did not recover at all during the winter without stream flow, because rainfall recharge was also zero under those circumstances. Municipal and agricultural pumping were assumed to continue as usual during the second dry season, and groundwater levels continued to decline. In both basins, declines in water levels and storage during the second dry season were greatest near the upper ends of the valleys because groundwater is continually draining down-valley, with or without municipal pumping. During the second dry season, groundwater levels declined an additional 20 feet near the upstream end of the valley, an additional 15 feet near the municipal well field (to 13 feet below sea level) and an additional 6 feet near the State Park campground (to 3 feet below sea level).

The two groundwater basins differ with respect to the three major impacts of excessive water-level declines: seawater intrusion, subsidence and depletion of base flow, and the coastal lagoons. Simulation results indicated that there would be seawater intrusion in the San Simeon basin, but not the Santa Rosa basin. During the year prior to the winter without recharge, there was 320 AFY of groundwater outflow to the ocean. During the subsequent year, this reversed to become 48 AFY of seawater intrusion. Additional simulations were not completed to estimate the pumping reduction needed to eliminate seawater intrusion.

Subsidence would probably occur in the Santa Rosa basin during the dry season following a winter without recharge, but the risk is probably smaller in the San Simeon basin. Subsidence occurred in the Santa Rosa basin during the 1976-1977 drought, when groundwater levels in Cambria dropped to 14-20 feet below sea level (Cleveland, 1980). If a basin contains compressible sediments, subsidence typically occurs when groundwater levels fall substantially below their historical minimum levels, and simulated groundwater levels in Cambria were 25 feet below sea level by the end of the second dry season. Dry season water level declines are approximately proportional to the total amount of dry season pumping.

7.1.2.2 Sources for Water Data

CCSD staff records the length of dry season as part of their compliance monitoring. The length of dry season was used to identify the base years in the reliability assessment. Supply availability for the different base year types was estimated based on historical production values for those years, as shown in **Table 7-1**.

Table 7-1. DWR 7-1R Basis for Water Year Data (Reliability Assessment)

		AVAILABLE SUPPLY IF YEAR TYPE REPEATS	
YEAR TYPE	BASE YEAR	VOLUME AVAILABLE	PERCENT OF AVERAGE SUPPLY
AVERAGE YEAR	2012	725	100%
SINGLE-DRY YEAR	2014	467	64%
CONSECUTIVE DRY YEARS 1ST YEAR	2012	725	100%
CONSECUTIVE DRY YEARS 2ND YEAR	2013	733	101%
CONSECUTIVE DRY YEARS 3RD YEAR	2014	467	64%
CONSECUTIVE DRY YEARS 4TH YEAR	2015	467	64%
CONSECUTIVE DRY YEARS 5TH YEAR	2016	494	68%

Supply availability during these year types is based on actual production during those years

7.1.3 Water Service Reliability

This section describes the supply and demand projections for normal, single-dry, and consecutive dry water years. The supply totals are from **Table 6-10 on page 6-16**, which includes production from the CCSD potable wells, flows from the WRF, and future recycled water that may be used for outdoor irrigation. The demand totals assumed the current drought-reduced production will increase slightly but will not return to pre-drought levels, while also using the DSS Model's projection with passive savings. Demands total include CCSD customer demands plus the recycled water that will be used for irrigation. Recycled water demand does not include demand associated with the Seawater Intrusion Barrier since the barrier uses treated Wastewater Effluent as a supply and not potable water. The supply totals include groundwater, recycled water, and water from the WRF. Per the application submitted for the WRF's regular Coastal Development Permit (CDP), an estimated 21 AF of WRF production is estimated to occur during a normal year, which is based on a 9-hour daily runtime up to 4 working days per week for a minimum of eight weeks per year at a product water reinjection rate of 400 gpm. Should the IPR system operate continuously over a six-month dry season, its total production would be approximately 250 AFY.

7.1.3.1 Water Service Reliability – Normal Year

Table 7-2 shows the normal year supply and demand comparison. CCSD's supply is projected meet the anticipated demand. CCSD will also be able to operate within the pumping limits described in their Water Rights License based on a dry season length that corresponds with a normal year.

Table 7-2. DWR 7-2R Normal Year Supply and Demand Comparison

	2025	2030	2035	2040	2045
Supply Totals From Table 6-9R	746	796	846	846	846
Demand Totals From Table 4-3R	580	640	710	730	730
DIFFERENCE:	**166**	**156**	**136**	**116**	**116**

Supply availability during these year types is based on actual production during those years.

Demand does not include the demand associated with the Seawater Intrusion Barrier or the WRF since the demand for these uses are met using treated wastewater effluent.

Beginning in year 2030, supply and demand include approximately 50 AFY of recycled water use is anticipated by converting existing CCSD customers from potable, groundwater-source-based use to non-potable outdoor irrigation using recycled water. In 2035 on an additional 50 AFY of outdoor irrigation with recycled water is estimated.

7.1.3.2 Water Service Reliability – Single Dry Year

Comparison of the projected single-dry year water supply to the projected single-dry year water demand over the next 20 years, in 5-year increments is shown in **Table 7-3** below. The supply totals include an additional 250 AF from the WRF which will need to be in operation to meet the projected demands under the single-dry year scenario. The WRF operation will also be combined with conservation measures to help narrow the gap between the supply and demand. To be conservative, the demand totals below assume there would be no reduction in customer demands during a single dry year condition.

Table 7-3. DWR 7-3R Single Dry Year Supply and Demand Comparison

	2025	2030	2035	2040	2045
Supply Totals	717[1]	717	717	717	717
Demand Totals	580	590	610	630	630
DIFFERENCE:	**137**	**127**	**107**	**87**	**87**

[1] Supply availability for Single Dry Year is based on actual production (467 AF) in 2014 (Single Dry Year Base year) plus 250 AF from the WRF, which will need to be in operation to meet the projected demands under the single-dry year scenario.

7.1.3.3 Water Service Reliability – Five Consecutive Dry Years

Comparison of the projected consecutive dry year water supplies to the projected multiple dry year water use over the next 20 years, in 5-year increments is shown in **Table 7-4** below. The supply includes 250 AF from the WRF which will need to be in operation to meet the projected demands starting in year 3 of the consecutive dry year scenario. The WRF operation will also be combined with conservation measures to help narrow the gap between the supply and demand while limiting stresses on the groundwater aquifers by reducing production. To be conservative, the demand totals below assume there would be no reduction in customer demands during the consecutive dry year scenario.

Based on projected water supply and demands over the next 25 years, the CCSD has supply capabilities that would be sufficient to meet expected demands through 2045 under single-dry year and multiple-dry year conditions assuming the WRF is in operation. This reliability will be further established when CCSD completes the already-in-progress regular coastal development permitting process for the WRF. Additionally, the conservation measures described in the Water Shortage Contingency Plan will further enhance reliability by providing an additional reduction in future demands beyond those that were used in this section's analysis.

Table 7-4. DWR 7-4R Multiple Dry Years Supply and Demand Comparison

		2025	2030	2035	2040	2045
First	Supply Totals	725	725	725	725	725
Year	Demand Totals	580	590	610	630	630
-	**DIFFERENCE:**	**145**	**135**	**115**	**95**	**95**
Second	Supply Totals	733	733	733	733	733
Year	Demand Totals	580	590	610	630	630
-	**DIFFERENCE:**	**153**	**143**	**123**	**103**	**103**
Third	Supply Totals	717	717	717	717	717
Year	Demand Totals	580	590	610	630	630
-	**DIFFERENCE:**	**137**	**127**	**107**	**87**	**87**
Fourth	Supply Totals	717	717	717	717	717
Year	Demand Totals	580	590	610	630	630
-	**DIFFERENCE:**	**137**	**127**	**107**	**87**	**87**
Fifth	Supply Totals	744	744	744	744	744
Year	Demand Totals	580	590	610	630	630
-	**DIFFERENCE:**	**164**	**154**	**134**	**114**	**114**

Supply availability for each year of the Multiple Dry Year Scenario is based on actual production for the Base Years, as defined in Section 7.1.2. In the third, fourth and fifth year of the Multiple Dry Year Scenario, 250 AF of additional supply is assumed to be available from the WRF. This additional supply is necessary to meet the projected demands without conservation. Additional information on the WRF and its ability to augment groundwater supplies is available in Section 6.2.2.

7.1.4 Descriptions of Management Tools and Options

As a retail supplier of the Cambria area's potable water, the CCSD continues to promote water conservation to make the most efficient use the existing local groundwater supplies. This section describes the CCSD's retail Demand Management Measures (DMMs), their implementation over the past five years, and future planned conservation measures that will ensure the CCSD continues to meet or exceed water use reduction goals.

7.1.4.1 Water Waste Prevention Ordinance

The CCSD prohibition water waste through enforcement of Chapter 4.08 of its Municipal Code, which is also described within Section 9.1. The prohibition of water waste is an ongoing requirement, which applies during drought and non-drought conditions. Enforcement is achieved through coordinated efforts of the CCSD's water and billing departments.

7.1.4.2 Metering

All potable water customers served by the CCSD are metered. The CCSD currently uses AMR meters, which include an electronic flagging feature when leaks are suspected on the downstream, customer-side of the meter. The CCSD billing department coordinates with the water department in notifying customers of suspected leaks. Depending upon specific circumstances, such noticing may be followed up with an on-site inspection to assist customers in determining the cause of their leak to facilitate repair. The CCSD is moving to an advanced metering infrastructure (AMI) system which is proposed for the 2021-2022 fiscal year.

7.1.4.3 Public Education and Outreach

The CCSD routinely provides public information on water conservation via its website, billing inserts, billing notices, public announcements, coordination with the local media, as well as by its website at cambriacsd.org. Tent cards on water conservation are also provided to restaurants and motels. The CCSD is also a member agency of the California Water Use Efficiency Partnership (CalWEP) and the Alliance for Water Efficiency (AWE), which provides water use efficiency resources and programming, including the annual Peer2Peer training and networking event. The CCSD website contains 'how to' information on reading meters and checking for leaks, as well as other water conservation tips and resources. CCSD water bills include information about customer's past use to allow for a quick assessment of water consumption trends. The CCSD has placed an added emphasis on testing pressure-regulating valves on residential homes based on experience from residential surveys. To facilitate testing, pressure gages are loaned to customers free of charge for testing pressures downstream from their pressure-regulating valve. The District's website also contains information explaining pressure-regulating valve testing.

7.1.4.4 Programs to Assess and Manage Distribution System Real Loss

The CCSD routinely monitors its water production and consumption and investigates unaccounted water to determine water loss. Staff have also attended training offered by the California-Nevada Section of the AWWA on water loss auditing, which is in response to SB 555 that was passed by the State during 2015. **Appendix F** provides a copy of the CCSD's 2020 Water Loss Audit. Per the results of previous audits, the CCSD will continuously improve metering and documentation for authorized non-metered water use (E.g., assigning construction hydrants to fire trucks for use in non-emergency tasks such as hydrant testing) as well as estimating and documenting losses from leak repairs. The CCSD field staff routinely check and respond to water leaks and are on-call 24/7 to immediately respond and take corrective action. In 2020, Water Department staff began tracking leak repairs and associated losses using the CCSD's geographic information system, Diamond Maps.

7.1.4.5 Water Conservation Program Coordination and Staffing Support

The Utilities Department administers the CCSD's water conservation program, which includes rebates, giveaways, outreach, water loss auditing, and administration of the retrofit program and demand offset program. Future training of staff sharing these duties will be sought out from CalWEP and other sources. The Utilities Department Program Manager is required to obtain a Grade I Water Use Efficiency Practitioner certification through the AWWA.

7.1.4.6 Implementation over the Past Five Years

Water conservation implementation over the past five years has included the CCSD's continuing efforts on its retrofit on resale program, overhauling the demand offset program, rebates for smart water systems such as the Flume Smart Water Monitor, as well as free water efficient devices such as low-flow showerheads and automatic shut-off hose nozzles. The CCSD has historically maintained a points bank to track conservation measures used to offset demands from any future water connections within its serviced area. Essentially, this program determines the number of retrofit-in-lieu points required based on the proposed development, which are then purchased and withdrawn from the points bank. As conservation measures occur, points are added back into the bank. Previous efforts included the CCSD commissioning Maddaus Water Management to complete a Water Use Efficiency Plan (WUEP) in 2013. This effort resulted in an update to the number of points required based on the review demands by various sized residential homes and using the 90th percentile of those findings as a basis. The WUEP effort resulted in the CCSD Board adopting Program B in February 2013. The process used to develop the WUEP included analyzing conservation measures and programs using a Water Demand Management Decision Support System Model (DSS Model). As part of this 2020 UWMP, the CCSD has updated the DSS Model, which is further described within **Appendix G**.

Table 7-5. CCSD Elements of Conservation Program B

GENERAL MEASURES	RESIDENTIAL MEASURES	COMMERCIAL MEASURES
Public Information	High Efficiency Toilets Rebates*	Large Meter Replacement and Leak Monitoring*
Water Loss (NRW) Control Program	Clothes Washer Rebates	Clothes Washer Rebates
AMR Conservation Benefits*	Water Use Efficiency Surveys	Water Use Efficiency
Conservation Pricing Update*	Showerhead Giveaway*	High Efficiency Urinal Rebates
Prohibit Water Waste and Practices (Ordinance)*	Require Fixture Replacement by a Deadline*	Require Fixture Replacement by a Deadline*
	Require Irrigation and Landscape Upgrades	Require Irrigation and Landscape Upgrades
	Distribute Hot Water Recirculation Pumps*	

*Denotes continue and/or expand current measure

7.2 Drought Risk Assessment

CWC Section 10635(b) requires every urban water supplier to include, as part of its UWMP, a drought risk assessment (DRA) for its water service area to incorporate in the development of the DMMs and water supply projects and programs. The DRA analysis allows suppliers to consider how to manage their water supplies during stressed hydrologic conditions in relation to variations in demand and supports the evaluation of the supplier's WSCP.

7.2.1 Data, Methods, and Basis for Water Shortage Condition

CCSD leverages data collected as part of their management tools described in Section 7.1.4 and also listed below.

- CCSD uses AMR meters to detect leaks and will notify customers if a leak is detected,
- Compares well production and consumption totals to track unaccounted for water, and
- Implemented a points bank to offset new water demands. Points are offset by implementing water conservation measures.

As part of normal operation, CCSD also tracks well levels and flow at Palmer Flats as part of their existing permits.

The DRA is based on the driest five-year historic sequence experienced by CCSD as required by CWC Section 10612. The CWC Section 10635 requires the analysis consider plausible changes on projected supplies and demands due to climate change, anticipated regulatory changes and other locally applicable criteria.

For CCSD, years 2012 to 2016 represent the driest five-consecutive years based on the length the San Simeon dry season. CCSD used this five-year historic sequence to complete its DRA. During this drought period, CCSD will bring the WRF online to alleviate pressure on their groundwater aquifers.

7.2.2 DRA Water Source Reliability and Total Water Supply and Use Comparison

The CCSD demand totals assumed the current drought-reduced production will increase slightly but will not return to pre-drought levels. The demand totals do not include the recycled water that will be used for irrigation because that program is not anticipated to start until 2030. To be conservative, the supply from the WRF was not included in the supply totals in **Table 7-6** because the facility is currently only permitted to run under emergency conditions. The five-year drought risk assessment predicts that demand will need to be reduced by 20% due to reduced supply availability in years 3 through 5.

Table 7-6. DWR 7-5 Five-Year Drought Risk Assessment Tables to Address Water Code Section 10635(b)

2021	Gross Water Use	580
	Total Supplies	725
	Surplus/Shortfall without WSCP Action	145
	PLANNED WSCP ACTIONS (USE REDUCTION AND SUPPLY AUGMENTATION)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	0
	Revised Surplus/Shortfall	145
	Resulting Percent Use Reduction from WSCP Action	0%
2022	Gross Water Use	580
	Total Supplies	733
	Surplus/Shortfall without WSCP Action	153
	PLANNED WSCP ACTIONS (USE REDUCTION AND SUPPLY AUGMENTATION)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	0
	Revised Surplus/Shortfall	153
	Resulting Percent Use Reduction from WSCP Action	0%
2023	Gross Water Use	580
	Total Supplies	467
	Surplus/Shortfall without WSCP Action	-113
	PLANNED WSCP ACTIONS (USE REDUCTION AND SUPPLY AUGMENTATION)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	116
	Revised Surplus/Shortfall	3
	Resulting Percent Use Reduction from WSCP Action	20%
2024	Gross Water Use	580
	Total Supplies	467
	Surplus/Shortfall without WSCP Action	-113
	PLANNED WSCP ACTIONS (USE REDUCTION AND SUPPLY AUGMENTATION)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	116
	Revised Surplus/Shortfall	3
	Resulting Percent Use Reduction from WSCP Action	20%
2025	Gross Water Use	580
	Total Supplies	494
	Surplus/Shortfall without WSCP Action	-86
	PLANNED WSCP ACTIONS (USE REDUCTION AND SUPPLY AUGMENTATION)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	116
	Revised Surplus/Shortfall	30
	Resulting Percent Use Reduction from WSCP Action	20%

8 Water Shortage Contingency Plan

This chapter describes the CCSD's Water Shortage Contingency Plan, including shortage stages and shortage response actions.

The CWC Section 10632 requires that every urban water supplier that serves more than 3,000 acre-feet per year or have more than 3,000 connections to prepare and adopt a standalone Water Shortage Contingency Plan (WSCP) as part of its Urban Water Management Plan. This WSCP is a proposed plan for a range of water shortage situations, including supply shortages of greater than 50%. The WSCP will be updated based on new requirements every five years and will be adopted as a current update for submission to the California Department of Water Resources (DWR).

The WSCP identifies specific criteria that will be used to declare and determine the severity of long-term supply shortages including annual rainfall, groundwater conditions, or limited production capacity (for destruction of critical supply facilities).

Short-term supply shortages may be caused by constrained production capacity or natural or man-made catastrophic emergencies and include, but are not limited to, the following events: power outages, winter storms, wildfires, earthquakes, structural failures, contamination, and bomb threats. These types of emergencies may limit CCSD's immediate ability to provide adequate water service to meet the requirements for human consumption, sanitation, and fire protection. Such emergencies are usually limited in duration and, at the time of declaration, are not expected to last more than a few weeks; thus, consumption reduction measures and prohibitions may differ from those needed for long-term shortages.

CCSD’s WSCP is organized into the following main sections to align with the CWC Section 16032 requirements:

Water Supply Reliability Analysis

Summarizes CCSD’s water supply analysis and reliability and identifies any key issues that may trigger a shortage condition.

Annual Water Supply and Demand Assessment Procedures

Describes the key data inputs, evaluation criteria, and methodology for assessing the system’s reliability for the coming year and the steps to formally declare any water shortage levels and response actions.

Standard Shortage Stages

Establishes water shortage levels to clearly identify and prepare for shortages.

Shortage Response Actions

Describes the response actions that may be implemented or considered for each stage to reduce gaps between supply and demand as well as minimize social and economic impacts to the community.

Communication Protocols

Describes communication protocols under each stage to ensure customers, the public, and government agencies are informed of shortage conditions and requirements.

Compliance and Enforcement

Defines compliance and enforcement actions available to administer demand reductions.

Legal Authority

Lists the legal ordinance that grants CCSD the authority to declare a water shortage and implement and enforce response actions.

Financial Consequences of WSCP Implementation

Describes the anticipated financial impact of implementing water shortage stages and identifies mitigation strategies to offset financial burdens.

Monitoring and Reporting

Summarizes the monitoring and reporting techniques to evaluate the effectiveness of shortage response actions and overall WSCP implementation. Results are used to determine if additional shortage response actions should be activated, if efforts are successful, and if response actions should be adjusted.

WSCP Refinement Procedures

Describes the factors that may trigger updates to the WSCP and outlines how to complete an update.

Special Water Features Distinctions

Defines considerations and definitions for water use for decorative features versus pools and spas. Decorative features include ornamental fountains, ponds, and other aesthetic features. Water for these features is allowed to sustain aquatic life.

Plan Adoption, Submittal, and Availability: Describes the process for the WSCP adoption, submittal, and availability after each revision.

8.1 Water Supply Reliability Analysis

This section was completed pursuant to CWC Section 10632(a)(1) and describes the key findings of the water supply reliability analysis in Chapter 7 and conducted pursuant to CWC Section 10635. As discussed in Chapter 7, CCSD has completed an assessment of the water service reliability based on their current water supplies. The service reliability assessment considered hydrological variability, climate conditions, as well as other factors that have the potential to affect CCSD's ability to meet their water demands.

As part of the 2020 UWMP requirements, Chapter 7 includes a supply reliability analysis for the following scenarios: normal year, single-dry year, and five-year consecutive dry years. CCSD expects to meet demands under all water year scenarios with groundwater (supplemented by WRF) while continuing to promote conservation. CCSD anticipates utilizing between approximately 467 to 725 AFY from the San Simeon and Santa Rosa aquifers depending on the year type. It is anticipated that this range of supply volume will be available to meet CCSD's demands either by using the WRF, reducing demand via conservation, or implementing a combination of both.

Chapter 7 also includes a required Drought Risk Assessment (DRA) to analyze supply reliability for 2021-2025. The DRA analyzes historical production data and length of dry season to allow CCSD to view patterns and more reliably determine if there could be any water shortages within a given time frame. Also, future demand and supply estimates for the planning period are analyzed to determine if there are any gaps between supply and demand. As mentioned above, CCSD will be able to meet demand by leveraging the WRF, conservation, or a combination of both.

Since CCSD's only current source of water is groundwater, CCSD is committed to promoting conservation and utilizing the WRF to improve its supply portfolio and subsequent reliability as described in **Chapter 7**.

8.2 Annual Water Supply and Demand Assessment

The CCSD continuously tracks water supply conditions to help forecast the estimated supply availability based on either the estimated dry season start date, streamflow monitoring, estimated dry season length, or the hydrologic year-type classification. The metrics that the CCSD utilizes to assess supply availability are included in the criteria for the WSCP.

8.3 Six Standard Water Shortage Levels

CWC Section 10632 (a)(3)(B) authorizes Suppliers to continue using their existing water shortage levels that may have been included in past WSCPs.

CCSD utilizes six shortage stages to identify and respond to water shortage emergencies. **Table 8-1** summarizes the mandatory prohibitions associated with each water shortage stage. It should be noted that the CCSD's prohibition on water waste is in place at all times, regardless of whether a drought stage has been declared. Therefore, the phrasing "At all times" is used to indicate this is required regardless of a particular stage. Section 4.08.050 of the CCSD municipal code allows for increasing levels of fines for any waste of water, which could also lead to shutting off service.

Table 8-1. DWR 8-1 Water Shortage Contingency Plan Levels

SHORTAGE LEVEL	PERCENT SHORTAGE RANGE[1] (NUMERICAL VALUE AS A PERCENT)	SHORTAGE RESPONSE ACTIONS
1	Up to 10%	**"Water Conservation is a Way of Life"** Inform customers of existing conservation ordinances and incentive programs; water waste prohibitions always in effect
2	Up to 20%	**"Water Shortage Watch"** - Citations for violations of shortage response actions - Commence public outreach campaign - If Stage 3 is imminent, then schedule Board Hearing at least 14 days prior to Stage 3 action
3	Up to 30%	**"Water Shortage Warning"** - All of the above, plus increased restrictions on use of potable water - Increase public outreach campaign to include weekly Farmer's Market booth and product giveaways or demos - If Stage 4 is imminent, schedule Board Hearing at least 14 days prior to action
4	Up to 40%	**"Water Shortage Emergency"** - All of the above, and establish water use allocations - Board meeting second month of billing cycle - recommend remaining in Stage 4 or moving to Stage 5, 3, 2, or 1 - Prepare WRF for operation
5	Up to 50%	**"Extreme Water Shortage Emergency"** - All of the above, and reduce allocation, enforce excess use penalty - Mandatory audits for customers exceeding allocation - Board Meeting at second month of enforcement billing cycle, recommend remaining at Stage 5, move to Stage 6, 4, 3, 2, or 1 - Operate WRF as needed
6	>50%	**"Exceptional Water Shortage Emergency"** - Continue allocation enforcement; potable water for human health, sanitation, and fire protection only - Board Meeting at second month of enforcement billing cycle, recommend remaining at Stage 6, or move to Stage 5, 4, 3, 2 or 1 - Operate WRF as needed

[1] One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.

8.4 Shortage Response Actions

CCSD Municipal Code Chapter 4.08 entitled “Waste of Water,” prohibits water waste at all times, regardless of whether there may a particular water conservation stage in place. This approach was originally adopted by the CCSD Board during 2000 as Ordinance 4-2000, which has since been codified within the CCSD Municipal Code.

As mentioned above, there are long-term and short-term water supply shortages with significant overlap in regard to stages, mandatory prohibitions, and consumption reduction methods as described in the following sections. **Table 8-2** summarizes the possible actions identified by CCSD staff to implement during a water shortage as well as the criteria that would trigger each water shortage stage. This table of actions is designed as a menu of options; CCSD is not required to implement each action for each stage. Actions identified in earlier stages may also be used in later stages (e.g., actions identified in Stages 1-3 may be implemented in Stage 4 as well as other Stage 4 actions, etc.).

Table 8-2. Shortage Response Actions

STAGE	CRITERIA	SUGGESTED ACTIONS
1 – UP TO 10% WATER USE REDUCTION	Baseline - Water Use Efficiency is a Way of Life Dry season starts in June or later Rainfall at 100% of normal SS WL at 100% of normal WBE/WBW well levels at 100% of normal 9P2/SS4 gradient at 100% of normal	**THE FOLLOWING ARE PROHIBITED AT ALL TIMES UNDER CHAPTER 4.08 OF THE CCSD MUNICIPAL CODE:**
		The watering of grass, lawns, ground-cover, shrubbery, open ground, crops, and trees herein after collectively called "landscape or other irrigation," in a manner or to an extent which allows excess water to run-off the area being watered. Every water user is deemed to have under his or her control at all times his or her water distribution lines and facilities and to know the manner and extent of his or her water use and excess run-off;
		The watering of grass, lawns, ground-cover, shrubbery, open ground, crops or trees or other irrigation within any portion of the district in violation of the following schedule and procedures: a. Watering shall be accomplished with a person in attendance; b. Watering shall not take place between the hours of ten a.m. and six p.m.; and c. Watering shall be limited to the amount of water necessary to maintain landscaping.
		The washing of sidewalks, walkways, driveways, parking lots, windows, buildings, and all other hard-surfaced areas by direct hosing unless utilizing high-pressure, low-volume systems;
		The escape of water through breaks or leaks within the water user's plumbing or distribution system for any substantial period of time within which such break or leak should reasonably have been discovered and corrected. Water must be shut off within two hours after the water user discovers such leak or break or receives notice from the district of such leak or break, whichever occurs first. Such leak or break shall be corrected within an additional six hours;
		The serving of water to customers by any eating establishment except when specifically requested;
		Except as approved in advance in writing by the general manager of the district, the use of water by governmental entities or agencies for: (1) routine water system flushing for normal maintenance, (2) routine sewer system flushing for normal maintenance, and (3) fire personnel training;
		Washing vehicles by use of an unrestrained hose. Use of a bucket for washing a vehicle and rinsing with a hose with a shutoff at the point of release is permitted subject to non-wasteful applications. Vehicle is defined as any mechanized form of transportation including, but not limited to, passenger cars, trucks, recreational vehicles (RVs), campers, all-terrain vehicles (ATVs), motorcycles, boats, jet skis, and off-road vehicles;

STAGE	CRITERIA	SUGGESTED ACTIONS
		Use of potable water from the district's water supply system for compacting or dust control purposes;
		Using unmetered water from any fire hydrant, except as required for fire suppression;
		It is unlawful for any consumer to remove, replace, alter, or damage any water meter or components thereof.
		Landscape irrigation using non-potable water sources is encouraged; no restrictions.
		Irrigation of parks, school ground areas, and road median landscaping will not be permitted more than twice a week.
		Irrigation of ornamental turf on public medians with potable water is prohibited.
		No application of potable water to outdoor landscapes (turf and ornamental landscapes) within 48 hours before, during, or after a rainfall event with measurable rainfall. Measurable rainfall for the region is defined as greater than or equal to 0.5 inches.
		New landscaping should be limited to native or drought tolerant plants when a Stage 1 water conservation program is in effect.
		Limits on watering duration. Watering or irrigating of lawns, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than 15 minutes per day per station. This subsection does not apply to landscape irrigation systems that exclusively use high efficiency irrigation equipment, very low-flow drip type irrigation systems when no emitter produces more than two gallons of water per hour, and weather-based controllers or high-efficiency stream rotor sprinklers.
		Operators of hotels, motels, and other commercial establishments offering lodgings shall post in each room a notice of water shortage conditions, encouraging water conservation practices.
		Lodging establishment must offer opt out of linen service.
		Require covers for pools and spas.
		Watering to maintain the level of water in swimming pools shall occur only when essential.
2 – UP TO 20% WATER USE REDUCTION	Drought Watch	Up to 3 days per week landscape irrigation when using potable water; no more than 15 minutes per day per station.
	Dry season starts in June or later	Car washing is only permitted using a commercial carwash that recirculates water or by high pressure/low volume wash systems.
	Rainfall at 91-100% of normal	Commercial car wash and laundry systems. Installation of new or replacement non re-circulating water systems in commercial conveyor car wash or commercial laundry systems is prohibited.
	SS WL at 91-100% of normal	Use of graywater, as that term is defined in the California Health & Safety Code, or recycled water for irrigation is permitted on any day and at any time, subject only to any permits issued by the County.
	WBE/WBW well levels at 91-100% of normal	Construction operations receiving water from a construction meter or water truck shall not use water unnecessarily for any purpose other than those required by regulatory agencies. Construction projects requiring watering for new landscaping materials shall adhere to the designated irrigation requirements set forth in this plan and shall only install native or drought-tolerant plant species.
	9P2/SS4 gradient at 91-100% of normal	District will commence public outreach campaign regarding water shortage watch restrictions including presentations and/or materials provided to local schools and street signage.

STAGE	CRITERIA	SUGGESTED ACTIONS
3 – UP TO 30% WATER USE REDUCTION	Water Shortage Warning Dry season starts in May or later Rainfall at 81-90% of normal SS WL at 81-90% of normal WBE/WBW well levels at 81-90% of normal 9P2/SS4 gradient at 81-90% of normal	Irrigation on public medians with potable water is prohibited. Decorative water features that use potable water must be drained and kept dry. Wash only full loads of laundry and/or dishes. Filling, refilling, or replenishing swimming pools, spas, ponds, streams, and artificial lakes is prohibited. Tune-up irrigation system by checking for and repairing leaks and damaged sprinklers. Up to two days per week of landscape irrigation when using potable water; no more than 15 minutes per day per station. Shorten showers and turn off faucets while brushing teeth or shaving. District will expand outreach campaign to include a staffed booth at the weekly Farmer's Market. Water efficient product giveaways will be provided, budget permitting. Fix leaky faucets, toilets, showerheads, pipes, and other water plumbing immediately.
4 – UP TO 40% WATER USE REDUCTION	Drought Emergency Dry season starts in April or later Rainfall at 71-80% of normal WBE/WBW well levels at 71-80% of normal 9P2/SS4 gradient at 71-80% of normal	Up to one day per week of landscape irrigation when using potable water; no more than 10 minutes per day per station. Maintenance of existing landscaping necessary for fire protection as specified by the Fire Chief of the Cambria CSD Fire Department; if fire-protection landscaping is not sustainable by irrigation one (1) days per week, irrigation may be increased to not more than two (2) days per week; Maintenance of existing landscaping for erosion control; if erosion-control landscaping is not sustainable by irrigation one (1) day per week, may be irrigated up to two (2) days per week. Implement monthly meter reading; customer notification re: percentage of allocation used Existing pools shall not be emptied and refilled using potable water unless required for public health and safety purposes. No new will serves for projects including pool or spa installation will be permitted. Staff directed to communicate with water users in the 90th percentile of their customer class to help reduce consumption. Previous waivers for watering or water use in excess of drought restrictions will be revoked. Washing of personal vehicles at home (including autos, trucks, trailers, motor homes, boats, or others) is prohibited. Water use allocation per permanent resident: 3 units per month. Commercial water use allocation: 3 units per EDU or fraction thereof; or average of last 12 months water use, whichever is less. Vacation rental allocation: 3 units per month. Upon the declaration of a water shortage emergency, no new water meters allowed, except for health and safety, unless water demand is offset to a net zero increase. Achieving net zero water increase is when potable water use of proposed development is no greater than current demand within the District's service area prior to installation of the new meters. The District will separately develop a "Net Zero Water Increase Program." The objective of the Program shall be to provide a means to continue sustainable growth during continuing water shortage conditions. No new temporary construction meter permits will be issued by the District. The District will suspend consideration of annexations to its service area unless the annexation increases the water supply available to the District by more than the anticipated demands of the property to be annexed.

STAGE	CRITERIA	SUGGESTED ACTIONS
		Staff directed to prepare WRF for operation.
5 – UP TO 50% WATER USE REDUCTION	Extreme Drought Emergency Dry season starts in March or earlier Rainfall at 61-70% of normal SS WL at 61-70% of normal WBE/WBW well levels at 61-70% of normal 9P2/SS4 gradient at 61-70% of normal	No irrigation of turf, landscapes and/or ornamental gardens with potable water sources. Water use for public health and safety purposes only. Customer rationing may be implemented. No new construction meters will be issued. Dedicated irrigation meters will be locked by CCSD staff. Staff directed to perform mandatory water audits for water users in the 90th percentile. No replacement water may be provided for ponds or lakes. Aeration equipment should be managed in such a way as to eliminate evaporative loss of water. Water use allocation per permanent resident: 2 units per month. Commercial water use allocation: 2 units per EDU or fraction thereof; or 75% of average of last 12 months water use, whichever is less. Vacation rental allocation: 2 units per month. Penalty charges for violation of water use allocations. Water use that exceeds allocation by less than 25% will be subject to a five-hundred percent (500%) surcharge levied on all usage above the customer's allocation. Water use that exceeds allocation by more than 25% will be subject to a one-thousand percent (1000%) surcharge levied on all usage above the customer's allocation. The tiered penalty structure is designed to acknowledge those customers who make a good faith effort to reduce consumption but go over their allocation by a small amount. Staff directed to operate WRF. No water for commercial car washes. No planting of new landscaping (seed, sod, or other plant materials).
6 – GREATER THAN 50% WATER USE REDUCTION	Exceptional Drought Emergency Dry season starts in March or earlier Rainfall at <60% of normal SS WL at <60% of normal WBE/WBW well levels at <60% of normal 9P2/SS4 gradient at <60% of normal	All landscape and non-essential outdoor water use for all Customers in all areas of the District's retail water service area shall be prohibited. Water rationing and penalties for exceeding allocations to remain in effect. Water use for public health and safety purposes only. Staff directed to operate WRF.

8.5 Demand Reduction

In accordance with the new UWMP requirements for the 2020 reporting cycle, CCSD has identified a variety of demand reduction actions (and their estimated water savings potential) that could be used, but are not required, to offset supply shortages as shown in **Table 8-2**. These actions include, but are not limited to conservation programs, leak detection and repair, and the prohibitions of using potable water for certain applications such as no washing of hard surfaces (except for health and safety reasons) or for turf irrigation. Although it is difficult to estimate the volume of savings for each action, CCSD expects to meet required reductions through a combination of response actions and outreach and communication efforts. The estimated water savings potential summarized in **Table 8-3** represent a range based on information from published industry references and based on CCSD staff experiences with previous demand reductions. CCSD will implement various demand reduction actions in conjunction with outreach and communication efforts to the extent necessary to mitigate any impacts from a water shortage. **Table 8-3** summarizes the various actions and estimated maximum potential savings required to be submitted to DWR as part of the UWMP.

Table 8-3. DWR 8-2 Demand Reduction Actions

SHORTAGE LEVEL	DEMAND REDUCTION ACTIONS	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?	ADDITIONAL EXPLANATION OR REFERENCE
All	Expand Public Information Campaign	0-3%	Inform customers of existing conservation ordinances and incentive programs
All	Landscape - Restrict or prohibit runoff from landscape irrigation	0-3%	Watering of landscaping, which allows excess water runoff [CCSD Municipal Code 4.08.030 (1)]
All	Other - Prohibit use of potable water for washing hard surfaces	0-3%	Washing of sidewalks, driveways, and other hard-surfaced areas by direct hosing. [CCSD Municipal Code 4.08.030(2)]
All	CII - Restaurants may only serve water upon request	0-3%	Serving of water to customers by any eating establishment except when specifically requested [CCSD Municipal Code 4.08.030 (5)]
All	Other - Require automatic shut of hoses	0-3%	Washing vehicles by use of an unrestrained hose. [CCSD Municipal Code 4.08.030 (7)]
All	Other - Prohibit use of potable water for construction and dust control	0-3%	Use of potable water from CCSD's water supply system for compacting or dust control purposes. [CCSD Municipal Code 4.08.030 (8)]
All	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	15%	[CCSD Municipal Code 4.08.030 (4)]
Stage 6	Landscape - Prohibit all landscape irrigation	>35%	Irrigation of gardens and landscaping with potable water [CCSD Municipal Code 4.12C (2)]
Stage 3 and up	Other	0-3%	Use of potable water for fire drills [CCSD Municipal Code 4.12C (1)]
All	Landscape - Limit landscape irrigation to specific times	13-35%	[CCSD Municipal Code 4.08.030 2.b]
Stage 3 and up	Water Features - Restrict water use for decorative water features, such as fountains	0-3%	[CCSD Municipal Code Chapter 4.12CA.1]

The actions identified in this table represent allowable entries by DWR in submittal table 8-2 for the UWMP.

Stage 4 - Water use allocations are assigned as outlined below.

- Permanent resident: 3 units per month.
- Commercial water use allocation: 3 units per EDU or fraction thereof; or average of last 12 months water use, whichever is less
- Vacation rental allocation: 3 units per month.

Stage 5 & 6 - Penalty charges for violation of water use allocations. Water use that exceeds allocation by less than 25% will be subject to a five-hundred percent (500%) surcharge levied on all usage above the customer's allocation. Water use that exceeds allocation by more than 25% will be subject to a one-thousand percent (1000%) surcharge levied on all usage above the customer's allocation. Water use allocations are outlined below.

- Permanent resident: 2 units per month.
- Commercial water use allocation: 2 units per EDU or fraction thereof; or 75% of average of last 12 months water use, whichever is less
- Vacation rental allocation: 2 units per month.

The CCSD Board may further refine the above subject restrictions and prohibitions.

8.6 Supply Augmentation

Cambria currently relies on groundwater from two aquifers as their only permanent, long-term supply. In 2014 the WRF was constructed in response to exceptional drought conditions. The WRF extracts water from an existing well at the CCSD's treated wastewater effluent percolation ponds, treats the extracted water using an advanced water treatment plant, and re-injects the treated water at the CCSD's San Simeon Creek aquifer's potable well field. The emergency water supply project was designed to meet the SWRCB's requirements for indirect potable reuse of recycled water and can provide 21-250 AFY depending on its hours of operation.

Table 8-4 shows the yield associated with the WRF.

In addition to the WRF operation, CCSD expects to mitigate water shortages through extensive communication and outreach efforts, demand reduction actions, and operational changes.

Table 8-4. DWR 8-3 Supply Augmentation & Other Actions

SHORTAGE LEVEL	SUPPLY AUGMENTATION METHODS AND OTHER ACTIONS BY WATER SUPPLIER	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?	ADDITIONAL EXPLANATION OR REFERENCE
Stage 5 and up	New recycled water	21-250 AFY	WRF

8.6.1 Operational Changes

The application submitted for the WRF's regular Coastal Development Permit (CDP) estimated 21 AF of WRF production is estimated to occur during a normal year, which is based on a 9-hour daily runtime up to 4 working days per week for a minimum of eight weeks per year at a product water reinjection rate of 400 gpm. If more than 21 AF of supplemental supply is required, the WRF could operate continuously over a six-month dry season to produce approximately 250 AF. The WRF is currently only permitted to run under emergency conditions as described in **Table 8-2 on page 8-5**.

CCSD currently relies on the San Simeon and Santa Rosa aquifers and divides their pumping between the two using an approximate spilt of 80% San Simeon and 20% Santa Rosa. If minimum water level thresholds are met or if the production limits are reached in one aquifer, CCSD will reduce pumping from the stressed aquifer and rely on the second aquifer to meet their demands.

8.6.2 Emergency Response Plan

The CCSD service area has overhead power and communications lines, which co-exist with a heavily forested area of Monterey Pines. This has resulted in a history of power and communication outages during storm events, which often results from trees falling onto overhead lines. Therefore, the CCSD relies upon emergency generators to operate its water system during such major power outages. In recent years, the CCSD has expanded its use of solar and increased battery storage at all critical communication points. In addition, the CCSD completed a Supervisory Control and Data Acquisition (SCADA) upgrade, which allows for the use of radio communications as opposed to overhead phone lines.

Emergency response planning by the CCSD includes action plans for various emergency scenarios. The overall emergency response framework is based on the State of California's Standardized Emergency Management System (SEMS). The CCSD completed the process of developing a Local Hazard Mitigation Plan (LHMP) in 2017. The LHMP includes goals and objectives that will further guide responding to catastrophic events. The CCSD also completed the WRF as well as improvements to

Well SR-4 during 2014, which improves the reliability of the water supply system and its ability to serve customers during drought conditions. Currently, the CCSD is in the process of securing a regular Coastal Development Permit for its WRF. (See **Section 6.2.2 on page 6-3** for additional discussion on the WRF).

8.6.3 Seismic Risk Assessment and Mitigation Plan

CWC Section 10632.5(a) requires a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities. Pursuant to CWC Section 10644, a copy of the most recent adopted LHMP or multi-hazard mitigation plan under the Federal Disaster Mitigation Act of 2000 may be used to comply with this section if the plan addresses seismic risk.

CCSD's LHMP addresses seismic risk assessment and identification of vulnerabilities to hazards, including critical infrastructure and specific populations at risk. Both direct and indirect consequences of a major earthquake will severely stress the resources of both the CCSD and San Luis Obispo County. Earthquakes often coincide with structural damage, pipeline failures, fires, as well as power and communications interruptions. An emergency response command and control center has been established at the CCSD fire station, which is structurally designed to withstand earthquake events, has an emergency power supply, and includes a SCADA control center for water system operations. CCSD's LHMP is included as **Appendix L.**

8.6.4 Shortage Response Action Effectiveness

CCSD has estimated the effectiveness of the shortage response actions based on the best available data. Estimates of the effectiveness for demand reduction shortage response actions is quantified in **Table 8-3**. It is expected that response actions effectiveness is also a result of successful communication and outreach efforts. Although not all shortage response actions for supply augmentations and operational changes are quantifiable, CCSD expects to mitigate water shortages through demand reduction measures and operational changes, as well as continued public education and outreach efforts.

8.7 Communication Protocols

CWC Section 10632 (a)(5) the supplier is required to identify communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and stage governments, regarding predicted shortages, triggered response actions and shortage emergencies.

Information on the current shortage level and required demand reduction actions will be provided during the Utility Department Manager Update at CCSD Board meetings and will also be posted in the CCSD website (https://www.cambriacsd.org/). CCSD Board meetings are held on the second and third Thursday of each month.

8.8 Compliance and Enforcement

The CCSD has adopted several ordinances that were established in their previous WSCP, which have since been incorporated into the District's Municipal Code.

These include the following criteria:

- Mandatory prohibitions against water waste at all times
- Water shortage stages with associated actions to be taken, consumption limitations, and overall conservation goals for each stage
- Penalties for excessive water use during declared water shortages

In addition to these ordinances, CCSD plans to enforce their updated WSCP as described in Table 8-2 on page 8-5. The enforcement measures are also summarized below.

- Under water stage 2 CCSD will write citations for violation of the demand reduction actions
- Under water stage 3 CCSD will continue to write citations and will begin to implement fines for repeat citations.
- Under stage 4 CCSD will assign water use allocations and switch to monthly meter reads to track compliance. CCSD staff will notify customers in danger of exceeding water use allocations and provide information on how to reduce. Water use allocations are outlined below.
  - Permanent resident: 3 units per month.
  - Commercial water use allocation: 3 units per EDU or fraction thereof; or average of last 12 months water use, whichever is less
  - Vacation rental allocation: 3 units per month.
- Under stages 5 & 6 CCSD will charge penalties for violation of water use allocations. Water use that exceeds allocation by less than 25% will be subject to a five-hundred percent (500%) surcharge levied on all usage above the customer's allocation. Water use that exceeds allocation by more than 25% will be subject to a one-thousand percent (1000%) surcharge levied on all usage above the customer's allocation. Water use allocations are outlined below.
  - Permanent resident: 2 units per month.
  - Commercial water use allocation: 2 units per EDU or fraction thereof; or 75% of average of last 12 months water use, whichever is less
  - Vacation rental allocation: 2 units per month.

The CCSD Board may further refine the above subject restrictions and prohibitions

8.9 Legal Authorities

Under California law, including CWC Chapters 3.3 and 3.5 of Division 1, Parts 2.55 and 2.6 of Division 6, Division 13, and Article X, Section 2 of the California Constitution, the CCSD Board is authorized to implement the water shortage actions outlined in this WSCP. In all water shortage cases, shortage response actions will be implemented at the discretion of the CCSD staff and members of the CCSD Board and will be based on an assessment of the supply shortage, customer response, and need for demand reductions.

It is noted that upon proclamation by the Governor of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on drought conditions, the state will defer to implementation of locally adopted WSCPs to the extent practicable.

8.10 Financial Consequences of WSCP

Besides prohibitions and reduction goals, the CCSD has a steeply tiered water rate structure, which is further accelerated by drought surcharges. **Table 8-3** summarizes the CCSD drought surcharges. The CCSD also has enforcement capabilities (CCSD Municipal Code Sections 4.08.040 through 4.08.070, 4.12B.3.E, and 4.12C [F]), which include fines as well as shutting off a customer's water service.

Revenue reductions from water conservation pose a possible challenge to the CCSD. To a certain extent, lost revenues for the reduced sale of water can be offset by surcharges. To offset potential lost revenues from future droughts, the CCSD will continue with its efforts to establish a reserve water fund. Other adaptive measures could include delaying capital improvement expenditures as well as developing an internal loan from the CCSD General Fund.

8.11 Monitoring and Reporting

The water savings from implementation of the WSCP will be determined based on measurements of consumption from water meters and well production meters. At first, the cumulative consumption for the various sectors (e.g., residential, commercial, etc.) will be compared to water use during non-drought years to determine if they are achieving the required water consumption reductions. Then if needed, individual accounts will be monitored. Weather and other possible influences may be accounted for in the evaluation. If the goals are not being met, CCSD can implement additional shortage response actions, as necessary.

8.12 WSCP Refinement Procedures

The WSCP is best prepared and implemented as an adaptive management plan. CCSD will use results obtained from their monitoring and reporting program to evaluate any need for revisions. Potential changes to the WSCP that may require an update include, but are not limited to, any changes to water stage criteria, changes to the shortage stage structure, and/or the addition of significant new customer reduction actions.

Any prospective changes to the WSCP would need to be presented at a public hearing and adopted by the CCSD Board. Notices for the public hearing date would be published in the local newspaper in compliance with CWC requirements.

8.13 Special Water Feature Distinction

This section is not applicable because CCSD currently does not manage artificial water features.

8.14 Plan Adoption, Submittal, and Availability

The WSCP must be adopted by the CCSD Board. The CCSD Board is responsible for final adoption of the WSCP and any proposed updates thereafter. The Final UWMP will be made available to the public on the CCSD website and at the CCSD Administration Office at 1316 Tamsen Street, Suite 201 Cambria, CA.

The steps required for adoption of the WSCP are summarized below:

- Proposed Draft developed under the guidance of CCSD staff.
- Public Draft is circulated with the 2020 UWMP Public Hearing Notice.

Final WSCP is approval by the CCSD Board along with the Final 2020 UWMP.

URBAN WATER MANAGEMENT PLAN

9

Demand Management Measures

As the primary water supplier for the community of Cambria, the CCSD continues to aggressively promote water conservation to make the most efficient use the existing local groundwater supplies. This section describes the CCSD's retail Demand Management Measures (DMMs), their implementation over the past five years, and future planned conservation measures that will ensure the CCSD continues to meet or exceed water use reduction goals.

The Demand Management Measures (DMM) section provides a comprehensive description of the water conservation programs that the CCSD has implemented for the past five years, is currently implementing, and plans to implement in order to meet the 2020 urban water use reduction targets. The section of the CWC addressing DMMs was significantly modified in 2014, based on recommendations from the Independent Technical Panel (ITP) to the legislature.

IN THIS SECTION

- Demand Management Measures

The ITP was formed by DWR to provide information and recommendations to DWR and the Legislature on new DMMs, technologies and approaches to water use efficiency. The ITP recommended, and the legislature enacted, streamlining the requirements from the 14 specific measures reported on in the 2010 UWMP to six more general requirements plus an "other" category for measures agencies implemented in addition to the required elements.

9.1 Existing Demand Management Measures for Retail

Consistent with the requirements of the CWC, this section describes the demand measurement measures that have been implemented in the past five years and will continued to be implemented into the future in order to meet the CCSD’s 2020 water use targets pursuant to Section 10608.20 of the CWC.

9.1.1 Water Waste Prevention Ordinances

The CCSD prohibition water waste through enforcement of Chapter 4.08 of its Municipal Code, which is further described within **Section 7.1.4**. The prohibition of water waste is an ongoing requirement, which applies during drought and non-drought conditions. Enforcement is achieved through coordinated efforts of the CCSD’s water and billing departments.

9.1.2 Metering

All potable water customers served by the CCSD are metered. The CCSD currently uses AMR meters, which include an electronic flagging feature when leaks are suspected on the downstream, customer-side of the meter. The CCSD billing department coordinates with the water department in notifying customers of suspected leaks. Depending upon specific circumstances, such noticing may be followed up with an on-site inspection to assist customers in determining the cause of their leak to facilitate repair. The CCSD is moving to an advanced metering infrastructure (AMI) system which is proposed for the 2021-2022 fiscal year.

9.1.3 Conservation Pricing

The CCSD has a tiered water rate structure, which encourages water conservation (unit rates increase with increased use). In addition, there are surcharges that apply during Stage 5 or Stage 6 levels of water conservation when use exceeds established limits (See **Section 8** for further details).

9.1.4 Public Education and Outreach

The CCSD routinely provides public information on water conservation via its website, billing inserts, billing notices, public announcements, coordination with the local media, as well as by its website at cambriacsd.org. Tent cards on water conservation are also provided to restaurants and motels. The CCSD is also a member agency of the California Water Use Efficiency Partnership (CalWEP) and the Alliance for Water Efficiency, (AWE) which provides water use efficiency resources and programming, including the annual Peer2Peer training and networking event. The CCSD website contains ‘how to’ information on reading meters and checking for leaks, as well as other water conservation tips and resources. CCSD water bills include information about customer’s past use to allow for a quick assessment of water consumption trends. The CCSD has placed an added emphasis on testing pressure-regulating valves on residential homes based on experience from residential surveys. To facilitate testing, pressure gages are loaned to customers free of charge for testing pressures downstream from their pressure-regulating valve. The District’s website also contains information explaining pressure-regulating valve testing.

9.1.5 Programs to Assess and Manage Distribution System Real Loss

The CCSD routinely monitors its water production and consumption and investigates unaccounted water to determine water loss. Staff have also attended training offered by the California-Nevada

Section of the AWWA on water loss auditing, which is in response to SB 555 that was passed by the State during 2015. **Appendix F** provides a copy of the CCSD's 2020 Water Loss Audit. Per the results of previous audits, the CCSD will continuously improve metering and documentation for authorized non-metered water use (E.g., assigning construction hydrants to fire trucks for use in non-emergency tasks such as hydrant testing) as well as estimating and documenting losses from leak repairs. The CCSD field staff routinely check and respond to water leaks and are on-call 24/7 to immediately respond and take corrective action. In 2020, Water Department staff began tracking leak repairs and associated losses using the CCSD's geographic information system, Diamond Maps. Additionally, starting in 2020, a leak detection service has been retained to perform annual vulnerability assessments throughout the system.

9.1.6 Water Conservation Program Coordination and Staffing Support

The Utilities Department administers the CCSD's water conservation program, which includes rebates, giveaways, outreach, water loss auditing, and administration of the retrofit program and demand offset program. Future training of staff sharing these duties will be sought out from CalWEP and other sources. The Utilities Department Program Manager is required to obtain a Grade I Water Use Efficiency Practitioner certification through the AWWA.

9.1.7 Other Demand Management Measures

The CCSD is currently in the planning stages for requiring non-potable irrigation systems, such as rainwater catchment and/or graywater, for all homes future residential development.

9.2 Reporting Implementation

9.2.1 Implementation Over the Past Five Years

Water conservation implementation over the past five years has included the CCSD's continuing efforts on its retrofit on resale program, overhauling the demand offset program, rebates for smart water systems such as the Flume Smart Water Monitor, as well as free water efficient devices such as low-flow showerheads and automatic shut-off hose nozzles. The CCSD has historically maintained a points bank to track conservation measures used to offset demands from any future water connections within its serviced area. Essentially, this program determines the number of retrofit-in-lieu points required based on the proposed development, which are then purchased and withdrawn from the points bank. As conservation measures occur, points are added back into the bank. Previous efforts included the CCSD commissioning Maddaus Water Management to complete a Water Use Efficiency Program (WUEP) in 2013. This effort resulted in an update to the number of points required based on the review demands by various sized residential homes and using the 90th percentile of those findings as a basis. The WUEP effort resulted in the CCSD Board adopting Program B in February 2013. The process used to develop the WUEP included analyzing conservation measures and programs using a Water Demand Management Decision Support System Model (DSS Model).

9.3 Water Use Objectives (Future Requirements)

As part of this UWMP 2020, the CCSD has updated the DSS Model, which is further described within **Appendix G**. Future updates to the WUEP are scheduled for 2021 and will result in a plan addendum for Board consideration.

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URBAN WATER MANAGEMENT PLAN

Plan Adoption, Submittal, and Implementation

The following chapter describes the steps taken to adopt and submit the UWMP and to make it publicly available. This chapter will also include a discussion of the agency's plan to implement the UWMP.

CCSD has included all requisite 2020 data in the development of this UWMP and the 2020 WSCP. The following sections detail the notification of the surrounding cities, counties, and water suppliers, notification the public, the public hearing, adoption, and submission of CCSD's 2020 UWMP and WSCP, and the process by which CCSD will amend the UWMP or WSCP should it need to in the future.

IN THIS SECTION

- Public Hearing Notices
- Plan Adoption
- Plan Submittal
- Plan Availability
- Amending the UWMP or WSCP

10.1 Notice of Public Hearing

10.1.1 Notice to Cities and Counties

On April 16, 2021, CCSD notified all cities and counties within the service area of their intent to update the UWMP and WSCP by July 1, 2021. This notification served as the 60-day noticing required by the CWC. A copy of this letter is included in **Appendix B**. Per Government Code 6066, the public hearing was noticed in the local newspaper on June 3, 2021 and noticed again on June 8, 2021. The hearing notices are attached as **Appendix C**. The public hearing was held on June 17, 2021 at the Board of Directors meeting prior to the UWMP and WSCP adoption. **Table 10-1** shows the notification provided to the surrounding cities and counties.

Table 10-1. DWR 10-1R Notification to Cities and Counties

COUNTY	60 DAY NOTICE	NOTICE OF PUBLIC HEARING	OTHER
County of San Luis Obispo	Yes		
OTHER	**60 DAY NOTICE**	**NOTICE OF PUBLIC HEARING**	**OTHER**
California Department of Water Resources (DWR)	Yes		
California State Library	Yes		
San Simeon Community Services District	Yes		

10.1.2 Notice to the Public

A public hearing to consider adoption of the final UWMP was held by the Board of Directors at the regularly scheduled meeting on June 17, 2021. Per Government Code 6066, publication of notice to the public pursuant to this chapter shall be once a week for two successive weeks. The public hearing was first noticed in the local paper on June 3, 2021 and noticed again on June 8, 2021. The hearing notices are attached as **Appendix C**.

10.2 Public Hearing and Adoption

The 2020 Draft UWMP and WSCP were agenized, noticed, and reviewed in a Public Hearing at the regularly scheduled Board meeting on June 17, 2021. This hearing provided the cities and counties and other members of the public a chance to review the staff report and attend the hearing to provide comment. The public hearing took place before the adoption allowing opportunity for the report to be modified in response to public input before adoption. Following the public hearing, the 2020 UWMP was adopted by the Board of Directors on June 17, 2021.

A copy of the Resolution of Plan Adoption signed by the Board of Directors and attached cover letter addressed to DWR is included as **Appendix D** of the UWMP. The UWMP includes all applicable information necessary to meet the requirements of CWC Division 6, Part 2.6 (Urban Water Management Planning). The 2020 UWMP and WSCP were submitted to the California Department of Water Resources (DWR) by July 1, 2021 (within 30 days of adoption).

10.3 Plan Submittal

CCSD's Final 2020 UWMP and WSCP were formally adopted by CCSD on June 17, 2021. A copy of the Adoption Resolution is included in **Appendix D**. A hard copy of the Final 2020 UWMP and WSCP were sent to the California State Library, DWR (electronically using the WUEdata reporting tool), and all surrounding cities and counties within 30 days of adoption.

10.4 Public Availability

To fulfill the requirements of Water Code Section 10642 of the UWMP Act, CCSD made the Final 2020 UWMP available online (www.cambriacsd.org) and at CCSD's public office, between the hours of 9:00 am and 4:00 pm, for public review on July 17, 2021, within 30 days of adoption.

10.5 Amending an Adopted UWMP or Water Shortage Contingency Plan

Amendments to CCSD's 2020 UWMP and WSCP will be made on an as needed basis.

Should CCSD need to amend the adopted 2020 UWMP or WSCP in the future, CCSD will hold a public hearing for review of the proposed amendments to the document. CCSD will send a 60-day notification letter to all cities and counties within their service area and notify the public in same manner as set forth in **Chapter 2** of this UWMP. Once the amended document is adopted, a copy finalized version will sent to the California State Library, DWR (electronically using the WUEdata reporting tool), and all cities and counties within their service area within 30 days of adoption. The finalized version will also be made available to the public both online on CCSD's website and in person at CCSD's public office during normal business hours.

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URBAN WATER MANAGEMENT PLAN

References

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A

Appendix A - DWR checklist

B

Appendix B – 60 Day Notice Letter

C

Appendix C – Public Hearing Letter

D

Appendix D – Adopted Resolution

E

Appendix E – Bulletin 118 Description

F

Appendix F – CY 2019 Water Audit

G

Appendix G – DSS Model Update and Demand Analysis

H

Appendix H – SBX7-7 Verification Forms

I

Appendix I – Groundwater Management Plan

J

Appendix L – USGS Report 98-4061

K

Appendix K – Water Rights Licenses

L

Appendix L – Local Hazard Mitigation Plan

2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and Overview	Chapter 1
Chapter 1	10630.5	Each plan shall include a simple description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Summary	Chapter 1
Section 2.2	10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Chapter 2.1
Section 2.6	10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Chapter 2.2
Section 2.6.2	10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan Preparation	Chapter 2.2
Section 2.6, Section 6.1	10631(h)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	Not Applicable
Section 2.6	10631(h)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	Not Applicable
Section 3.1	10631(a)	Describe the water supplier service area.	System Description	Chapter 3
Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	Chapter 3.3
Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	Chapter 3.4
Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	Chapter 3.4
Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Chapter 3.4
Section 3.5	10631(a)	Describe the land uses within the service area.	System Description	Chapter 3.5
Section 4.2	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Chapter 4.2
Section 4.2.4	10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	Chapter 4.2.2
Section 4.2.6	10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans and other policies or laws.	System Water Use	Chapter 4.2.3
Section 4.2.6	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	Chapter 4.2.3
Section 4.3.2.4	10631(d)(3)(A)	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	Chapter 4.2.4
Section 4.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Chapter 4.3
Section 4.5	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	Chapter 4.5, Chapter 6.2.8, & Chapter 7.2
Chapter 5	10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Chapter 5
Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Chapter 5
Section 5.2	10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Not Applicable
Section 5.5	10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Not Applicable
Section 5.5 and Appendix E	10608.4	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.	Baselines and Targets	Chapter 5 & Appendix H

2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
Sections 6.1 and 6.2	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.	System Supplies	Chapter 6.2 & Chapter 7
Sections 6.1	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, *including changes in supply due to climate change.*	System Supplies	Chapter 6 & Chapter 7
Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System Supplies	Chapter 6.2
Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	Chapter 6.2
Section 6.2.8	10631(b)	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.	System Supplies	Chapter 6.2
Section 6.2	10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Chapter 6.1 & Chapter 6.2
Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Chapter 6.2.2
Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	Chapter 6.2.2
Section 6.2.2	10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Chapter 6.2.2
Section 6.2.2.1	10631(b)(4)(B)	For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	System Supplies	Chapter 6.2.2
Section 6.2.2.4	10631(b)(4)(C)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	System Supplies	Chapter 6.2.2
Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Chapter 6.2.2
Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long- term basis.	System Supplies	Chapter 6.2.7
Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Chapter 6.2.5
Section 6.2.5	10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Chapter 6.2.5
Section 6.2.5	10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Chapter 6.2.5
Section 6.2.5	10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Chapter 6.2.5
Section 6.2.5	10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Chapter 6.2.5
Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Chapter 6.2.5
Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Chapter 6.2.6
Section 6.2.5	10633(a)	Describe the wastewater collection and treatment systems in the supplier’s service area with quantified amount of collection and treatment and the disposal methods.	System Supplies (Recycled Water)	Chapter 6.2.5
Section 6.2.8, Section 6.3.7	10631(f)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years.	System Supplies	Chapter 6.2, Chapter 7.1.1, & Chapter 7.1.3
Section 6.4 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.	System Suppliers, Energy Intensity	Chapter 6.3
Section 7.2	10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Chapter 7.1

2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
Section 7.2.4	10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Chapter 7.1.4
Section 7.3	10635(a)	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Chapter 7.1
Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water Supply Reliability Assessment	Chapter 7.2
Section 7.3	10635(b)(1)	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years.	Water Supply Reliability Assessment	Chapter 7.2.1
Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water Supply Reliability Assessment	Chapter 7
Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	Chapter 7
Section 7.3	10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water Supply Reliability Assessment	Chapter 7.1.1
Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Chapter 8
Chapter 8	10632(a)(1)	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP	Water Shortage Contingency Planning	Chapter 8.1
Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	Chapter 8.2
Section 8.2	10632(a)(2)(A)	Provide the written decision-making process and other methods that the supplier will use each year to determine its water reliability.	Water Shortage Contingency Planning	Chapter 8.2
Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water Shortage Contingency Planning	Chapter 8.2
Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water Shortage Contingency Planning	Chapter 8.3
Section 8.3	10632(a)(3)(B)	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	Not Applicable
Section 8.4	10632(a)(4)(A)	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	Chapter 8.4
Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	Chapter 8.4.1
Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Chapter 8.4.3
Section 8.4	10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.	Water Shortage Contingency Planning	Chapter 8.4.4
Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water Shortage Contingency Planning	Chapter 8.4.1
Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	Chapter 8.4.6
Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water Shortage Contingency Planning	Chapter 8.5

2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
Section 8.5 and 8.6	10632(a)(5)(B) 10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water Shortage Contingency Planning	Chapter 8.5
Section 8.6	10632(a)(6)	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water Shortage Contingency Planning	Chapter 8.6
Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	Chapter 8.7
Section 8.7	10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	Chapter 8.7
Section 8.7	10632(a)(7)(C)	Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water Shortage Contingency Planning	Chapter 8.9
Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Chapter 8.8
Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Chapter 8.8
Section 8.8	10632(a)(8)(C)	Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought	Water Shortage Contingency Planning	Chapter 8.8
Section 8.9	10632(a)(9)	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	Chapter 8.9
Section 8.11	10632(b)	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	Water Shortage Contingency Planning	Not Applicable
Sections 8.12 and 10.4	10635(c)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Chapter 8.14
Section 8.14	10632(c)	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 after adopted the plan.	Water Shortage Contingency Planning	Chapter 8.14
Sections 9.2 and 9.3	10631(e)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Chapter 9
Chapter 10	10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan Adoption, Submittal, and Implementation	To be Completed per Chapter 10.2
Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1.	Plan Adoption, Submittal, and Implementation	Chapter 2.2 & Chapter 10.1.1
Section 10.4	10621(f)	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	Chapter 2.2 & Chapter 10.3
Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	Appendix C
Section 10.2.2	10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Chapter 10 & Appendix B
Section 10.3.2	10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Appendix D
Section 10.4	10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	To be completed per Chapter 2.2 & Chapter 10.3
Section 10.4	10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	To be completed per Chapter 2.2 & Chapter 10.3

2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
Sections 10.4.1 and 10.4.2	10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	To be completed per Chapter 2.2, Chapter 10.3 & Chapter 10.5
Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	To be completed per Chapter 2.2 & Chapter 10.4
Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	To be completed per Chapter 2.2 & Chapter 10.4
Section 10.6	10621(c)	If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan Adoption, Submittal, and Implementation	Not Applicable
Section 10.7.2	10644(b)	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	To be completed per Chapter 2.2 &Chapter 10.5

3/22/2021

Cambria Community Services District
5500 Heath Lane
Cambria, CA 93428

Delivered via Email to:
County of San Luis Obispo
Trevor Keith
Director of Planning and Building
976 Osos Street, Room 200
San Luis Obispo, CA 93408
tkeith@co.slo.ca.us

2020 URBAN WATER MANAGEMENT PLAN UPDATE NOTIFICATION

Dear Mr. Keith,

Cambria Community Services District (CCSD) is in the process of preparing and updating its 2020 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act and the Water Conservation Act of 2009, commonly referred to as SBX7-7. An update of the CCSD's UWMP is required every five (5) years.

The 2020 UWMP Update will reflect new information since the adoption of the 2015 UWMP, forecasted demands within the CCSD's service area, the CCSD's plan to reliably meet the water needs within its service area, and compliance with the SB X7-7. As part of the new requirements, the CCSD is also adopting a Water Shortage Contingency Plan (WSCP), which must be included as part of the 2020 UWMP. This document will describe how the CCSD will respond to foreseeable and unforeseeable water shortages.

Water Code section 10621(b) requires an urban water supplier updating its UWMP to notify cities and counties within its service area of the update at least sixty (60) days prior to holding a public hearing. This letter serves as the CCSD's official notice of preparation and intent to adopt the UWMP and WSCP before the July 1, 2021 deadline.

A copy of the CCSD's draft 2020 UWMP and WSCP will be available for review on the CCSD's website in May of 2021, and the CCSD will subsequently hold a noticed public hearing on the 2020 UWMP and WSCP in advance of its proposed adoption. The CCSD invites you to submit comments and consult with the CCSD regarding these plans.

The CCSD's website (https://www.cambriacsd.org/) will give updates on the 2020 UWMP and WSCP. If you have any questions, comments, or input, please contact Ray Dienzo, Utilities Department Manager/District Engineer via email at RDienzo@cambriacsd.org or by phone at (805)-927-6119.

Sincerely,

Raymond Dienzo

Ray Dienzo, PE
Utilities Department Manager/District Engineer
Cambria Community Services District

3/22/2021

Cambria Community Services District
5500 Heath Lane
Cambria, CA 93428

Delivered via Email to:
County of San Luis Obispo
John Diodati
1050 Monterey St.
Room 206
San Luis Obispo, CA 93408
jdiodati@co.slo.ca.us

2020 URBAN WATER MANAGEMENT PLAN UPDATE NOTIFICATION

Dear Mr. Diodati,

Cambria Community Services District (CCSD) is in the process of preparing and updating its 2020 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act and the Water Conservation Act of 2009, commonly referred to as SBX7-7. An update of the CCSD's UWMP is required every five (5) years.

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Sincerely,

Raymond Dienzo

Ray Dienzo, PE
Utilities Department Manager/District Engineer
Cambria Community Services District

3/22/2021

Cambria Community Services District
5500 Heath Lane
Cambria, CA 93428

Delivered via Email to:
San Simeon Community Services District
111 Pico Avenue
San Simeon, CA 93452
admin@sansimeoncsd.org

2020 URBAN WATER MANAGEMENT PLAN UPDATE NOTIFICATION

To Whom It May Concern,

Cambria Community Services District (CCSD) is in the process of preparing and updating its 2020 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act and the Water Conservation Act of 2009, commonly referred to as SBX7-7. An update of the CCSD's UWMP is required every five (5) years.

The 2020 UWMP Update will reflect new information since the adoption of the 2015 UWMP, forecasted demands within the CCSD's service area, the CCSD's plan to reliably meet the water needs within its service area, and compliance with the SB X7-7. As part of the new requirements, the CCSD is also adopting a Water Shortage Contingency Plan (WSCP), which must be included as part of the 2020 UWMP. This document will describe how the CCSD will respond to foreseeable and unforeseeable water shortages.

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The CCSD's website (https://www.cambriacsd.org/) will give updates on the 2020 UWMP and WSCP. If you have any questions, comments, or input, please contact Ray Dienzo, Utilities Department Manager/District Engineer via email at RDienzo@cambriacsd.org or by phone at (805)-927-6119.

Sincerely,

Raymond Dienzo

Ray Dienzo, PE
Utilities Department Manager/District Engineer
Cambria Community Services District

San Simeon Valley Groundwater Basin

- Groundwater Basin Number: 3-35
- County: San Luis Obispo
- Surface Area: 620 acres (1.0 square miles)

Basin Boundaries and Hydrology

The San Simeon Valley Groundwater Basin underlies San Simeon Valley and is bounded by the Pacific Ocean on the west, the Santa Lucia Range on the east, and elsewhere by impermeable Franciscan Group rocks. The valley is drained by San Simeon Creek. Precipitation varies across the watershed from 20 inches at the coast to about 26 inches at the eastern end of the valley floor to more than 40 inches at the headwaters of San Simeon Creek (Yates and Van Konyenburg 1998).

Hydrogeologic Information

Water Bearing Formations

Groundwater is found in Holocene age alluvial deposits, which have an estimated specific yield of 18 percent (DWR 1958).

Holocene Deposits. Unconsolidated alluvial deposits underlie San Simeon Creek and consist of unconsolidated gravel, sand, clay, and silt. The alluvium has a maximum thickness of about 100 feet beneath the center of the valley and more than 120 feet at the coast (Yates and Van Konyenburg 1998).

Recharge Areas

Groundwater is unconfined and flows generally westward.
Recharge to the basin is largely by percolation of stream flow and, to a lesser extent, from deep infiltration of precipitation and excess irrigation flow (DWR 1958).

Groundwater Level Trends

In 1988, the rate of water-level decline slowed or even reversed slightly at most wells during November and early December following declines of 1 to 7 feet/month from February through August (Yates and Van Konyenburg 1998). This variation likely indicates seasonal fluctuation in groundwater level.

Groundwater Storage

Groundwater Storage Capacity. The groundwater storage capacity is estimated at 4,000 af (DWR 1975).

Groundwater in Storage. Unknown.

Groundwater Budget (Type A)

A groundwater budget for the San Simeon Groundwater Basin was simulated using a groundwater flow model for April 1988 through March 1989 (Yates and Van Konyenburg 1998). Recharge to the basin from rainfall totaled 50 af/yr. Recharge of creek flow was estimated at 540 af/yr. Subsurface inflow was 150 af/yr and subsurface outflow to the ocean was 320 af/yr. Recharge to the basin from irrigation-return flow was 170 af/yr. Agricultural pumpage was estimated at 450 af/yr. Municipal pumpage was estimated at 550 af/yr. Rural domestic pumpage was estimated at less than 10 af/yr. Phreatophyte transpiration was estimated at 30 af/yr. About 440 af/yr of wastewater is also recharged (Yates and Van Konyenburg 1998).

Groundwater Quality

Characterization. Groundwater analyses from 31 wells in this basin taken from 1955 through 1994 show TDS content ranging from 46 to 2,210 mg/L. Analyses of data from 3 public supply wells show an average TDS content of 413 mg/L in the basin and range from 400 to 420 mg/L.

Impairments. There is no evidence of seawater intrusion (DWR 1975). Manganese concentrations increased downstream in the San Simeon Groundwater Basin, exceeding the MCL, ranging from 0.002 to 1.60 mg/L, with a median of 0.190 mg/L (Yates and Van Konyenburg 1998).

Water Quality in Public Supply Wells

Constituent Group[1]	Number of wells sampled[2]	Number of wells with a concentration above an MCL[3]
Inorganics – Primary	3	0
Radiological	3	0
Nitrates	3	0
Pesticides	3	0
VOCs and SOCs	3	0
Inorganics – Secondary	3	0

[1] A description of each member in the constituent groups and a generalized discussion of the relevance of these groups are included in *California's Groundwater – Bulletin 118* by DWR (2003).
[2] Represents distinct number of wells sampled as required under DHS Title 22 program from 1994 through 2000.
[3] Each well reported with a concentration above an MCL was confirmed with a second detection above an MCL. This information is intended as an indicator of the types of activities that cause contamination in a given basin. It represents the water quality at the sample location. It does not indicate the water quality delivered to the consumer. More detailed drinking water quality information can be obtained from the local water purveyor and its annual Consumer Confidence Report.

Well Production characteristics

	Well yields (gal/min)	
Municipal/Irrigation	Range: to 170	Average: 100 (DWR 1958)
	Total depths (ft)	
Domestic		
Municipal/Irrigation	Range: to 80 ft	Average: 50 (DWR 1958)

Active Monitoring Data

Agency	Parameter	Number of wells /measurement frequency
	Groundwater levels	NKD
	Miscellaneous water quality	NKD
Department of Health Services and cooperators	Title 22 water quality	4

NKD: No Known Data

Basin Management

Groundwater management:

Water agencies	
Public	Cambria CSD, San Luis Obispo County Department of Public Works
Private	

References Cited

California Department of Water Resources (DWR). 1958. *San Luis Obispo County Investigation*. Bulletin 18. 288 p.

______. 1975. *Sea-Water Intrusion in California: Inventory of Coastal Ground Water Basins.* Bulletin 63-5.

Yates, E. B., and K. M. Van Konyenburg. 1998. *Hydrogeology, Water Quality, Water Budgets, and Simulated Responses to Hydrologic Changes in Santa Rosa and San Simeon Creek Ground-Water Basins, San Luis Obispo County, California.* U.S. Geological Survey Water-Resources Investigations Report 98-4061.

Errata

Changes made to the basin description will be noted here.

Santa Rosa Valley Groundwater Basin

- Groundwater Basin Number: 3-36
- County: San Luis Obispo
- Surface Area: 4,480 acres (7.0 square miles)

Basin Boundaries and Hydrology

The Santa Rosa Valley Groundwater Basin underlies Santa Rosa Valley and is bounded on the west by the Pacific Ocean and on all other sides by impermeable rocks of the Jurassic to Cretaceous age Franciscan Group. The valley is drained by Green Valley, Perry, and Santa Rosa Creeks. Average annual rainfall increases from about 20 inches at the coast to about 26 inches at the eastern end of the valley floor to more than 40 inches at the creek headwaters (Yates and Van Konyenburg 1998).

Hydrogeologic Information

Water Bearing Formations

Groundwater is found in alluvial deposits with an average specific yield of 17 percent (DWR 1975). Groundwater is unconfined and generally flows westward.

Holocene Deposits. Alluvial deposits consist of unconsolidated sand, clay, silt, and gravel of primarily fluvial origin. Commonly, the deposits are about 100 feet thick beneath the center of the valley and more than 120 feet thick at the coast (Yates and Van Konyenburg 1998).

Recharge Areas

Recharge to the basin is largely by percolation of stream flow and, to a lesser extent, from infiltration of precipitation and excess irrigation flow (DWR 1958).

Groundwater Level Trends

In 1988, the rate of water-level decline slowed or even reversed slightly at most wells during November and early December following declines of 1 to 7 feet/month from February through August (Yates and Van Konyenburg 1998). This variation likely indicates seasonal fluctuation in groundwater level.

Groundwater Storage

Groundwater Storage Capacity. The total groundwater storage capacity has been estimated at 24,700 af (DWR 1975) and 170,000 af (Camrosa Water District 2001).

Groundwater in Storage. Unknown.

Groundwater Budget (Type A)

A groundwater budget for the Santa Rosa Groundwater Basin was simulated using a groundwater flow model for April 1988 through March 1989 (Yates and Van Konyenburg 1998). Recharge to the basin from rainfall totaled 140 af/yr. Recharge from creek flow was estimated at 470 af/yr. Subsurface inflow was 370 af/yr and subsurface outflow to the ocean was 60 af/yr.

Recharge to the basin from irrigation-return flow was 330 af/yr. Agricultural pumpage was estimated at 890 af/yr. Municipal and rural pumpage totaled 260 af/yr. Phreatophyte transpiration was estimated at 160 af/yr. Groundwater pumping during 1998 to 1999 totaled 5,900 af (Cambria Water District 2001).

Groundwater Quality

Characterization. Analysis of water from 1 public supply well has a TDS content of 680 mg/L.

Impairments. There is evidence that points to the possibility of seawater intrusion (DWR 1975). Chloride content increased more than ten times, from 80 mg/L in 1955 to 933 mg/L in 1975 (DWR 1975). Background chloride concentrations typically ranged from 30 to 270 mg/L (Yates and Van Konyenburg 1998). One well had a chloride concentration of 1,925 mg/L in November 1961 (Yates and Van Konyenburg 1998).

Water Quality in Public Supply Wells

Constituent Group[1]	Number of wells sampled[2]	Number of wells with a concentration above an MCL[3]
Inorganics – Primary	1	0
Radiological	1	0
Nitrates	1	0
Pesticides	1	0
VOCs and SOCs	1	0
Inorganics – Secondary	1	1

[1] A description of each member in the constituent groups and a generalized discussion of the relevance of these groups are included in *California's Groundwater – Bulletin 118* by DWR (2003).

[2] Represents distinct number of wells sampled as required under DHS Title 22 program from 1994 through 2000.

[3] Each well reported with a concentration above an MCL was confirmed with a second detection above an MCL. This information is intended as an indicator of the types of activities that cause contamination in a given basin. It represents the water quality at the sample location. It does not indicate the water quality delivered to the consumer. More detailed drinking water quality information can be obtained from the local water purveyor and its annual Consumer Confidence Report.

Well Production characteristics

	Well yields (gal/min)	
Municipal/Irrigation	Range: to 708	Average: 400 (DWR 1958)
	Total depths (ft)	
Domestic		
Municipal/Irrigation	Range: to 130	Average: 80 ft (DWR 1958)

Active Monitoring Data

Agency	Parameter	Number of wells /measurement frequency
	Groundwater levels	NKD
	Miscellaneous water quality	NKD
Department of Health Services and cooperators	Title 22 water quality	2

NKD: No Known Data

Basin Management

Groundwater management:	
Water agencies	
Public	Cambria CSD, Camrosa WD
Private	Santa Rosa MWC

References Cited

California Department of Water Resources (DWR). 1958. *San Luis Obispo County Investigation*. Bulletin 18. 288 p.

______. 1975. *Sea-Water Intrusion in California: Inventory of Coastal Ground Water Basins.* Bulletin 63-5.

Camrosa Water District. 2000. *Draft: 2000 Urban Water Management Plan.* http://www.camrosa.com/Public%20Information/UWMP2000Draft.pdf (October 2001).

Yates, E. B., and K. M. Van Konyenburg. 1998. *Hydrogeology, Water Quality, Water Budgets, and Simulated Responses to Hydrologic Changes in Santa Rosa and San Simeon Creek ground-water basins, San Luis Obispo County, California.* U.S. Geological Survey Water-Resources Investigations Report 98-4061.

Additional References

California Department of Water Resources (DWR). 1958. *San Luis Obispo County Investigation*. Bulletin 18, 288 p.

______, Central District. 1987. *Santa Rosa Plain Ground Water Model.* 318 p.

Cardwell, G. T. 1958. *Geology and Ground Water in the Santa Rosa and Petaluma Valley areas, Sonoma County, California.* U. S. Geological Survey Water-Supply Paper 1427.

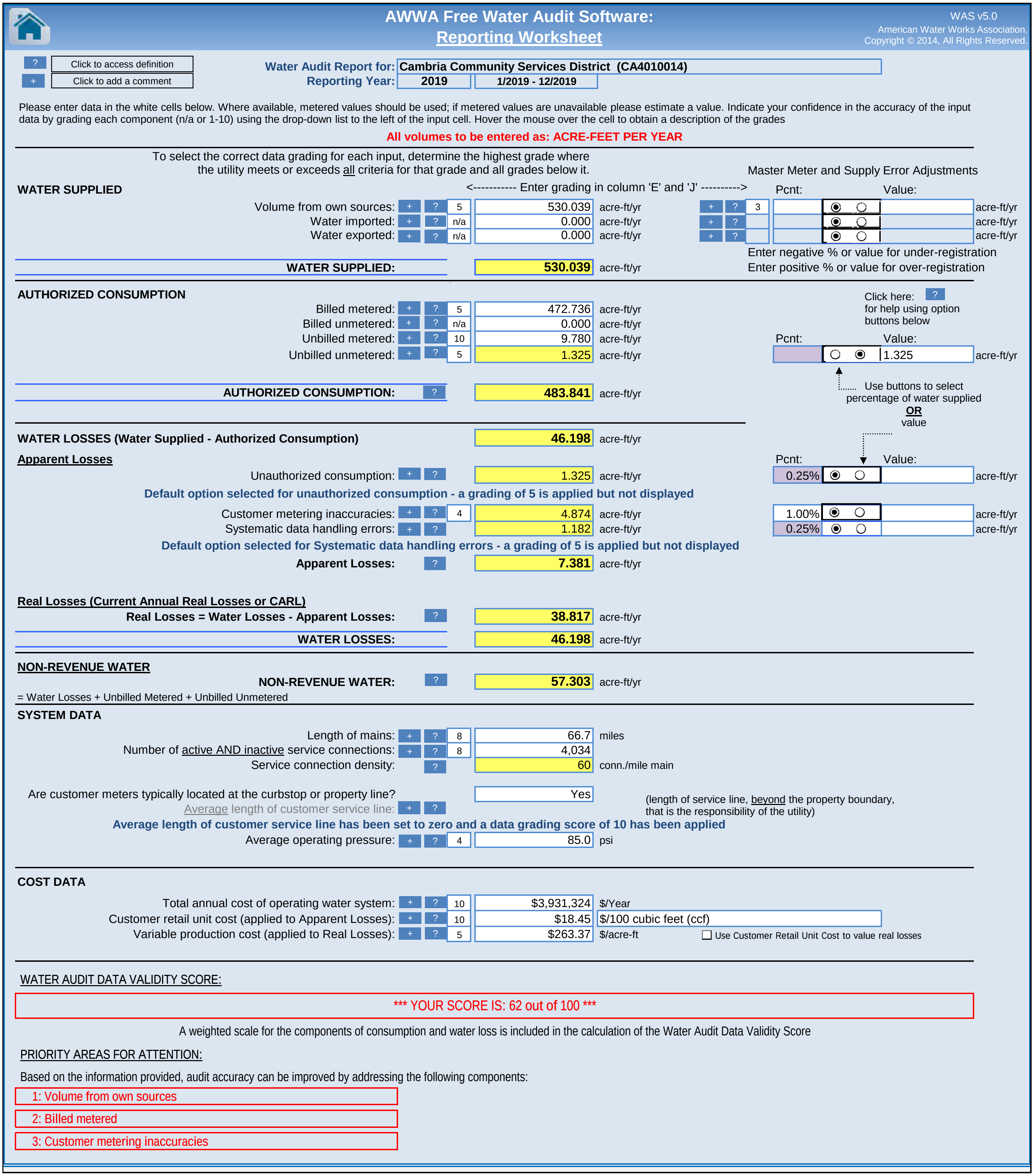
Leonard, A.R., and G. T. Cardwell. 1955. *Statement on Ground-Water Conditions in Santa Rosa, Petaluma, and Sonoma Valleys, Sonoma County, California.* U. S. Geological Survey.

U.S. Bureau of Reclamation. 1990. *Long-Term Wastewater System Draft Environmental Impact Report, Statement : Santa Rosa Subregional Water Reclamation System***.**

______. 1992. *Santa Rosa Subregional Water Reclamation System: Long-Term Wastewater System Final Environmental Impact Statement.*

Errata

Changes made to the basin description will be noted here.



AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0
American Water Works Association.
Copyright © 2014, All Rights Reserved.

?	Click to access definition
+	Click to add a comment

Water Audit Report for: Cambria Community Services District (CA4010014)
Reporting Year: 2019 1/2019 - 12/2019

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

<----------- Enter grading in column 'E' and 'J' ---------->

Master Meter and Supply Error Adjustments

WATER SUPPLIED

			Grade	Value	Unit			Grade	Pcnt:		Value:	
Volume from own sources:	+	?	5	530.039	acre-ft/yr	+	?	3		● ○		acre-ft/yr
Water imported:	+	?	n/a	0.000	acre-ft/yr	+	?			● ○		acre-ft/yr
Water exported:	+	?	n/a	0.000	acre-ft/yr	+	?			● ○		acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 530.039 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

			Grade	Value	Unit	Pcnt:		Value:	
Billed metered:	+	?	5	472.736	acre-ft/yr				
Billed unmetered:	+	?	n/a	0.000	acre-ft/yr				
Unbilled metered:	+	?	10	9.780	acre-ft/yr				
Unbilled unmetered:	+	?	5	1.325	acre-ft/yr		○ ●	1.325	acre-ft/yr

Use buttons to select percentage of water supplied
OR
value

AUTHORIZED CONSUMPTION: ? 483.841 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption) 46.198 acre-ft/yr

Apparent Losses

			Grade	Value	Unit	Pcnt:		Value:	
Unauthorized consumption:	+	?		1.325	acre-ft/yr	0.25%	● ○		acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

			Grade	Value	Unit	Pcnt:		Value:	
Customer metering inaccuracies:	+	?	4	4.874	acre-ft/yr	1.00%	● ○		acre-ft/yr
Systematic data handling errors:	+	?		1.182	acre-ft/yr	0.25%	● ○		acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: ? 7.381 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? 38.817 acre-ft/yr

WATER LOSSES: 46.198 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: ? 57.303 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

			Grade	Value	Unit
Length of mains:	+	?	8	66.7	miles
Number of active AND inactive service connections:	+	?	8	4,034	
Service connection density:		?		60	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: + ? (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

			Grade	Value	Unit
Average operating pressure:	+	?	4	85.0	psi

COST DATA

			Grade	Value	Unit
Total annual cost of operating water system:	+	?	10	$3,931,324	$/Year
Customer retail unit cost (applied to Apparent Losses):	+	?	10	$18.45	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+	?	5	$263.37	$/acre-ft

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 62 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Billed metered
3: Customer metering inaccuracies

Technical Memorandum - FINAL

Date: May 26, 2021

To: Ray Dienzo and Melissa Bland, Cambria Community Services District

From: Lisa Maddaus, Maddaus Water Management Inc.

Title: Summary of DSS Modeling Demand Analysis Update for 2020 UWMP

1. INTRODUCTION

Cambria Community Services District (Cambria) worked dynamically with Maddaus Water Management (MWM) to update Cambria's Least Cost Planning Decision Support System Model (DSS Model) from the prior 2016 version of the model. This effort included MWM providing Cambria staff with DSS Model training video modules and holding virtual meetings to ensure a comprehensive update. For this effort, MWM's role focused more on design support and peer review. The updates to the 2016 DSS Model and demand analysis are intended to support Cambria's 2020 Urban Water Management Plan (UWMP) development. This memo presents inputs and results from the demand analysis completed in March 2021.

In support of the 2021 effort, MWM provided a data workbook and an updated DSS Model containing refined software code so Cambria staff could update both with new data. MWM worked collaboratively with Cambria to refine model inputs and design features in the DSS Model. A revised demand projection scenario was implemented to investigate potential rebound activity and climate change adjustments from the recent drought, recession, and COVID-19 pandemic.

The results of this demand analysis support the efforts by Cambria and Water Systems Consulting, Inc. (WSC) in the development of the 2020 Cambria UWMP. The output of the DSS Model analysis has provided that data needed for the required 2020 UWMP Chapter 4 demand forecast data tables, as well as a foundation for the supply and demand comparison under various water year types scenarios in the water supply reliability analysis.

2. BACKGROUND

This effort is a continuation of past collaboration between Cambria and MWM. In 2016, MWM provided services to assist Cambria with the completion of an Environmental Impact Report (EIR). Services included a review of Cambria's historical demands, historical conservation activity including local plumbing codes, and the collaborative development of projected water use and demand management measures. This involved creating an update to Cambria's DSS Model previously used for the Water Use Efficiency Plan. Also conducted was a detailed review of Cambria's population and employment status as well as local codes and ordinances. Using the 2016 DSS Model, MWM produced Cambria's 2015 UWMP, completing the project in December 2016. The intent of the UWMP was to provide the California Department of Water Resources (DWR) and the public with information on present and future water supply sources and demands and to provide an assessment of Cambria's water resource needs. UWMPs provide water supply planning for a 20-year planning period in 5-year increments; identify and quantify adequate water supplies for existing and future demands during normal, dry and drought years; and assure efficient use of urban water supplies.

In 2013, MWM assisted Cambria with its long-standing water conservation program by developing scenarios for maximizing future water conservation in the community. This was done using the 2012 version of the DSS Model software.

The analysis of conservation measures and programs was then documented in the Water Use Efficiency Plan. The evaluation included measures directed at existing accounts and new development measures to help ensure new residential and business customers would be more water efficient. Three programs were developed to evaluate the net effect of running multiple measures together over time. From that analysis, a recommended conservation program was selected by the Cambria Board of Directors in January 2013 to be in concert with Cambria's goals. The work effort included MWM's direction of Cambria staff to perform an assessment of remaining conservation potential for large customers. MWM also prepared a supplemental technical analysis using San Luis Obispo County assessor data of water use by property size and other demographic data. This supported an update to Cambria Municipal Code for its retrofit points system for approval of new developments.

3. DSS MODELING APPROACH AND INPUTS

Updates to Cambria's DSS Model included additional consumption, production, population, and jobs data as well as passive saving analysis input changes. The DSS Model analysis demand forecast development methodology can be found in Appendix A; the passive savings basis can be found in Appendix B.

3.1 Data Collection

Utilizing utility billing records, monthly production, customer category consumption, and customer category accounts through December 2020 were updated by Cambria staff in the data collection section of the DSS Model. This 2021 modeling effort also used updated values for cost of water, water system audit results, and historical active conservation activity, interventions, rebates, and/or giveaways through 2020 for toilets, urinals, showerheads, faucet aerators, and clothes washers.

3.2 Growth Projections

This DSS Model demand analysis update used various growth projection parameters for Cambria's customer categories, the basis of which are defined below.

Population

Service area historical population was reviewed and determined to remain consistent with the previous 2015/2016 effort, where population was held constant at 6,032 people based on the 2010 Census. The Cambria service area still currently has a building moratorium, where no growth occurs beyond properties approved by the California Coastal Commission. As a result, though typically a valuable resource, the population projection estimates available through the US Census American Community Survey (ACS) were not accurately representative of the Cambria service area. The two areas of evidence for this were actual water consumption and the number of zero-read months where an account showed no water use. The ACS data showed that the Cambria population was trending downward; however, the actual water consumption in the service area was increasing while the number of zero-reads were decreasing. This water use and account trend did not imply a reduction in population; therefore, the ACS population estimates for Cambria were assumed to not accurately represent the service area.

Cambria's baseline population of 6,032 from the 2010 Census was verified against number of current occupied single family, multifamily, and vacation rental units. Single family (SF) population was calculated using total number of occupied single family units and the 2010 Census1 average household size of 2.18. Approximately 60% of the single family units in the service area are occupied per the ACS DP04 2019 5-year estimates. The multifamily (MF) population was calculated using the total number of occupied multifamily units' times the ACS renter household size of 2.36.

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[1] https://data.census.gov/cedsci/

Cambria's "Vacation Rental" population was determined by using total number of occupied vacation rental units times a household size of 4.44, which was derived using AirDNA[2] occupancy rates and average number of guests. Per AirDNA, it is assumed that 74% of vacation rental accounts are occupied. Future population projections were held constant until 2025 due to the current moratorium and no planned growth until 2026.

Currently in the Cambria service area, there is a goal of 4,650 residential connections based on the Buildout Reduction Program, part of the Cambria's 2008 Water Master Plan. Since the current waitlist for single family accounts is at 661, this analysis assumes account growth in the single family (SF) customer category only and that multifamily (MF) accounts will increase negligibly. In order to not exceed the residential unit cap, single family account growth was conducted by growing SF accounts 1% each year from 2026 to 2042, 0.5% in 2043, and 0% (no growth) after 2043. This approach yielded 4,650 total residential units for single family, multifamily, and vacation rentals in 2043 and remaining constant thereafter. It was assumed that there are 2.6 units per multifamily account based on ACS number of housing units and actual 2020 multifamily accounts per Cambria billing data. This approach yields a modest population growth estimated at 849 persons between 2026-2043 only, assumed to be in single family dwellings. For this analysis, single family accounts are growing at the same rate as single family population. Multifamily and vacation rental accounts are assumed to remained constant with no growth, as the population for those categories is not expected to change significantly.

Employment

Historical employment was based on the Economic Census of the United States with an estimated 1,250 jobs in 2012 and 1,500 in 2017. Historical jobs were estimated to remain static after 2017. For employment projections, it was assumed that, like population, employment would remain static through 2026. Therefore, the 2017 employment estimate of 1,500 (from the 2017 Economic Census) was held constant through 2025 then, like single family population, grew at 1% until 2042 with a 0.5% growth increase in 2043. Afterwards, it was estimated that employment would remain static through the model analysis period (2045). This employment estimate assumes approximately 15-18 new employees each year from 2026-2043, capping off at approximately 1,800 employees in 2043.

Commercial account growth in Cambria is estimated to grow at the rate of employment growth. There is no account growth assumed for Cambria's "Other" customer category which includes internal, non-revenue bearing accounts.

3.3 Water Loss

The DSS Model analysis included non-revenue water (NRW) in its demand calculations. A user input of 10.8% water loss from the 2019 AWWA Water Loss Workbook was used. An estimate of 9.3% was used in the 2015 UWMP effort.

3.4 Climate Change

An external climate change growth rate estimate was applied to the Cambria annual water demand projections with passive savings. Customer category demands were increased by 2.38% by 2050 to capture the effect of climate change. This bump was feathered in linearly starting with a zero increase then rising to 2.38% by 2050. This climate change increase was not applied to the NRW volume. The factor is based on changes in temperature and precipitation from CalAdapt,[3] which is based on analysis from California's Fourth Climate Change Assessment. Estimates were for the grid overlaying the Central Coast region originally prepared for the City of Santa Barbara and based on specific years (2020-2050). This analysis was based on an average of 10 climate models, and representative concentration pathways (RCP) 8.5, which assumed "business as usual" (i.e., emissions continue to rise strongly through 2050 and plateau around 2100). This resulted in a

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[2] As of February 24, 2021, the average occupancy rate was 74% and average number of guests was 6. https://www.airdna.co/vacation-rental-data/app/us/california/cambria/overview

[3] https://cal-adapt.org/tools/annual-averages/

projected maximum temperature increase from 70.1°F (historical average) to 72.8°F in 2050 and an increase in precipitation from an average historical of 17.3 inches per year to 19.1 inches per year.[4]

3.5 Plumbing Codes and Passive Savings

An update to the plumbing code inputs section of the DSS Model for this passive savings analysis incorporated updates to the following:

- Age of housing profile
- Historical conversation measure implementation activity
- Cambria Municipal Code

More information on plumbing code and passive savings can be found in Appendix B.

4. MODEL ANALYSIS FINDINGS

The following tables and charts present Cambria historical and projected population and potable demands. The demands include passive savings and climate change.

Table 1. Estimated Cambria Population and Potable Water Demands

	2020 (Actual)	2025	2030	2035	2040	2045
Population	6,032	6,000	6,300	6,500	6,800	6,900
Demands with NO Passive Savings (AFY)	540	600	630	660	690	700
Demands with Passive Savings (AFY)		580	590	610	630	630
Demands with Passive Savings AND Climate Change (AFY)		590	600	620	640	650

Note: Population values have been rounded to the nearest 100 people, demand to the nearest 10 AFY.

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[4] City of Santa Barbara Water Vision Santa Barbara Demands Projections Basis Technical Memorandum, dated September, 24, 2020.

Figure 1. Historical and Projected Cambria Potable Demands

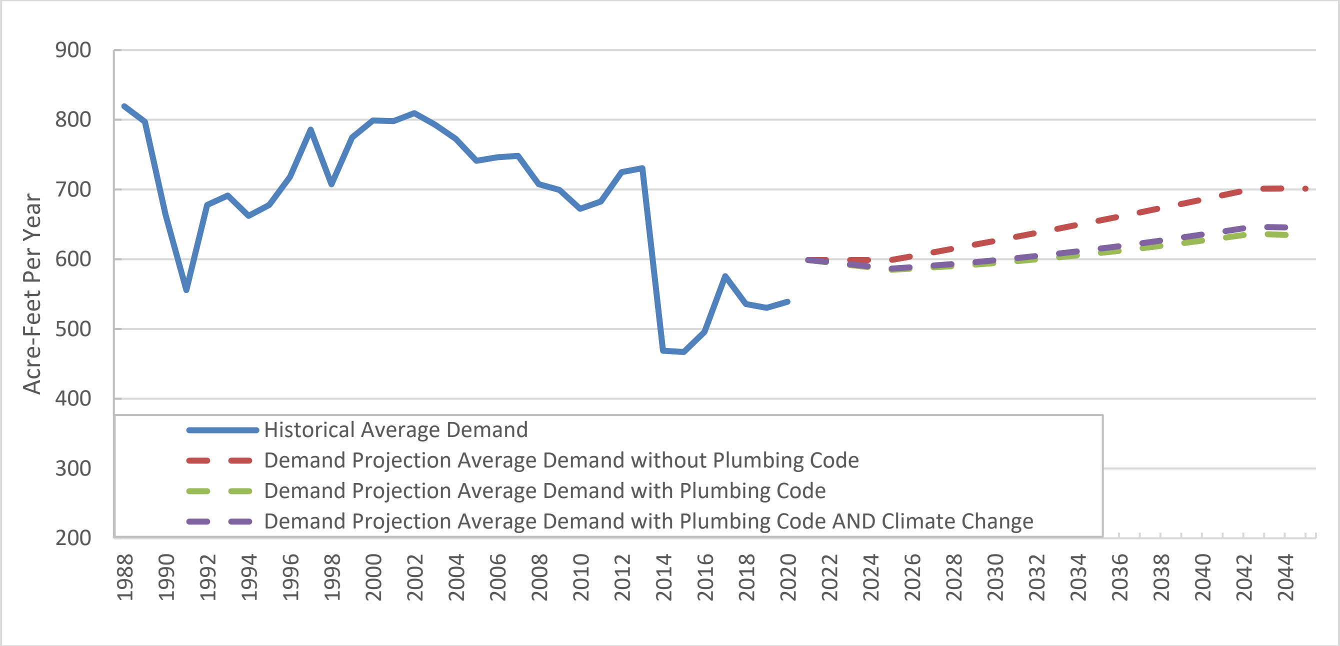
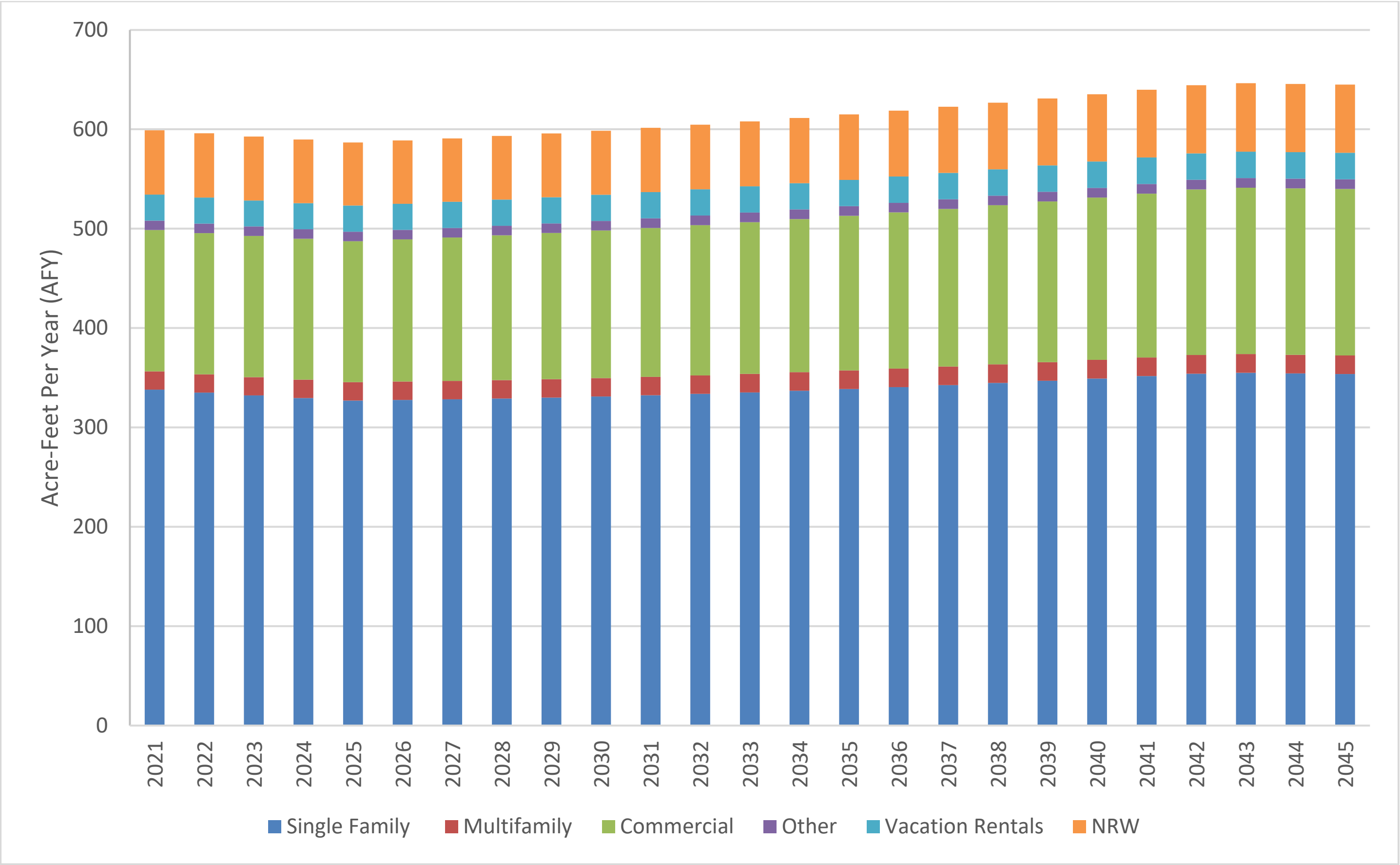
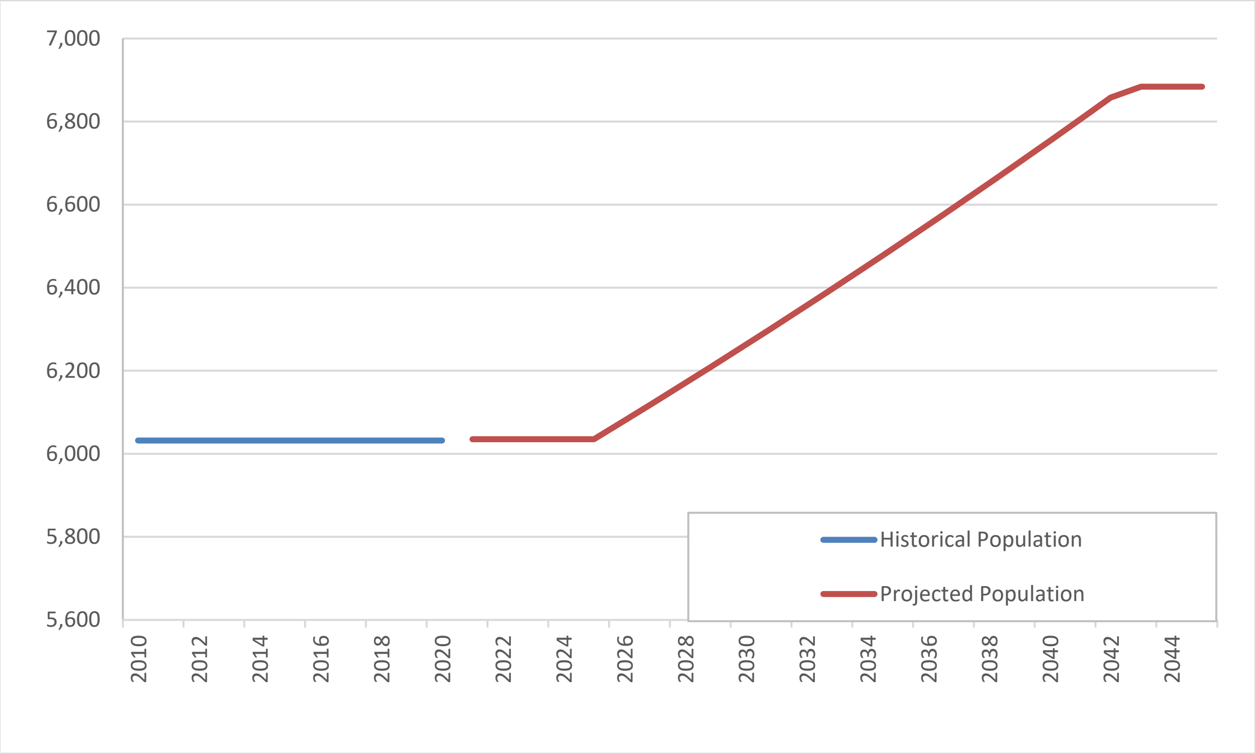


Figure 2. Projected Cambria Potable Demand by Customer Category with Plumbing Code and Climate Change



Note: Demands include plumbing code and climate change

Figure 3. Cambria Historical and Projected Population



5. UWMP TABLES

The following tables are provided for the 2020 UWMP and were informed by this DSS Model analysis effort. Tables are based on the DWR UWMP Draft Guidebook dated September 3, 2020. All demands presented include passive savings.

Table 2 (DWR Table 3-1) presents current and projected population.

Table 2. (DWR Table 3-1) Population – Current and Projected Estimates

Submittal Table 3-1 Retail: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045
	6,032	6,000	6,300	6,500	6,800	6,900
NOTES: Population values have been rounded to the nearest 100 people. Due to a building moratorium in Cambria, there was no population growth between 2010 and 2020. Cambria population growth is expected to start in 2026. From 2026-2043 a population growth rate of approximately 1% per year for single family only is projected, until a maximum of 4,650 total residential units is met. Residential units include vacation rentals, multifamily, and single family units. For example, 2025 population is based on 2,048 occupied SF housing units x 2.18 average household size (HHS) based on 2010 census + 347 occupied multifamily housing units x 2.36 average HHS for renter-occupied units per American Community Survey + 169 occupied vacation rental units x 4.44 estimated HHS for vacation rentals per AIRDNA metrics of 6 guests x 74% occupancy rate.						

Table 3 (DWR Table 4-1) presents current water use for Cambria by customer class in AFY.

Table 3. (DWR Table 4-1) Demands for Potable and Non-Potable Water – Actual

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable Water - Actual			
Use Type	2020 Actual		
	Additional Description	Level of Treatment When Delivered	Volume (AFY)
Single Family	Includes vacation rental water use	Drinking Water	340
Multi-Family		Drinking Water	18
Commercial		Drinking Water	114
Losses	Non-Revenue Water	Drinking Water	61
Other		Drinking Water	8
		TOTAL	539

Table 4 (DWR Table 4-2) presents projected water use by customer category in acre-feet per year and includes passive savings. <u>The demands in Table 4 do not include climate change</u>. Results with climate change are available.

Table 4. (DWR Table 4-2) Use for Potable and Non-Potable Water – Projected, AFY

Submittal Table 4-2 Retail: Use for Potable and Non-Potable Water - Projected						
Use Type	Additional Description	Projected Water Use (AFY)				
		2025	2030	2035	2040	2045 (opt)
Single Family	Includes vacation rental home water use	350	350	360	370	370
Multi-Family		20	20	20	20	20
Commercial		140	150	150	160	160
Losses	Non-Revenue Water	60	60	70	70	70
Other Potable		10	10	10	10	10
	TOTAL	580	590	610	630	630

Note: Demands have been rounded to the nearest 10 AFY.

Table 5 (DWR Table 4-5) represents what was included in the water use projections. More information about passive water savings can be found in Appendix B of this memo.

Table 5. (DWR Table 4-5) Factors Included in Water Use Projections

Submittal Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook)	Yes
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc.... utilized in demand projections are found.	Appendix G
Are Lower Income Residential Demands Included In Projections?	Yes

The 2010 census data indicated approximately 13.4% of all households in Cambria were within a low-income group (i.e. annual income earned less than $24,999). Cambria's 2010 median income was approximately $72,100. To project low income water demands, it was assumed that the 13.4% were evenly distributed between the single-family water use sectors. The projected low-income demands using this approach are shown in Table 4-5b below.

Table 4-5b. Low-Income Projected Water Demands, AFY

CCSD Low-Income Projected Water Demands (AF)					
Use Type	2025	2030	2035	2040	2045 (opt)
Single Family	47	48	48	50	50
Multi-Family	2	2	2	2	2
Total	**50**	**50**	**51**	**52**	**52**

6. CONCLUSIONS AND NEXT STEPS

The population and water demand forecasts contained in this memorandum reflect an enhancement from those used in the 2015 UWMP. Though similar methodologies were employed in this analysis, the more current estimate used more refined information as presented earlier in this document. This effort also leveraged updated results from AirDNA for Vacation Rental basis and recent climate models to factor climate change into demands.

Further analysis is planned for the Water Conservation Program planning effort as more information becomes available on future regulations within the 2018 “Making Water Conservation a California Way of Life” legislation. Until regulations are finalized, Cambria is planning to continue with its current conservation program while completing retrofit saturation studies and a planned addendum to the 2013 Water Use Efficiency Plan.

Cambria plans to refine its active water conservation program in the future, which would include conducting a benefit-cost analysis for various conservation measures that Cambria could implement.

For comparison purposes, the projected demands and population that were reported in Cambria’s 2015 UWMP can be found in Appendix C.

APPENDIX A – DSS MODEL DESCRIPTION

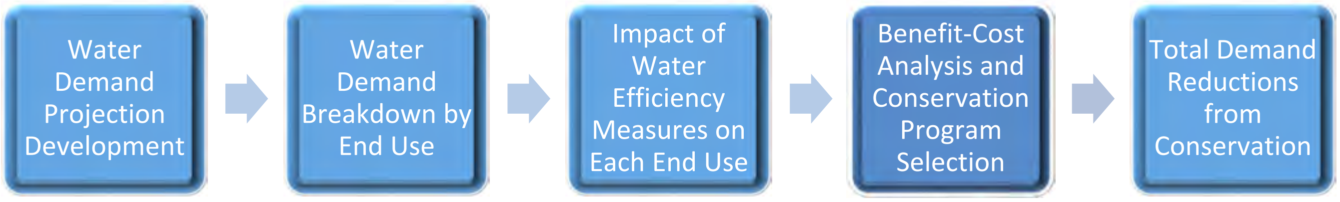


Figure A-1. DSS Model Main Page

DSS Model Overview: The Least Cost Planning Decision Support System Model (DSS Model) is used to prepare long-range, detailed demand projections. The purpose of the extra detail is to enable a more accurate assessment of the impact of water efficiency programs on demand and to provide a rigorous and defensible modeling approach necessary for projects subject to regulatory or environmental review.

Originally developed in 1999 and continuously updated, the DSS Model is an "end-use" model that breaks down total water production (water demand in the service area) to specific water end uses, such as plumbing fixtures and appliances. The model uses a bottom-up approach that allows for multiple criteria to be considered when estimating future demands, such as the effects of natural fixture replacement, plumbing codes, and conservation efforts. The DSS Model may also use a top-down approach with a utility-prepared water demand forecast.

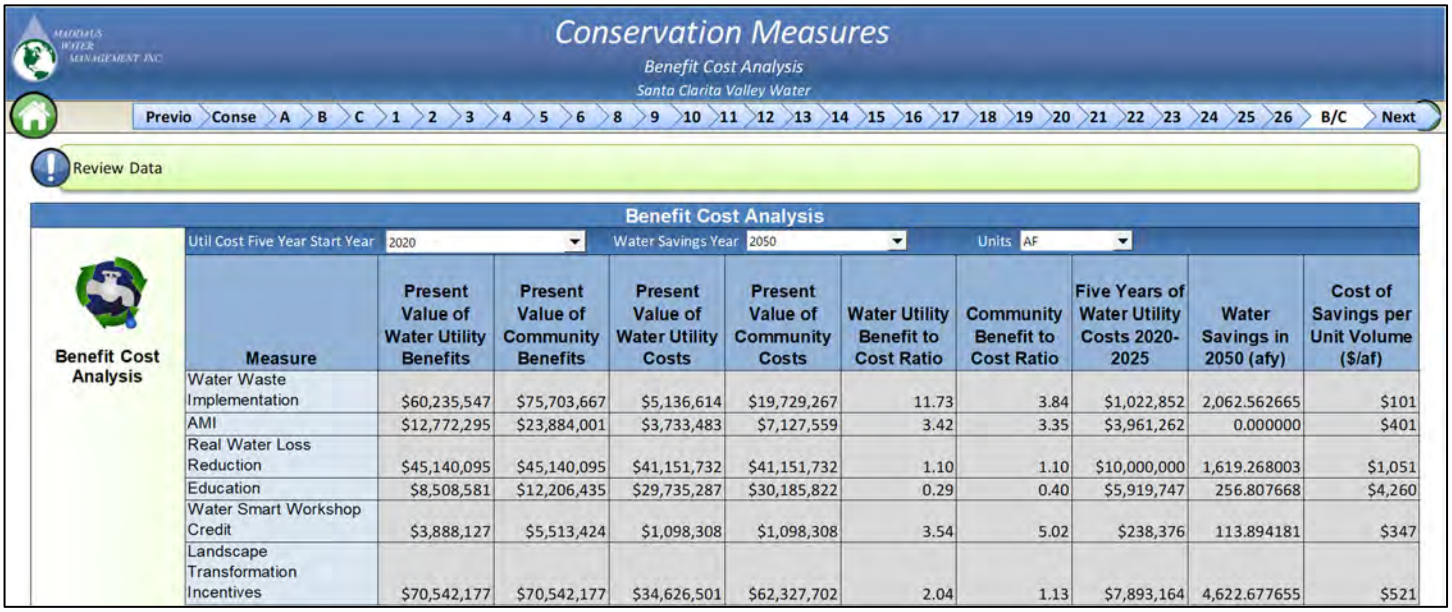
Demand Forecast Development and Model Calibration: To forecast urban water demands using the DSS Model, customer demand data is obtained from the water agency being modeled. Demand data is reconciled with available demographic data to characterize water usage for each customer category in terms of number of users per account and per capita water use. Data is further analyzed to approximate the split of indoor and outdoor water usage in each customer category. The indoor/outdoor water usage is further divided into typical end uses for each customer category. Published data on average per capita indoor water use and average per capita end use is combined with the number of water users to calibrate the volume of water allocated to specific end uses in each customer category. In other words, the DSS Model checks that social norms from end studies on water use behavior (e.g., flushes per person per day) are not exceeded or drop below reasonable use limits.

Passive Water Savings Calculations: The DSS Model is used to forecast service area water fixture use. Specific end-use type, average water use, and lifetime are compiled for each fixture. Additionally, state, and national plumbing codes and appliance standards are modeled by customer category. These fixtures and plumbing codes can be added to, edited, or deleted by the user. This process yields two demand forecasts, one with plumbing codes and one without plumbing codes.

Active Conservation Measure Analysis Using Benefit-Cost Analysis: The DSS Model evaluates active conservation measures using benefit-cost analysis with the present value of the cost of water saved ($/Million Gallons or $/Acre-Feet). Benefits are based on savings in water and wastewater facility operations and maintenance (O&M) and any deferred capital expenditures. The figures on the previous page illustrate the processes for forecasting conservation water savings, including the impacts of fixture replacement due to existing plumbing codes and standards.

The modeling for the 2020 UWMP did not include active conservation measure analysis. Cambria has planned an addendum to the 2013 Water Use Efficiency Plan which will include active conservation measure analysis.

Figure A-2. Sample Benefit-Cost Analysis Summary



Conservation Measures

Benefit Cost Analysis

Santa Clarita Valley Water

Benefit Cost Analysis

Util Cost Five Year Start Year: 2020

Water Savings Year: 2050

Units: AF

Measure	Present Value of Water Utility Benefits	Present Value of Community Benefits	Present Value of Water Utility Costs	Present Value of Community Costs	Water Utility Benefit to Cost Ratio	Community Benefit to Cost Ratio	Five Years of Water Utility Costs 2020-2025	Water Savings in 2050 (afy)	Cost of Savings per Unit Volume ($/af)
Water Waste Implementation	$60,235,547	$75,703,667	$5,136,614	$19,729,267	11.73	3.84	$1,022,852	2,062.562665	$101
AMI	$12,772,295	$23,884,001	$3,733,483	$7,127,559	3.42	3.35	$3,961,262	0.000000	$401
Real Water Loss Reduction	$45,140,095	$45,140,095	$41,151,732	$41,151,732	1.10	1.10	$10,000,000	1,619.268003	$1,051
Education	$8,508,581	$12,206,435	$29,735,287	$30,185,822	0.29	0.40	$5,919,747	256.807668	$4,260
Water Smart Workshop Credit	$3,888,127	$5,513,424	$1,098,308	$1,098,308	3.54	5.02	$238,376	113.894181	$347
Landscape Transformation Incentives	$70,542,177	$70,542,177	$34,626,501	$62,327,702	2.04	1.13	$7,893,164	4,622.677655	$521

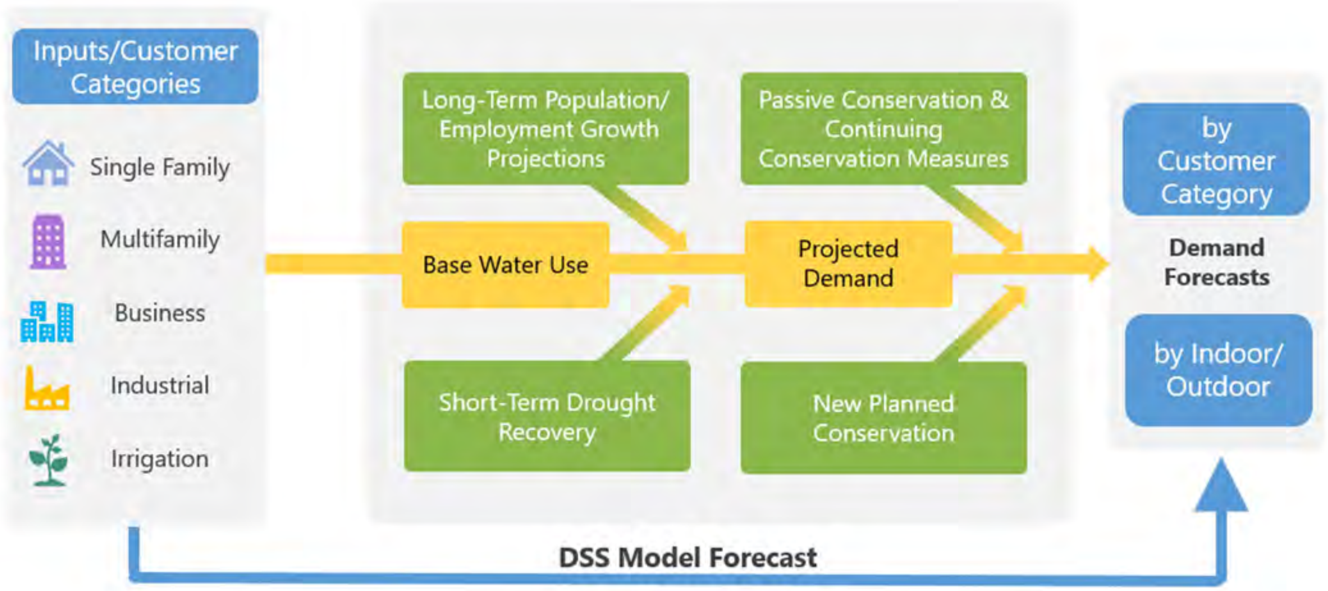
Model Use and Validation: The DSS Model has been used for over 20 years for practical applications of conservation planning in over 300 service areas representing 60 million people, including extensive efforts nationally and internationally in Australia, New Zealand, and Canada.

Figure A-3. DSS Model Analysis Locations in the U.S.

The California Water Efficiency Partnership, or CalWEP (formerly the CUWCC), has peer reviewed and endorsed the model since 2006. It is offered to all CalWEP members for use to estimate water demand, plumbing code, and conservation program savings.

The DSS Model can use one of the following: 1) a statistical approach to forecast demands (e.g., an econometric model); 2) a forecasted increase in population and employment; 3) predicted future demands; or 4) a demand projection entered into the model from an outside source.

Figure A-4 Potable DSS Model Flow Diagram



APPENDIX B – PASSIVE CONSERVATION SAVINGS BASIS

This appendix presents the methodology used to determine passive water savings in the Cambria Community Services District DSS Model, information regarding local, national, and state plumbing codes, and key inputs and assumptions used in the DSS Model including fixture replacement and estimates. Note: The DSS Model does not assess passive water savings for outdoor use. It focuses on plumbing code change impacts on indoor fixtures. However, the DSS Model does incorporate impacts of outdoor code changes, such as MWELO updates, into the active conservation savings analyses.

B.1 Plumbing Code Savings Summary

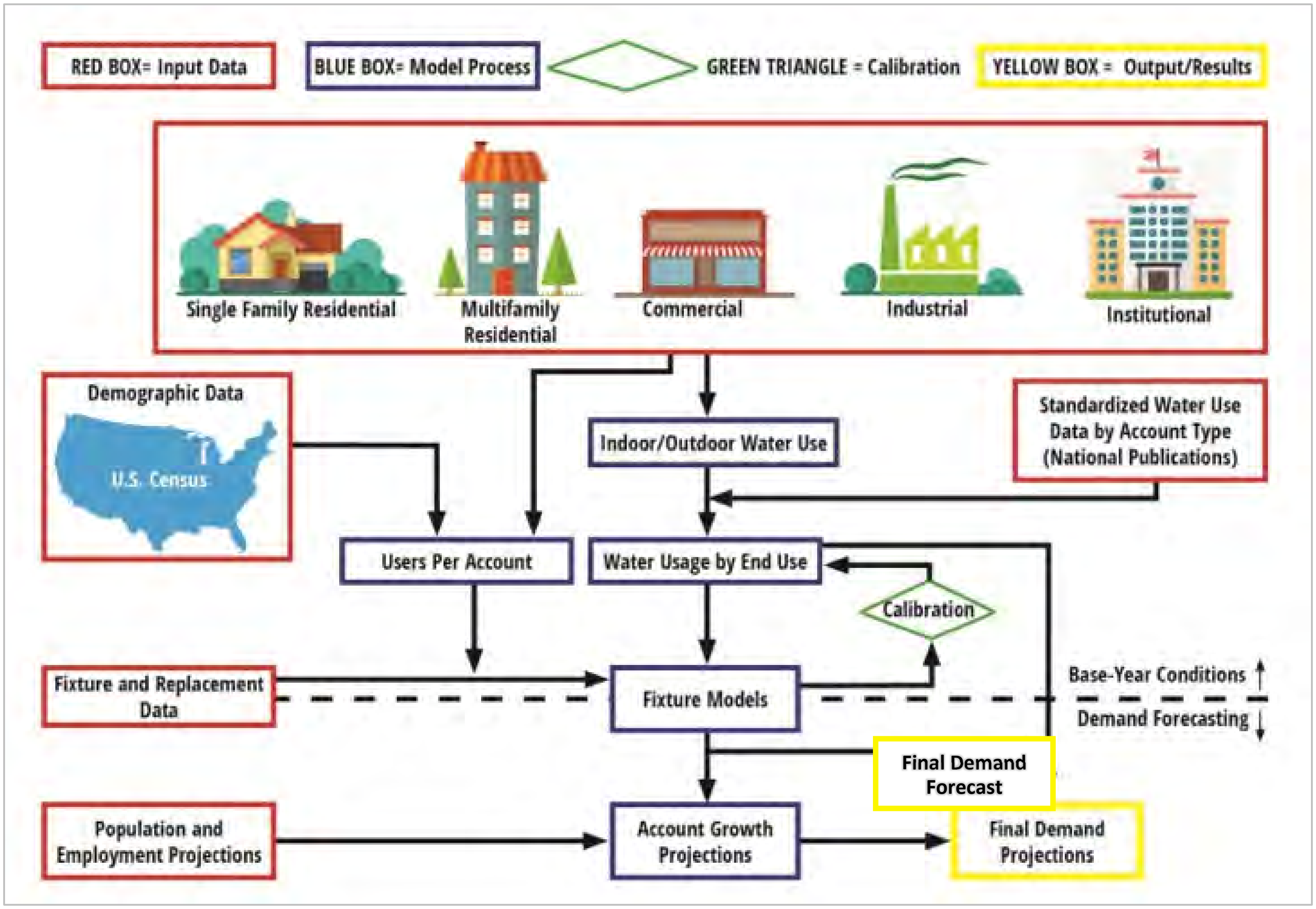
In the codes and standards portion of the DSS Model, specific fixture end-use type (point of use fixture or appliance), average water use, and lifetime are compiled to forecast service area water fixture use. Additionally, local, state, and national plumbing codes and appliance standards for toilets, urinals, showers, faucet aerators and clothes washers are modeled by customer category. This approach yields two distinct demand forecasts related to plumbing code savings: 1) with plumbing codes and 2) without plumbing codes. Plumbing code measures are independent of any water use efficiency program and are based on customers following applicable local, state, and federal laws, building codes, and ordinances.

Plumbing code-related water savings are considered “passive” and reliable long-term savings and can be depended upon over time to help reduce overall system water demand. In contrast, water savings are considered “active” if a specific action unrelated to the implementation of codes and standards is taken by Cambria to accomplish water use efficiency measure savings (e.g., offering turf removal rebates). The DSS Model incorporates the following items as a “code,” meaning that the savings are assumed to occur and therefore are “passive” savings:

- The Federal Energy Policy Act of 1992 (amended in 2005)
- California Code of Regulations Title 20 California State Law (Assembly Bill 715)
- California State Law Senate Bill 407
- 2015 California Code of Regulations Title 20 Appliance Efficiency Regulations
- 2019 CALGreen Code (effective January 1, 2020)
- Cambria Municipal Code (https://www.cambriacsd.org)

Figure B-1 conceptually describes how plumbing codes using “fixture models” are incorporated into the flow of information in the DSS Model. The demand forecast, including plumbing code savings, further assumes no active involvement by Cambria and that the costs of purchasing and installing replacement equipment (and new equipment in new construction) are borne solely by the customers, occurring at no Cambria expense.

Figure B-1. DSS Model Overview Used to Make Water Demand Forecast



The inverse of the fixture life is the natural replacement rate expressed as a percent (i.e., 10 years is a rate of 10% per year).

B.2 National Plumbing Code

The Federal Energy Policy Act of 1992, as amended in 2005, mandates that only fixtures (as listed below) meeting the following standards can be installed in new buildings:

- Toilet – 1.6 gal/flush maximum
- Urinals – 1.0 gal/flush maximum
- Showerhead – 2.5 gal/min at 80 pounds per square inch (psi)
- Residential faucets – 2.2 gal/min at 60 psi
- Public restroom faucets – 0.5 gal/min at 60 psi
- Dishwashing pre-rinse spray valves – 1.6 gal/min at 60 psi

Replacement of fixtures in existing buildings is also governed by the Federal Energy Policy Act, which mandates that only devices with the specified level of efficiency (as shown above) can be sold as of 2006. The net result of the plumbing code is that new buildings will have more efficient fixtures and old inefficient fixtures will slowly be replaced with new, more efficient models. The national plumbing code is an important piece of legislation and must be carefully taken into consideration when analyzing the overall water efficiency of a service area.

In addition to the plumbing code, the U.S. Department of Energy regulates appliances, such as residential clothes washers, further reducing indoor water demands. Regulations to make these appliances more energy efficient have driven manufactures to dramatically reduce the amount of water these machines use. Generally, front-loading washing machines use 30-50% less water than conventional (top-loading) models, which are still available but are becoming more water efficient.

In this analysis, the DSS Model forecasts a gradual transition to high efficiency clothes washers (using 12 gallons or less) so that by 2025 that will be the only type of machine available for purchase. In addition to the industry becoming more efficient, rebate programs for washers have been successful in encouraging customers to buy more water efficient models. Given that machines last about 10 years, eventually all machines on the market will be the more water efficient models. Energy Star washing machines have a water factor of 6.0 or less – the equivalent of using 3.1 cubic feet (or 23.2 gallons) of water per load. The maximum water factor for residential clothes washers under current federal standards is 6.5 (equates to approximately 19 gallons per load based on an average 2.9 cubic ft. tub). The water factor equals the number of gallons used per cycle per cubic foot of capacity.

Water Factor (WF) = gallons per load/tub volume

OR

washer capacity (cubic ft.)/average tub volume

Prior to the year 2000, the water factor for a typical new residential clothes washer was around 12 (equates to approximately 35 gallons per load based on an average 2.9 cubic ft. tub). In March 2015, the federal standard reduced the maximum water factor for top- and front-loading machines to 8.4 and 4.7, respectively. In 2018, the maximum water factor for top-loading machines was further reduced to 6.5. For commercial washers, the maximum water factors were reduced in 2010 to 8.5 and 5.5 for top- and front-loading machines, respectively. Beginning in 2015, the maximum water factor for Energy Star certified washers was 3.7 for front-loading and 4.3 for top-loading machines. In 2011, the U.S. Environmental Protection Agency estimated that Energy Star washers comprised more that 60% of the residential market and 30% of the commercial market (Energy Star, 2011). A new Energy Star compliant washer uses about two-thirds less water per cycle than washers manufactured in the 1990s.

B.3 State Plumbing Code

This section describes California state codes applicable to Cambria's water use.

B.3.1 California State Law – AB 715

Plumbing codes for toilets, urinals, showerheads, and faucets were initially adopted by California in 1991, mandating the sale and use of ultra-low flush toilets (ULFTs) using 1.6 gpf, urinals using 1 gpf, and low-flow showerheads and faucets. AB 715 led to an update to California Code of Regulations Title 20 (see Section B.2.3) mandating that all toilets and urinals sold and installed in California as of January 1, 2014 must be high efficiency versions having flush ratings that do not exceed 1.28 gpf (toilets) and 0.5 gpf (urinals).

B.3.2 California State Laws – SB 407 and SB 837

SB 407 addresses plumbing fixture retrofits on resale or remodel. The DSS Model carefully considers the overlap with SB 407, the plumbing code (natural replacement), CALGreen, AB 715 and rebate programs (such as toilet rebates). SB 407 (enacted in 2009) requires that properties built prior to 1994 be fully retrofitted with water conserving fixtures by 2017 for single family residential houses and 2019 for multifamily and commercial properties. SB 407 program length is variable and continues until all the older high flush toilets have been replaced in the service area. The number of accounts with high flow fixtures is tracked to make sure that the situation of replacing more high flow fixtures than actually exist does not occur. Additionally, SB 407 conditions issuance of building permits for major improvements and renovations upon retrofit of non-compliant plumbing fixtures. SB 837 (enacted in 2011) requires that sellers of real estate property disclose on their Real Estate Transfer Disclosure Statement whether their property complies with these requirements. Both laws are intended to accelerate the replacement of older, low efficiency plumbing fixtures, and ensure that only high efficiency fixtures are installed in new residential and commercial buildings.

B.3.3 2019 CALGreen and 2015 CA Code of Regulations Title 20 Appliance Efficiency Regulations

Fixture characteristics in the DSS Model are tracked in new accounts, which are subject to the requirements of the 2019 California Green Building Code and 2015 California Code of Regulations Title 20 Appliance Efficiency Regulations adopted by the California Energy Commission (CEC) on September 1, 2015. The CEC 2015 appliance efficiency standards apply to the following new appliances, if they are sold in California: showerheads, lavatory faucets, kitchen faucets, metering faucets, replacement aerators, wash fountains, tub spout diverters, public lavatory faucets, commercial pre-rinse spray valves, urinals, and toilets. The DSS Model accounts for plumbing code savings due to the effects these standards have on showerheads, faucet aerators, urinals, toilets, and clothes washers.

- Showerheads – July 2016: 2.0 gpm; July 2018: 1.8 gpm
- Wall Mounted Urinals – January 2016: 0.125 gpf (pint)
- Lavatory Faucets and Aerator – July 2016: 1.2 gpm at 60 psi
- Kitchen Faucets and Aerator – July 2016: 1.8 gpm with optional temporary flow of 2.2 gpm at 60 psi
- Public Lavatory Faucets – July 2016: 0.5 gpm at 60 psi

In summary, the controlling law for **toilets** is Assembly Bill 715, requiring high efficiency toilets of 1.28 gpf sold in California beginning in 2014. The controlling law for wall-mounted urinals is the 2015 CEC efficiency regulations requiring that ultra-high efficiency pint **urinals** (0.125 gpf) be exclusively sold in California beginning January 1, 2016. This is an efficiency progression for urinals from AB 715's requirement of high efficiency (0.5 gpf) urinals starting in 2014.

Standards for **residential clothes washers** fall under the regulations of the U.S. Department of Energy. In 2018, the maximum water factor for standard top-loading machines was reduced to 6.5.

Showerhead flow rates are regulated under the 2015 California Code of Regulations Title 20 Appliance Efficiency Regulations adopted by the CEC, which requires the exclusive sale in California of 2.0 gpm showerheads at 80 psi as of July 1, 2016 and 1.8 gpm showerheads at 80 psi as of July 1, 2018. The WaterSense specification applies to showerheads that have a maximum flow rate of 2.0 gpm or less. This represents a 20% reduction in showerhead flow rate over the current federal standard of 2.5 gpm, as specified by the Energy Policy Act of 1992.

Faucet flow rates likewise have been regulated by the 2015 CEC Title 20 regulations. This standard requires that the residential faucets and aerators manufactured on or after July 1, 2016 be exclusively sold in California at 1.2 gpm at 60 psi; and public lavatory and kitchen faucets/aerators sold or offered for sale on or after July 1, 2016 be 0.5 gpm at 60 psi and 1.8 gpm at 60 psi (with optional temporary flow of 2.2 gpm), respectively. Previously, all faucets had been regulated by the 2010 California Green Building Code at 2.2 gpm at 60 psi.

B.4 Cambria Community Services District Municipal Code

The Cambria Municipal code also contains water efficiency criteria, which was recently modified to include mandatory Cal Green requirements as well as a few specific items which were considered non-mandatory within the Cal Green code. The most recent Cambria Municipal Code requirements related to indoor water use include:

- 1.28 gallon per flush maximum toilets
- 1/8 gallon per flush maximum urinals
- 1.5 gallon per minute showerheads
- 0.5 gallon per minute lavatory faucet aerators
- Hot water circulating pumps in new construction
- Clothes washers with water factors of no greater than 4.0

More information on these requirements can be found here: https://www.cambriacsd.org/

B.5 Key Baseline Potable Demand Inputs, Passive Savings Assumptions, and Resources

The following tables present the key assumptions and references that are used in the DSS Model in determining projected demands with plumbing code savings. The assumptions having the most dramatic effect on future demands are the natural replacement rate of fixtures, how residential or commercial future use is projected, and the percent of estimated real water losses.

Table B-1. List of Key Assumptions

Parameter	Model Input Value, Assumptions, and/or Key References		
Model Start Year for Analysis	2021		
Water Demand Factor Year (Base Year)	2013, 2018 and 2019		
Population Projection Source	Cambria SF and MF billing data, 2010 Census, 2019 ACS & AirDNA		
Employment	Economic Census of the United States 2012 and 2017		
Potable Water System Base Year Water Use Profile			
Customer Categories	**Total Water Use Distribution**	**Demand Factors (gpd/acct)**	**Indoor Use %**
Single Family	63%	88	81%
Multifamily	3%	122	83%
Commercial	27%	556	79%
Other	2%	371	37%
Vacation Rentals	5%	102	83%
Total	100%	N/A	N/A

Table B-2. Key Assumptions Resources

Parameter	Resource
Residential End Uses	Key Reference: CA DWR Report "California Single Family Water Use Efficiency Study," (DeOreo, 2011 – Page 28, Figure 3: Comparison of household end uses) and AWWA Research Foundation (AWWARF) Report "Residential End Uses of Water, Version 2 - 4309" (DeOreo, 2016). Table 2-A. Water Consumption by Water-Using Plumbing Products and Appliances - 1980-2012. PERC Phase 1 Report. Plumbing Efficiency Research Coalition. 2013. http://www.map-testing.com/content/info/menu/perc.html Model Input Values are found in the "End Uses" section of the DSS Model on the "Breakdown" worksheet.
Non-Residential End Uses, percent	Key Reference: AWWARF Report "Commercial and Institutional End Uses of Water" (Dziegielewski, 2000 – Appendix D: Details of Commercial and Industrial Assumptions, by End Use). Santa Clara Valley Water District Water Use Efficiency Unit. "SCVWD CII Water Use and Baseline Study." February 2008. Model Input Values are found in the "End Uses" section of the DSS Model on the "Breakdown" worksheet.
Efficiency Residential Fixture Current Installation Rates	U.S. Census, Housing age by type of dwelling plus natural replacement plus rebate program (if any). Key Reference: GMP Research, Inc. (2019). 2019 U.S. WaterSense Market Penetration Industry Report. Key Reference: Consortium for Efficient Energy (www.cee1.org). Model Input Values are found in the "Codes and Standards" green section of the DSS Model by customer category fixtures.
Water Savings for Fixtures, gal/capita/day	Key Reference: AWWARF Report "Residential End Uses of Water, Version 2 - 4309" (DeOreo, 2016). Key Reference: CA DWR Report "California Single Family Water Use Efficiency Study" (DeOreo, 2011 – Page 28, Figure 3: Comparison of household end uses). Key Reference: California Energy Commission, Staff Analysis of Toilets, Urinals and Faucets, Report # CEC-400-2014-007-SD, 2014. Model Input Values are found in the "Codes and Standards" green section on the "Fixtures" worksheet of the DSS Model.

Parameter	Resource
Non-Residential Fixture Efficiency Current Installation Rates	Key Reference: 2010 U.S. Census, Housing age by type of dwelling plus natural replacement plus rebate program (if any). Assume commercial establishments built at same rate as housing, plus natural replacement. California Energy Commission, Staff Analysis of Toilets, Urinals and Faucets, Report # CEC-400-2014-007-SD, 2014. Santa Clara Valley Water District Water Use Efficiency Unit. "SCVWD CII Water Use and Baseline Study." February 2008. Model Input Values are found in the "Codes and Standards" green section of the DSS Model by customer category fixtures.
Residential Frequency of Use Data, Toilets, Showers, Faucets, Washers, Uses/user/day	Key Reference: AWWARF Report "Residential End Uses of Water, Version 2 - 4309" (DeOreo, 2016). Summary values can be found in the full report: http://www.waterrf.org/Pages/Projects.aspx?PID=4309 Key Reference: California Energy Commission, Staff Analysis of Toilets, Urinals and Faucets, Report # CEC-400-2014-007-SD, 2014. Key Reference: Alliance for Water Efficiency, The Status of Legislation, Regulation, Codes & Standards on Indoor Plumbing Water Efficiency, January 2016. Model Input Values are found in the "Codes and Standards" green section on the "Fixtures" worksheet of the DSS Model and confirmed in each "Service Area Calibration End Use" worksheet by customer category.
Non-Residential Frequency of Use Data, Toilets, Urinals, and Faucets, Uses/user/day	Key References: Estimated based on AWWARF Report "Commercial and Institutional End Uses of Water" (Dziegielewski, 2000 – Appendix D: Details of Commercial and Industrial Assumptions, by End Use). Key Reference: California Energy Commission, Staff Analysis of Toilets, Urinals and Faucets, Report # CEC-400-2014-007-SD, 2014. Fixture uses over a 5-day work week are prorated to 7 days. Non-residential 0.5gpm faucet standards per Table 2-A. Water Consumption by Water-Using Plumbing Products and Appliances - 1980-2012. PERC Phase 1 Report. Plumbing Efficiency Research Coalition, 2012. http://www.map-testing.com/content/info/menu/perc.html Model Input Values are found in the "Codes and Standards" green section on the "Fixtures" worksheet of the DSS Model and confirmed in each "Service Area Calibration End Use" worksheet by customer category.
Natural Replacement Rate of Fixtures (percent per year)	Residential Toilets 2%-4%
	Non-Residential Toilets 2%-3%
	Residential Showers 4% (corresponds to 25-year life of a new fixture)
	Residential Clothes Washers 10% (based on 10-year washer life). Key References: "Residential End Uses of Water" (DeOreo, 2016) and "Bern Clothes Washer Study, Final Report" (Oak Ridge National Laboratory, 1998).

Parameter	Resource
	Residential Faucets 10% and Non-Residential Faucets 6.7% (every 15 years). CEC uses an average life of 10 years for faucet accessories (aerators). A similar assumption can be made for public lavatories, though no hard data exists and since CII fixtures are typically replaced less frequently than residential, 15 years is assumed. CEC, Analysis of Standards Proposal for Residential Faucets and Faucet Accessories, a report prepared under CEC's Codes and Standards Enhancement Initiative, Docket #12-AAER-2C, August 2013.
	Model Input Value is found in the "Codes and Standards" green section on the "Fixtures" worksheet of the DSS Model.
Residential Future Water Use	Increases Based on Population Growth and Demographic Forecast
Non-Residential Future Water Use	Increases Based on Employment Growth and Demographic Forecast

B.5.1 Fixture Estimates

Determining the current level of efficient fixtures in a service area while evaluating the passive savings in the DSS Model is part of the standard process and is called "initial fixture proportions." As described earlier, MWM reconciled water efficient fixtures and devices installed within Cambria's service area and estimated the number of outstanding inefficient fixtures.

MWM used the DSS Model to perform a saturation analysis for toilets, urinals, showerheads, faucets, and clothes washers. The process included a review of age of buildings from census data, number of rebates per device, and assumed natural replacement rates. MWM presumed the fixtures that were nearing saturation and worth analysis would include residential toilets and residential clothes washers, as both have been included in recommended water use efficiency practices for over two decades.

In 2014, the Water Research Foundation updated its 1999 Residential End Uses of Water Study (REUWS). Water utilities, industry regulators, and government planning agencies consider it the industry benchmark for single family home indoor water use. This Plan incorporates recent study results that reflect the change to the water use profile in residential homes including adoption of more water efficient fixtures over the 15 years that transpired from 1999 to 2014. REUWS results were combined with Cambria's historical rebate and billing data to enhance and verify assumptions made for all customer accounts, including saturation levels on the above-mentioned plumbing fixtures.

The DSS Model presents the estimated current and projected proportions of these fixtures by efficiency level within Cambria's service area. These proportions were calculated by:

- Using standards in place at the time of building construction,
- Taking the initial proportions of homes by age (corresponding to fixture efficiency levels),
- Adding the net change due to natural replacement, and
- Adding the change due to rebate measure minus the "free rider effect."

Further adjustments were made to initial proportions to account for the reduction in fixture use due to lower occupancy and based on field observations. The projected fixture proportions do not include any future active water use efficiency measures implemented by Cambria. More information about the development of initial and projected fixture proportions can be found in the DSS Model "Codes and Standards" section.

The DSS Model is capable of modeling multiple types of fixtures, including fixtures with different designs. For example, currently toilets can be purchased that flush at a rate of 0.8 gpf, 1.0 gpf or 1.28 gpf. The 1.6 gpf and higher toilets still exist but can no longer be purchased in California. Therefore, they cannot be used for replacement or new installation of a toilet. So, the DSS Model utilizes fixture replacement rates to determine what type of fixture should be used for a new construction installation or replacement. The replacement of the fixtures is listed as a percentage within the DSS Model. A value of 100% would indicate that all the toilets installed would be of one particular flush volume. A value of 75% means that three out of every four toilets installed would be of that particular flush volume. All the Fixture Model information and assumptions were carefully reviewed and accepted by Cambria staff.

The DSS Model provides inputs and analysis of the number, type, and replacement rates of fixtures for each customer category (e.g., single family toilets, commercial toilets, residential clothes washing machines.). For example, the DSS Model incorporates the effects of the 1992 Federal Energy Policy Act and AB 715 on toilet fixtures. A DSS Model feature determines the “saturation” of 1.6 gpf toilets as the 1992 Federal Energy Policy Act was in effect from 1992-2014 for 1.6 gpf toilet replacements. AB 715 now applies for the replacement of toilets at 1.28 gpf. Further consideration and adjustments were made to replacement rates to account for the reduction in fixture use and wear, due to lower occupancy and based on field observations.

APPENDIX C – 2015 UWMP COMPARISON

The 2015 Cambria Community Services District Urban Water Management Plan tables for population and water demands are included below.

Table 3-1. Population

Table 3-1 Retail: Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040
	6,032	6,353	6,755	7,157	7,558	7,719
NOTES: Between 2010 and 2016, the population in Cambria has not grown due to a building moratorium. There was minimal change in number of accounts between 2010 and 2015. Therefore, the 2010 census population for Cambria CDP per the "Profile of General Population and Housing Characteristics: 2010" is assumed to be applicable to year 2015 population. From 2016 through year 2037 a population growth rate of approximately 1% per year is projected based on the County of San Luis Obispo growth management ordinance and a maximum population of 7,719 representing 4,650 housing units x 1.66 average people per household based on the 2010 census.						

Table 4-1. 2015 Actual Demands, AFY

Table 4-1 Retail: Demands for Potable and Raw Water - Actual			
Use Type *(Add additional rows as needed)*	2015 Actual		
Drop down list *May select each use multiple times* *These are the only Use Types that will be recognized by the WUEdata online submittal tool*	Additional Description *(as needed)*	Level of Treatment When Delivered *Drop down list*	Volume (AF)
Single Family	Includes vacation rental water use	Drinking Water	239
Multi-Family		Drinking Water	14
Commercial		Drinking Water	109
Other	CCSD internal account use for 2006 Warren water rights settlement (agriculture water), & process water for water and wastewater treatment.	Drinking Water	51
Losses	Non-revenue water	Drinking Water	54
		TOTAL	467
NOTES: Other water use of 51 acre-feet includes: 46.5 acre-feet provided to Warren property per a 2006 water rights settlement agreement between Warren and the CCSD; 2.9 acre-feet of filter backwash water from the wells SR3 and SR4 wellhead treatment facilities; and 1.6 acre-feet of other internal CCSD meters. This water is metered downstream from the CCSD production well meters, and is authorized and metered. Depending upon the level of use, the metered Warren water may be billed or unbilled water (it is billed when demand exceeds 20 AF). Non-revenue water is the difference between the amount of water produced and the amount of water metered and billed to customers (except for the aforementioned Warren settlement agreement water).			

Table 4-2. Demands for Potable and Raw Water – Projected, AFY

Table 4-2 Retail: Demands for Potable and Raw Water - Projected						
Use Type	**Additional Description**	**Projected Water Use (AFY)**				
		2020	2025	2030	2035	2040
Single Family	Does NOT include vacation rental home water use	440	442	445	455	453
Multi-Family	Does NOT include vacation rental home water use	23	22	23	23	23
Commercial		167	174	182	190	192
Other	CCSD internal account use for 2006 Warren water rights settlement (agriculture water), & process water for water and wastewater treatment.	26	26	26	26	26
Single Family	Vacation rental homes ONLY.	35	35	35	35	35
Losses	Non-revenue water	56	58	59	62	61
	TOTAL	747	757	770	791	789

NOTES: Projected water use only includes savings resulting from plumbing code updates. The passive savings methodology is presented in Appendix X. Other demands include 20 AFY of agriculture water to the Warren property (2015 actual water use was higher than historical average use), which is used in areas where non-potable water is excluded (described further within a 2006 water rights settlement agreement between the CCSD and Warren). Non-revenue water is the difference between the amount of water produced and the amount of water billed to customers. The percentage of non-revenue water was estimated by comparing water production statistics to water sales statistics. Sources of non-revenue water may include:

- Fire Hydrant Operations by the Fire Department - This represents the use of water for emergencies.
- Customer Meter Inaccuracies - Customer meters represent one of the main sources of non-revenue water. As they age, they tend to under-represent the actual customer use.
- Leaky water lines - Leakage from water pipes is a common occurrence in water systems. A significant number of leaks remain undetected over long periods of time as they are very small. However, these small leaks contribute to the overall non-revenue water.

SB X7-7 2020 Compliance Form

The SB X7-7 2020 Compliance Form is for the calculation of 2020 compliance only. All retail suppliers must complete the SB X7-7 Compliance Form. Baseline and target calculations are done in the SB X 7-7 Verification Form.

The SB X7-7 Verification Form is for the calculation of baselines and targets and is a separate workbook from the SB X7-7 2020 Compliance Form. Most Suppliers will have completed the SB X7-7 Verification Form with their 2015 UWMP and do not need to complete this form again in 2020. See Chapter 5 Section 5.3 of the UWMP Guidebook for more information regarding which Suppliers must, or may, complete the SB X7-7 Verification Form for their 2020 UWMP. 2020 compliance calculations are done in the SB X7-7 2020 Compliance Form.

Process Water Deduction tables will not be entered into WUE Data Portal tables.
SB X7-7 tables 4-C, 4-C.1, 4-C.2, 4-C.3, 4-C.4 and 4-D
A supplier that will use the process water deduction will complete the appropriate tables in Excel, submit them as a separate upload to the WUE Data Portal, and include them in its UWMP.

Where to submit? Suppliers submit the completed table data and UWMPs (including the Water Shortage Contingency Plan) electronically through the WUE Data Portal (https://wuedata.water.ca.gov/). The portal will be updated in Spring 2021 and will be announced to the urban listserv, DWR webpage and WUE Data Portal opening page when it is available for plan and table submittals.

Unlocking templates (use with caution): The templates provided in this workbook are formated to mirror the structure of information that is submitted through the WUE Data Portal for the electronic submission of Submittal Tables in the UWMP. The tables are offered in a protected (locked) version to maintain the structure of the templates. However, for those needing to adjust the tables for their own planning needs beyond the Submittal Tables, the password to 'unprotect' each worksheet is 'dwr' (no quotes). To unprotect the worksheet, go to the Review tab, select Unprotect Sheet, and enter the password 'dwr' in the pop-up (no quotes). Preparers will still need to submit the information using the original template structure provided. To redownload the templates in their original format, visit https://wuedata.water.ca.gov in the Resources button of the Urban Water Management Plan section (no login necessary).

SB X7-7 Table 0: Units of Measure Used in 2020 UWMP* *(select one from the drop down list)*
Acre Feet
**The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.*
NOTES:

SB X7-7 Table 2: Method for 2020 Population Estimate

Method Used to Determine 2020 Population (may check more than one)	
☐	**1. Department of Finance** (DOF) or **American Community Survey** (ACS)
☑	**2. Persons-per-Connection Method**
☐	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review
NOTES:	

SB X7-7 Table 3: 2020 Service Area Population	
2020 Compliance Year Population	
2020	6,032
NOTES:	

SB X7-7 Table 4: 2020 Gross Water Use

Compliance Year 2020	**2020 Volume Into Distribution System** *This column will remain blank until SB X7-7 Table 4-A is completed.*	**2020 Deductions**					**2020 Gross Water Use**
		Exported Water *	**Change in Dist. System Storage*** (+/-)	**Indirect Recycled Water** *This column will remain blank until SB X7-7 Table 4-B is completed.*	**Water Delivered for Agricultural Use***	**Process Water** *This column will remain blank until SB X7-7 Table 4-D is completed.*	
	540	-	-	-	-	-	**540**

* **Units of measure (AF, MG , or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

NOTES:

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source	San Simeon		
This water source is *(check one)* **:**			
☑	The supplier's own water source		
☐	A purchased or imported source		
Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional* *(+/-)*	Corrected Volume Entering Distribution System
	397	-	397

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.*

[2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s) Meter Error Adjustment

Complete one table for each source.

Name of Source	Santa Rosa		
This water source is *(check one)* **:**			
☑	The supplier's own water source		
☐	A purchased or imported source		
Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional* *(+/-)*	Corrected Volume Entering Distribution System
	142		142

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.*

[2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 4-B: 2020 Indirect Recycled Water Use Deduction *(For use only by agencies that are deducting indirect recycled water)*

2020 Compliance Year	2020 Surface Reservoir Augmentation					2020 Groundwater Recharge			Total Deductible Volume of Indirect Recycled Water Entering the Distribution System
	Volume Discharged from Reservoir for Distribution System Delivery[1]	Percent Recycled Water	Recycled Water Delivered to Treatment Plant	Transmission/ Treatment Loss[1]	Recycled Volume Entering Distribution System from Surface Reservoir Augmentation	Recycled Water Pumped by Utility[1,2]	Transmission/ Treatment Losses[1]	Recycled Volume Entering Distribution System from Groundwater Recharge	
	-	0%	-	-	-	-	-	-	-

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.*

[2] *Suppliers will provide supplemental sheets to document the calculation for their input into "Recycled Water Pumped by Utility". The volume reported in this cell must be less than total groundwater pumped - See Methodology 1, Step 8, section 2.c.*

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C: 2020 Process Water Deduction Eligibility (For use only by agencies that are deducting process water) Choose Only One	
☐	**Criteria 1**- Industrial water use is equal to or greater than 12% of gross water use. Complete SB X7-7 Table 4-C.1
☐	**Criteria 2** - Industrial water use is equal to or greater than 15 GPCD. Complete SB X7-7 Table 4-C.2
☐	**Criteria 3** - Non-industrial use is equal to or less than 120 GPCD. Complete SB X7-7 Table 4-C.3
☐	**Criteria 4** - Disadvantaged Community. Complete SB x7-7 Table 4-C.4
NOTES: CCSD is not deducting process water.	

SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)

2020 Gross Water ***Fm SB X7-7 Table 4***	**2020 Population** ***Fm SB X7-7 Table 3***	**2020 GPCD**
540	6,032	**80**

NOTES:

SB X7-7 Table 9: 2020 Compliance

Actual 2020 GPCD[1]	Optional Adjustments to 2020 GPCD					2020 Confirmed Target GPCD [1, 2]	**Did Supplier Achieve Targeted Reduction for 2020?**
	Enter "0" if Adjustment Not Used			TOTAL Adjustments[1]	Adjusted 2020 GPCD [1] *(Adjusted if applicable)*		
	Extraordinary Events[1]	Weather Normalization[1]	Economic Adjustment[1]				
80	-	-	-	-	80	105	**YES**

[1] *All values are reported in GPCD*

[2] ***2020 Confirmed Target GPCD*** *is taken from the Supplier's SB X7-7 Verification Form Table SB X7-7, 7-F.*

NOTES:

Cambria Community Services District
Groundwater Management Plan

November 19, 2015

Jerome D. Gruber, M.P.A.
General Manager

Robert C. Gresens, P.E.
District Engineer

THIS GROUNDWATER MANAGEMENT PLAN
HAS BEEN REVIEWED AND APPROVED BY:

Jerome D. Gruber, M.P.A., General Manager
Cambria Community Services District

ADOPTED BY CCSD BOARD, ORDINANCE 01-2015

ON November 19, 2015

PREPARED BY:
ROBERT C. GRESENS, P.E.
CCSD District Engineer

ROBERT CHARLES GRESENS
C 34018
Exp. 6-30-2017
CIVIL

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Section 1 - Purpose and Background

This section describes the overall purpose of the groundwater management plan and provides related background information on the Cambria Community Services District's (CCSD's) water and wastewater facilities. Summaries are also provided on CCSD well operations, CCSD operating permits, past CCSD planning efforts that may directly or indirectly relate to groundwater management, a significant groundwater rights settlement agreement, and regional, countywide water planning coordination.

1.1 Purpose

The CCSD Groundwater Management Plan describes groundwater planning for the area's San Simeon Creek groundwater basin and Santa Rosa Creek groundwater basin. Each of these basins are within the north coast area of San Luis Obispo County. Figure 1-1 shows these two basins, which is from an earlier US Geological Survey report (98-4061). The reader is referred to USGS Report 98-4061 for a more detailed discussion on the hydrogeology, water quality, and water budgets of these two basins.

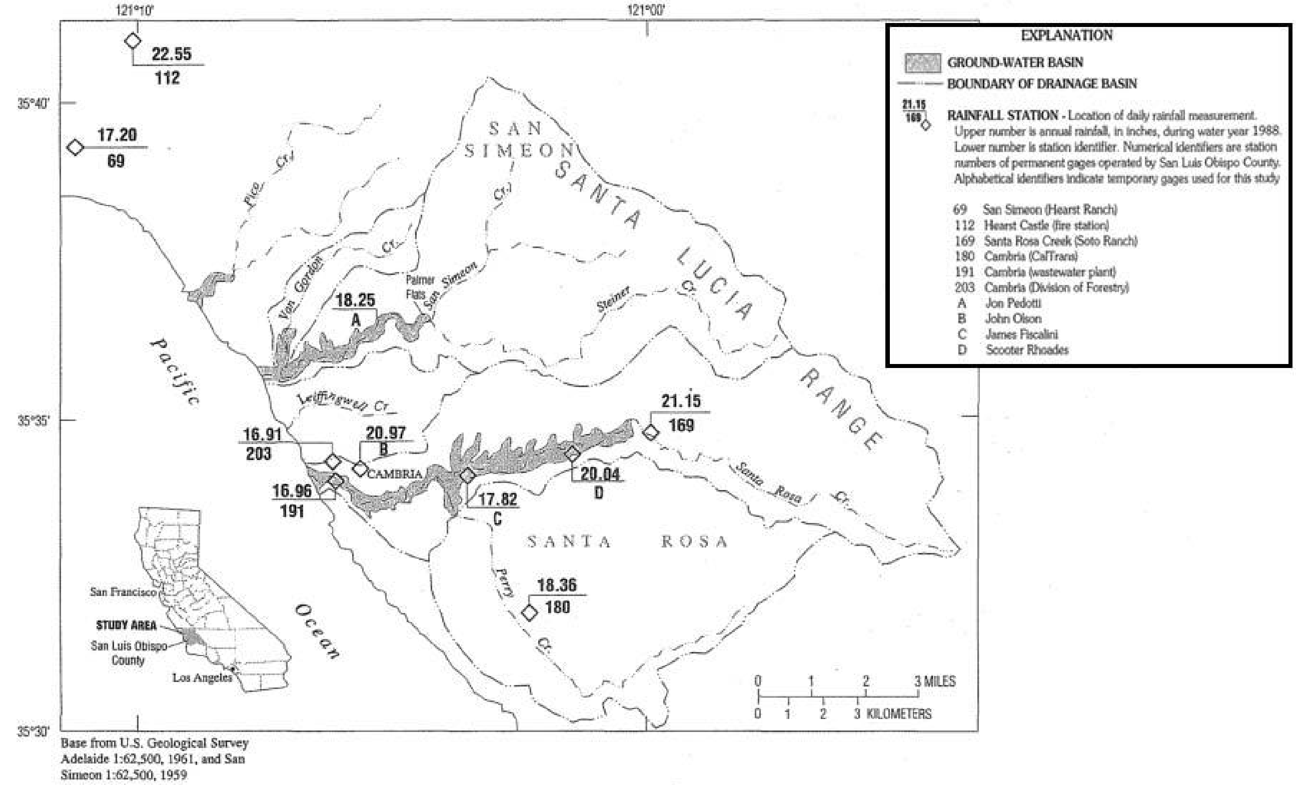

Figure 1. Locations of creeks, drainage-area boundaries, ground-water basins, and rainfall stations in the Cambria area, San Luis Obispo County, California—Continued.

From USGS Report 98-4061, "Hydrogeology, Water Quality, Water Budgets, and Simulated Responses to Hydrologic Changes in Santa Rosa and San Simeon Creek Ground-Water Basin, Yates & Van Konyenberg

Figure 1-1 – San Simeon Creek and Santa Rosa Creek Groundwater Basins

This planning effort is intended to bring the CCSD up to date and in compliance with the planning requirements described within California Water Code Sections 10753 through 10753.11. Plans complying with these water code sections are commonly referred to as AB 3030 plans, which are not to be confused with plans that will follow the state's more recent 2014 Sustainable Groundwater Management Act legislation.

The overall purpose of a Groundwater Management Plan is to work with basin stakeholders in maintaining a sustainable, reliable, and high-quality groundwater supply. Stakeholders include CCSD customers, the agricultural community, the environmental community, business groups and associations, as well as regulatory and resource agencies. The CCSD completed a San Simeon Creek Water Basin Management Program and Operations Manual in 1980, which was a precursor to the state's 1992 passage of Assembly Bill AB 3030, which resulted in updates to the California Water Code on Groundwater Management Plans. The CCSD's earlier water management program was in response to State Water Resources Control Board and California Coastal Commission permit conditions. Although driven by regulatory mandate, the earlier groundwater management program included several of the basic components of a groundwater management plan. To ensure compliance with the subsequent legislation and associated Water Code Sections, this current Groundwater Management Plan compiles information from that earlier program document, rearranges the information into a format that more clearly identifies the required components of a groundwater management plan, provides updates to incorporate subsequent changes to CCSD facilities, and includes mapping that shows areas of recharge within both the San Simeon Creek and Santa Rosa Creek watersheds.

1.2 Background

The CCSD obtains its water from groundwater wells within the lower reaches of the San Simeon Creek and Santa Rosa Creek Groundwater Basins (State Groundwater Basin ID Numbers 3-35 and 3-36, respectively). The San Simeon Creek aquifer wells have been the CCSD's primary water supply since they were installed in 1979. The San Simeon aquifer groundwater is also of better quality than the Santa Rosa aquifer primarily due the San Simeon aquifer having lower hardness and lower iron and manganese concentrations. The Santa Rosa Creek aquifer was the community's sole water source prior to installation of the San Simeon creek aquifer wells, and prior to the CCSD becoming the community's local water purveyor. During the mid-1970s and prior to the operation of the CCSD's San Simeon well field, localized areas along the lower Santa Rosa Creek channel experienced some land subsidence as well as seawater intrusion. The establishment of the San Simeon wells as the primary water source has lessened the municipal demand on the Santa Rosa Creek aquifer, which has stopped seawater intrusion and subsidence from recurring.

The CCSD also provides wastewater collection and treatment, with treated secondary wastewater effluent being pumped approximately 2.5 miles north of town to the CCSD's property located down gradient from its San Simeon Creek aquifer potable wells. During the late 1970s to 1994, treated secondary wastewater effluent was surface applied with sprayers onto the ground surface. This past practice was changed to using four percolation basins, which were completed during 1994. The percolated wastewater effluent in this area forms a groundwater mound, which helps slow freshwater flow towards the ocean while also preventing seawater from intruding inland. The percolation ponds are still used today for wastewater effluent discharge, with only one of the four ponds typically needing to be operated at any given time.

The CCSD originally operated its three *S*anta Rosa wells (aka, Wells SR-1, SR-2, and SR-3) along the lower portion of the Santa Rosa creek aquifer. Flood damage during 1995 resulted in the loss of Well SR-2, leaving the CCSD with Santa Rosa Wells SR-1 and SR-3. During 2000, the CCSD shut down its lower Santa Rosa wells in response to the discovery of an MTBE contamination plume from a nearby gas station. In response, the CCSD completed a new well (Well SR-4) and wellhead treatment facility behind the Coast Union High School athletic fields, which are farther up-gradient from the MTBE plume.

In response to exceptional drought conditions and an emergency water shortage in 2014, the CCSD restored operation of Santa Rosa Well SR-3, converted well SR-1 to a non-potable irrigation supply well, and completed an emergency water supply project on the CCSD's lower San Simeon Creek property. The restoration of Well SR-3 allowed the CCSD to access deeper aquifer water, which Well SR-4 could not pump. The Well SR-3 efforts included installing a new submersible well pump and rebuilding an iron and manganese removal filter plant, which had been inoperable since 2000. Well SR-1 was separated from the CCSD potable water distribution system and provided with a new submersible pump that discharges into non-potable water storage tanks, which are connected to filling stations located off of Rodeo Grounds Road in Cambria. The Well SR-1 water is used by local residents and landscapers to haul for irrigation.

The emergency water supply project on the CCSD's lower San Simeon Creek property extracts water from an existing well (State Well Number 27S/8E-9P7, aka Well 9P7) at the CCSD's treated wastewater effluent percolation ponds, treats the extracted water using a new advanced water treatment plant, and re-injects the treated water at the CCSD's San Simeon Creek aquifer's potable well field. The emergency water supply project was designed to meet the State's requirements for indirect potable reuse of recycled water. Its source water will vary depending upon the amount and timing of seasonal rainfall, and time of year. Typically, it will be a combination of percolated treated wastewater effluent, fresh groundwater, and dilute saltwater, with the latter coming from a deeper saltwater wedge of seawater. Figure 1-2 provides an overview of the emergency water supply project that was completed on the CCSD's lower San Simeon Creek Road property.

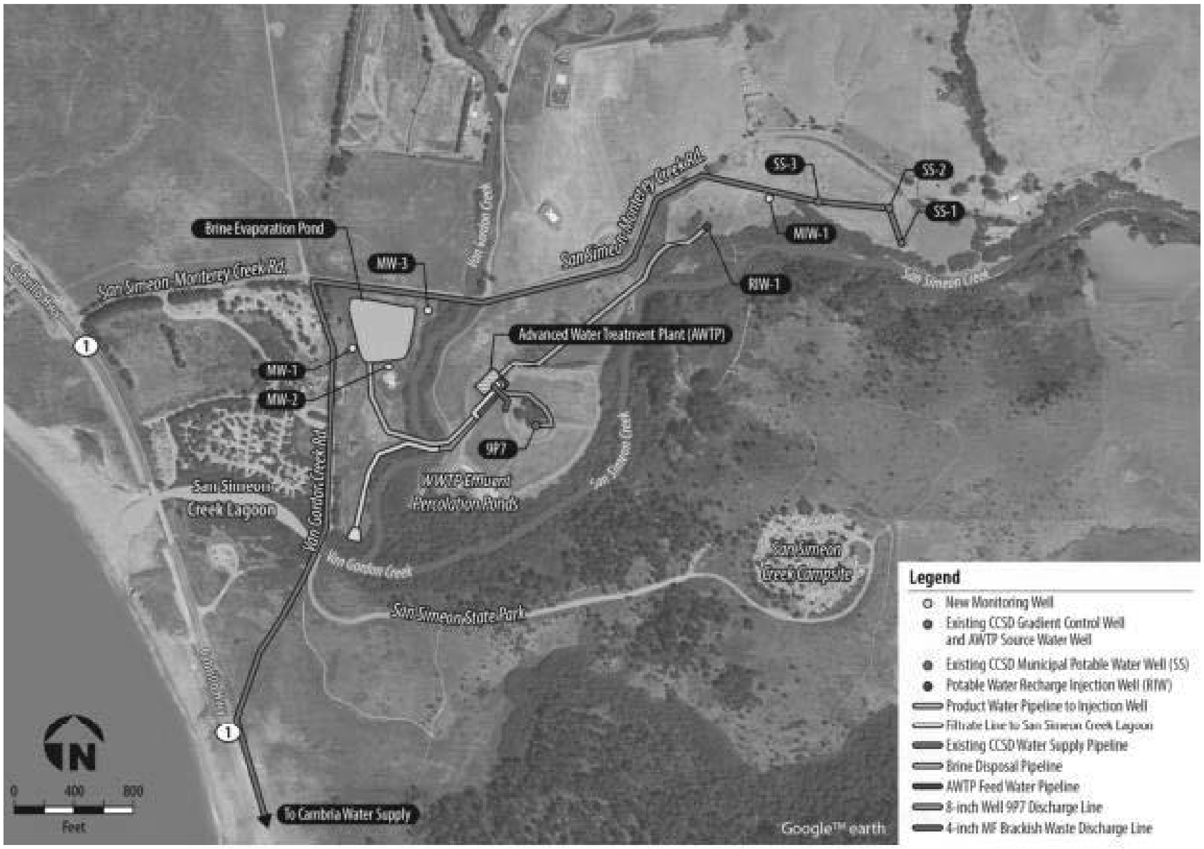

Figure 1-1: Project Overview

From Cambria Emergency Water Supply Project, Title 27 Report of Waste Discharge, Final, by CDM Smith, October 20, 2014.

Figure 1-2 – Overview of CCSD's San Simeon Creek Emergency Water Supply Project

1.3 Overview of CCSD Water Well Field Operations

The local groundwater aquifers are narrow and thin with relatively small storage, which results in late dry season drawdown and relatively rapid recharge after adequate seasonal rainfall occurs. During the beginning of the dry season, well levels drop gradually. Towards the later summer months and early fall months, the amount of storage per foot of drawdown decreases, which accelerates the rate of groundwater decline.

Besides the physical characteristics of the aquifers, there are key permitting conditions that effect how the CCSD may operate its well fields. A primary concern on the San Simeon Creek aquifer is the hydraulic gradient between the percolated mound of treated wastewater at its percolation ponds and the up-gradient potable wells. During the late dry season, and to avoid a negative gradient, which could allow percolated secondary wastewater effluent to flow towards the potable wells, the CCSD would need to use a gradient control well. The gradient control well would pump mounded groundwater from below the percolation ponds into the Van Gordon Creek, which would lower the groundwater table. Although effective at controlling the hydraulic gradient, this practice would essentially waste water as it is pumped into the creek and lost to the ocean. It would also lower the groundwater elevation at the San Simeon Creek production wells, which reduced remaining storage during the late dry season. The 2014-constructed emergency water supply project addresses these inefficiencies by capturing and restoring the water extracted from the percolation pond area to reuse it while maximizing groundwater elevation and storage at the up-gradient potable well field. To ensure protection of riparian habitat during its operation, the emergency water supply project includes a discharge of approximately 100 gallons per minute to the head of the San Simeon Creek lagoon to maintain surface water levels. This protective feature is further backed up by an adaptive management plan, with biological monitoring to ensure favorable conditions are being maintained.

Environmental protection is also a key operating concern associated with the Santa Rosa Creek aquifer wells. To address this concern, a key permit condition requires maintaining a minimum groundwater elevation of 3 feet above mean sea level at a monitoring well located southwest from the intersection of Santa Rosa Creek and the Windsor Boulevard Bridge (Monitoring Well WBE). During dry years, this monitoring well may approach the 3-foot minimum elevation during August to September. It was also found that operation of the nearby Shamel Park irrigation well, and tides, can further impact this monitoring well. When the 3-foot elevation condition occurs, the CCSD stops use of its Santa Rosa Creek aquifer wells (Wells SR-1, SR-3, and SR-4), and shifts all of its production to its San Simeon Creek wells.

The CCSD is also subject to meeting the state’s surface water treatment rule (SWTR) due to its groundwater sources being under the influence of surface water. To meet these requirements, the CCSD does not operate its San Simeon Well SS-1 whenever surface flow within the San Simeon Creek occurs within 150 feet of the well. San Simeon Wells SS-2 and SS-3 are outside the SWTR’s 150-foot boundary and can continue to operate when there is flow in the creek. The Santa Rosa wells SR-3 and SR-4 have well head treatment facilities, which allow them to operate while within the SWTR’s 150-foot limit.

1.4 CCSD Water and Wastewater Operating Permits

Operation of the CCSD’s water and wastewater facilities is regulated by a combination of permits. The State Water Resources Control Board (SWRCB, aka the California Water Board) has issued diversion permits to the CCSD, which condition how much water may be extracted from each aquifer. The California Department of Public Health (which became the Division of Drinking Water under the SWRCB following a July 1, 2014 reorganization), has issued operating permits to the CCSD that focus on protecting public health and meeting potable water quality requirements. The area’s Regional Water Quality Control Board (RWQCB) has issued permits (Waste Discharge

Orders) that govern operation of the wastewater treatment plant and percolation ponds, as well as other related permits associated with the protection of surface water. Additionally, the California Coastal Commission has issued Coastal Development Permits on the CCSD's wastewater treatment plant and San Simeon Creek well field projects, which further condition and overlap those found in the diversion permits issued by the SWRCB.

The following table summarizes the primary permits regulating the CCSD water and wastewater operations.

Table 1-1 – Primary CCSD Water and Wastewater Operating Permits

Permit	Issuing Agency	Summary Description
Santa Rosa Creek Diversion Permit No. 20387	SWRCB	Originally issued to the CCSD on November 7, 1989. Diversions not to exceed 518 acre-feet/year (AFY), and 260 acre-feet (AF) from May 1 to October 31. Conditions include Endangered Species Act compliance and maintaining groundwater elevation at or above 3 feet near the lagoon area (Well WBE).[1]
San Simeon Creek Diversion Permit No. 17287	SWRCB	Filed on February 23, 1976. Diversions not to exceed 1,230 AFY. Subsequently amended to allow up to 370 AF during dry period, with dry period being between the time surface flow ceases at Palmer Flats gaging station and October 31. Conditions include maintaining water levels in the lower basin to maintain stream flow to the lagoon, and to maintain fish and riparian habitat[2].
Coastal Development Permit 428-10, which amended earlier permits 132-18 and 131-20.	California Coastal Commission	Issued on May 29, 1981. Limits the total combined extraction from the San Simeon Creek and Santa Rosa Creek aquifers to no more than 1,230 AFY. Conditions included requirement to development an operations and maintenance manual for a basin management program.
Drinking Water Permit No. 03-06-01P-001	Division of Drinking Water	Conditions included an emphasis on meeting the state's Surface Water Treatment Rule (SWTR) requirements. Permit update included Well SR-4 and its new wellhead treatment facility.
Wastewater Treatment Plant Operations Waste Discharge Order 01-100	RWQCB	Updated and adopted by RWQCB on December 7, 2001. Conditions operations of wastewater treatment plant and effluent percolation basins. Includes monitoring and reporting program requirements for wastewater treatment plant and percolation basins. Percolation basin monitoring requirements include local groundwater well monitoring.

The 2014 Completion of the Emergency Water Supply Project along the CCSD's lower San Simeon Creek property has also resulted in additional permits that further regulate its operation. Table 1-2 summarizes the Emergency Water Supply Project permits. In addition to these existing permits, the CCSD is in the process of obtaining a regular Coastal Development Permit (CDP) from the County on its emergency water supply project. The regular CDP is being completed in accordance with provisions of the San Luis Obispo County Coastal Zone Land Use Ordinance (Section 23.03.045), which allow for such subsequent regular CDP processing. To date, the CCSD has submitted a regular

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[1] Application to extend permit 20387 was filed during October 2014. Continuation of the existing permit and conditions is subject to the SWRCB's review and approval process.

[2] Application to extend permit 17287 was filed during October 2014. Continuation of the existing permit and conditions is subject to the SWRCB's review and approval process.

CDP application to the County and is completing an Environmental Impact Report to ensure that the County's application completeness requirements are fully addressed.

Table 1-2 – Emergency Water Supply Project Permits

Permit	Issuing Agency	Summary Description
Emergency Coastal Development Permit (CDP) ZON2013-00589	San Luis Obispo County	Permit was effective May 15, 2014. Authorized construction and operation of emergency water supply project. Permit is valid until Stage 3 water shortage emergency has ended, or a regular CDP has been approved. (The CCSD is currently completing efforts to obtain a regular CDP).
Waste Discharge Requirements and Water Recycling Requirements. RWQCB Order No. R3-2014-0050	RWQCB	Permit was effective on November 14, 2014. Also referred to as a Title 22 permit. Permit includes concentration limits on water being re-injected into the San Simeon Creek aquifer. An accompanying Monitoring and Reporting Program No. R3-2014-0050 includes groundwater monitoring requirements.
Waste Discharge Requirements for RO Concentrate Evaporation Pond RWQCB Order No. R3-2014-0047	RWQCB	Permit was effective on November 14, 2014. Also referred to as a Title 27 permit. Describes protective requirements of evaporation pond and related monitoring to prevent groundwater or surface water contamination. An accompanying Monitoring and Reporting Program No. R3-2014-0047 includes groundwater monitoring requirements.
Low Threat Discharge of Water to Lagoon Monitoring and Reporting Program No. R3-2011-0223.	RWQCB	Modified on December 8, 2014. Covers monitoring and reporting of discharge of water to the San Simeon Creek lagoon, which is used to maintain surface water levels. Incorporates by reference a December 9, 2011 Draft Waste Discharge Requirements Order No. R3-2011-0223 (NPDES Permit CAG993001) for Discharges with Low Threat to Water Quality.

1.5 Geological Study and Modeling of the Santa Rosa Creek and San Simeon Creek Ground-Water Basins

The U.S. Geological Survey (USGS) completed study and modeling of the Santa Rosa and San Simeon Creek groundwater basins, which is reported in USGS Report 98-4061, entitled "Hydrogeology, Water Quality, Water Budgets, and Simulated Responses to Hydrologic Changes in Santa Rosa and San Simeon Creek Ground-Water Basins, San Luis Obispo County, California." This study found that the lower reaches of both creeks usually dry up in the summer, with base flow being more persistent in the Santa Rosa Creek. The modeling also found that a significant amount of dry season water level decline was not the result of pumping, but of natural drainage processes.

An annual water budget from the earlier USGS report was updated and incorporated into the CCSD's 2005 and 2010 Urban Water Management Plan Updates. The original USGS budget was based on the period of April 1988 through March 1989. This was adjusted slightly within the CCSD's 2005 and 2010 Urban Water Management Plan Updates to account for the CCSD's 1994 conversion of its wastewater effluent spray field operation to percolation ponds (with less evaporation). For convenient reference, the updated budget table is included here as Table 1-3.

Table 1-3 – Annual Water Budget Summary for the Santa Rosa and San Simeon Creek Basins

	Santa Rosa Basin			San Simeon Basin		
Budget Item	Inflow	Outflow	Net Flow	Inflow	Outflow	Net Flow
Rainfall Recharge	140	0	140	50	0	50
Creek Seepage	1,120	650	470	950	410	540
Subsurface Inflow and Outflow						
Onshore Boundaries	370	0	370	150	0	150
Ocean Boundary	0	60	-60	0	320	-320
Agricultural Water Use			-570			-280
Pumpage	0	890		0	450	
Irrigation-Return Flow	320	0		170	0	
Nonagricultural Water Use			-240			-50
Municipal Pumpage	0	250		0	550	
Rural Pumpage	0	10		0	<10	
Wastewater Recharge						
Percolation Ponds	0	0		500	0	
Septic Tanks	10	0		<10	0	
Irrigation-Return Flow	10	0		0	0	
Phreatophyte Transpiration	0	160	-160	0	30	-30
Total Net Flow			-50			+60

Notes:

a. All values rounded to the nearest 10 AFY. Positive net flow indicates flow into basin; negative net flow indicates flow out of basin.

b. From 1998 USGS report 98-4061, p.46, modified to show subsequent change from wastewater effluent spray field operation to percolation ponds.

As noted by its original USGS report authors, the water budget accuracy is not greater than two significant digits. Because of the time that has passed since the original USGS report was developed, as well as possible changes within the basins, an update to the annual water budget should be considered in future groundwater management plan updates. The long-term benefits of continued water conservation efforts and technological advancements should also be part of such future efforts. Therefore, the findings and recommendations of the CCSD’s pending 2015 Urban Water Management Plan Update, which may include future water conservation measures and conservation program updates, should be assessed with relevant updates being incorporated into future groundwater management plan updates.

The modeling within the earlier USGS report had further analyzed several water resources management alternatives, including one that pumped approximately 270 acre-feet of water from the percolation pond area into recharge basins being proposed above the San Simeon Creek aquifer well field. This alternative was similar in nature to the 2014 constructed emergency water supply project. However, the 2014 project was smaller in scope and limited injecting water within the CCSD-owned property limits. Operating experience and related data from the CCSD’s recently completed Emergency Water Supply Project could be used in assessing whether the earlier water budget modeling could be further adjusted (e.g., would creek seepage outflow decrease?, and if so, by how much?).

To abide by Title 22 requirements for indirect potable reuse of recycled water, the 2014-constructed Emergency Water Supply project included detailed geo-hydrological modeling. This modeling effort was primarily focused on determining the location of the project’s injection well and related underground travel time achieved before the re-injected water would be pumped by the CCSD’s existing potable well field pumps. Results of the modeling are summarized in a May 2014 CDM Smith report entitled “Cambria Emergency Water Supply Project, San Simeon Creek

Basin Groundwater Modeling Report." This report, in combination with subsequent tracer study efforts, found that a maximum extraction rate of 400 gallons per minute could be achieved from production wells SS-1 or SS-2 while meeting a minimum Title 22 requirement for a 60 day travel time. Water demands exceeding 400 gpm while the emergency water supply project is in operation, must be met from storage within the distribution system, or in combination with the operation of Santa Rosa Wells SR-4 or SR-3.

1.6 CCSD Baseline Water Supply Analysis Report

A December 9, 2000 Baseline Water Supply Analysis was an historically significant report that the CCSD commissioned to study groundwater supply and demand. This report used a regression analysis technique to develop a supply and demand model, which included estimating the duration of the upcoming dry season and remaining storage within the aquifers. The results of this model would then be used to support what level of conservation would be needed from CCSD customers. This report further documented updates to CCSD ordinances to permanently prohibit the waste of water within the CCSD water service area (Ordinance 4-2000) and the establishment of an emergency water conservation program with three stages. These ordinances were subsequently incorporated into the CCSD Municipal Code.

1.7 CCSD Long-Term Water Supply Planning

The CCSD has spent decades studying various long-term water supply alternatives including seasonal storage reservoirs, cross country transmission mains, and seawater desalination. The unincorporated CCSD service area is environmentally sensitive, within the Coastal Zone, and has much of the offshore area being within the Monterey Bay National Marine Sanctuary, as well as the more recently formed Cambria State Marine Park. Earlier attempts to expand the water supply stalled out due to a combination of factors, including the area's relatively remote location, environmental concerns, associated growth inducement concerns, and costs. The most current summary of long-term water supply planning can be found in a November 27, 2013 report by CDM Smith, which was administered by the U.S. Army Corps of Engineers, and entitled, "Cambria Water Supply Alternatives Engineering Technical Memorandum." This effort included a series of facilitated public workshops, which resulted in technical screening of numerous supply alternatives. Based on this work, a brackish water supply alternative along the lower San Simeon Creek aquifer was found to be the most technically feasible alternative.

Unlike the 2014-emergency water supply project, the longer term brackish alternative (aka Alternative 5 of the 2013 report) included injection wells farther up-gradient from the CCSD's property, which would allow highly treated and injected water to flow past neighboring agricultural wells. Because of concerns over potential risk due to the State's mandated 60-day travel time requirement, a separation has been preferred by the CCSD's agricultural neighbor, which would preclude such an approach. Therefore, the Army Corps was requested to revisit long-term supply Alternative 5 to determine whether it could be further modified to address the CCSD neighbor's concerns. Modifications to be investigated included adding a subterranean cutoff wall (aka a secant-style augured cutoff wall) on CCSD property down-gradient from the emergency supply project's injection well and near the location of an existing stream gauging station (San Luis Obispo County Sensor 718), which would be in combination with a future extraction well that would be placed to avoid having re-injected water pass the neighboring wells. Figure 1-3 illustrates this concept.

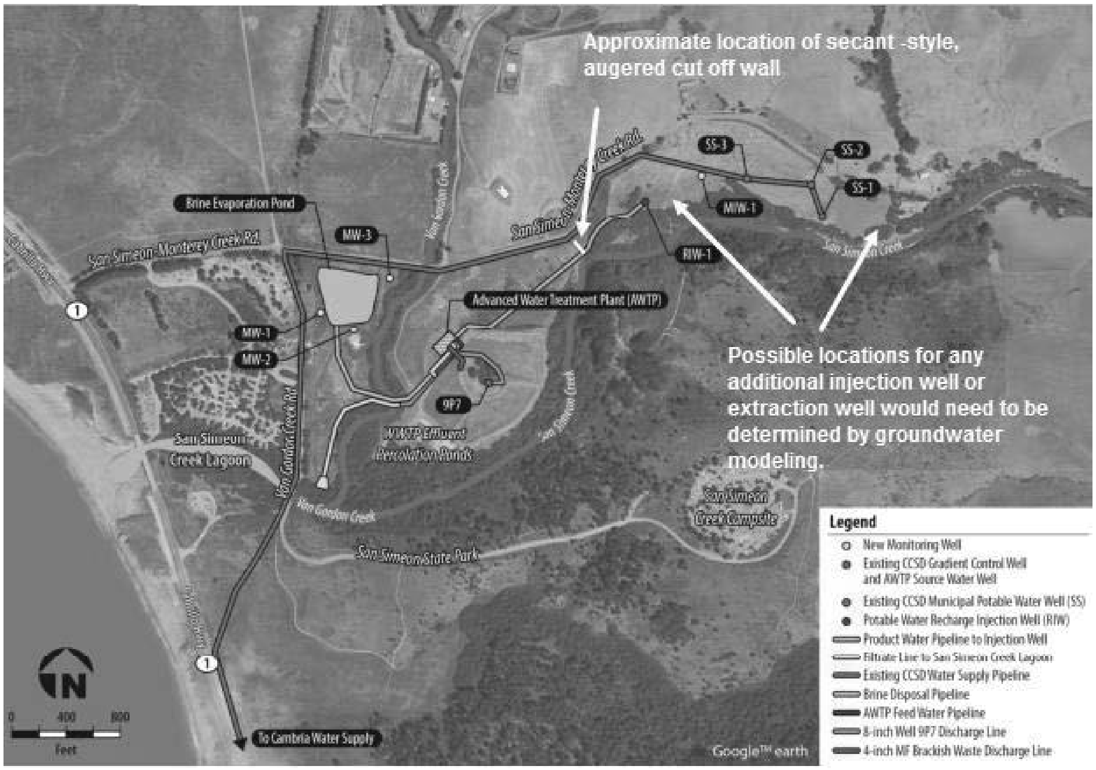


Figure 1-3 – Concept Associated with Pending Long-Term Water Supply Analyses

Besides the additional geo-hydrologic analyses that are needed to evaluate possible modifications to the earlier brackish water alternative (Alternative 5), additional analyses are needed to investigate alternative means to dispose of reverse osmosis reject water. The technical work on this subsequent analysis is currently on hold due to lack of federal funding. Once the technical support work is completed, and subject to these modifications being determined to be feasible, an updated long-term Alternative 5, along with the remaining screened alternatives, are to be analyzed as part of an ongoing environmental impact statement (EIS) analysis, which is currently under commission by the U.S. Army Corps of Engineers.

In addition to long-term potable water planning efforts, the CCSD is in the early process of improving its wastewater treatment plant. With the completion of its 2014 Emergency Water Supply project, the wastewater treatment plant has essentially become a water restoration plant as opposed to a treated wastewater disposal operation. As a result, more emphasis is being placed on the need for the existing plant to de-nitrify (to remove nitrates) from its effluent. This is because the CCSD's Emergency Water Supply project has a very low nitrate requirement (2.3 mg/l Nitrate expressed as N, or NO_3-N) based on the state's non-degradation policy (Porter-Cologne Act), which is well below the state's drinking water limit of 10 mg/l NO_3-N). Nitrate can also be a limiting nutrient in certain aquatic environments, which means its presence can promote the growth of aquatic plants and algae, which may not otherwise occur to the same extent. Such growth can create problems, particularly at night, by lowering the dissolved oxygen needed to support fish life. Associated with this concern, the RWQCB released a draft report during early 2015 entitled "Draft TMDL Project Report for Nitrate, Dissolved Oxygen, Sodium, and Chloride in San Simeon Watershed." This report includes draft target concentration limits for the San Simeon Creek lagoon water, which is located down gradient from the CCSD's treated effluent percolation basins. For nitrate, the report's draft target is 1.3 mg/l NO_3-N. For phosphorous, another limiting nutrient, the report's draft target limit is 0.05 mg/l – P. Future upgrades to the CCSD wastewater treatment plant will need to consider the RWQCB's final report recommendations as well as those of the emergency water supply project.

1.8 Water Rights Agreements

The CCSD has a water rights settlement agreement in place with its agricultural neighbor to the north of its San Simeon Creek well field and percolation pond property. This 2006 agreement allows for providing non-potable agricultural water to this ranch property from CCSD Well 9P2, which is located north of the CCSD's emergency water supply project's extraction well (9P7), and in the same general proximity as the treated wastewater effluent percolation ponds. The amount of non-potable water provided is subject to meeting specific terms of the agreement, and can be up to 183.5 acre-feet per year. This agreement also allows for providing up to 21.5 acre-feet per year of potable water to an existing residence and commercial establishment on this same ranch property, as well as a buffer area where non-potable is not allowed to be used.

Meeting the future agricultural demand called for in this agreement will be challenging in view of the environmental conditions and dry season diversion limits in the CCSD's permits. Future planning should therefore consider how the terms of this agreement could be met in view of these regulatory limitations. Such planning scenarios could include the establishment of agricultural storage ponds in combination with limiting CCSD supply deliveries during more ideal wet season periods and conditions.

1.9 Water Conservation

Water conservation has been a way of life in Cambria for many decades. The CCSD's conservation program includes mandated, as well as voluntary conservation measures. Mandated measures include the requirement to retrofit homes on resale, and businesses on changes of use or resale. Voluntary measures include rebates to customers for installing water conservation measures such as low flow toilets, low flow showerheads, hot water circulating pumps, and water efficient clothes washers.

During the early 1980s, the CCSD developed a demand offset program based on water conservation, which required the demand of any new water connection to be offset by conservation. This program is administered by maintaining a conservation points bank, which tracks completed conservation measures against the points needed for a new connections. The CCSD's most recent update to this program was completed by Maddaus Water Management, which is summarized within a February 28, 2013 Water Use Efficiency Plan report. This report included study of water use by various size residences, which resulted in modifying the number of conservation points needed to obtain a demand offset. Other specific updates since the 2013 report included lowering the maximum allowable flow for showerheads down to 1.5 gallons per minute maximum, and requiring that urinals not exceed 1/8 gallon per flush. The CCSD's water conservation measures are typically revisited as new water conservation measures evolve in the market place, and as part of the CCSD's Urban Water Management Plan updating process. Future updates may include review of newer point of use recycled (POUR) water systems (e.g., Nexus "eWater"), and dual plumbing of residences to separate gray and black water to further facilitate the implementation of POUR systems.

In response to the CCSD's current Stage 3 Water Shortage Emergency Declaration, Cambrians continued to excel at water conservation by having reduced their water use by over 35%.

1.10 Non-Potable Recycled Water Planning

The CCSD's lower San Simeon Creek emergency water project provides indirect potable reuse of recycled water. In addition, the CCSD has a plan that was completed in 2004 to guide the future use of recycled water for irrigation on landscaping. Approximately 65 acre-feet of future irrigation with recycled water has been estimated as part of the effort in developing the 2013 Technical Memorandum on Water Supply Alternatives. The non-potable irrigation water is planned for larger irrigators, including a future community park, the Cambria middle school, and Cambria elementary school. Future upgrades to the CCSD's wastewater treatment plant will consider these needs, as well as recycled water's potential use to recharge the lower Santa Rosa Creek aquifer during critical summer months.

1.11 Integrated Regional Water Management Planning and County Land Use Coordination

The CCSD is a signatory agency to the memorandum of understanding with the San Luis Obispo County Flood Control and Water Conservation District (County), which leads efforts to coordinate development and updating of a county-wide Integrated Regional Water Management (IRWM) plan. Cambria is located within the County's North Coast Regional Water Planning Area 2 of the IRWM. Key features and activities covered by the countywide IRWM planning process include:

- Describes the Region and its water management strategies
- Reviews the Region's water issues (e.g., supply, quality, storage, conveyance)
- Puts forward strategies to address solutions for those issues
- Suggests actions, programs, and capital projects to carry out those strategies
- Prioritizes and integrates those actions, programs, and capital projects
- Establishes metrics to measure and manage collected data to show the potential improvements, benefits, and impacts of the plan
- Provides a methodology to carry out those actions, programs and capital projects
- Monitors the plan's progress and makes adjustments when needed

Besides participation in the IRWM planning efforts, the CCSD actively attends the county's regular Water Resources Advisory Committee (WRAC) meetings, which reports to the County Board of Supervisors on water related concerns within the County. The county also follows a Resource Management System (RMS) reporting and evaluation process every two years as part of its Growth Management Ordinance. The RMS reporting includes collaboration with the CCSD and WRAC on the status and availability of water and wastewater services, which is considered by the County Board of Supervisors in setting allowable growth rates within the County.

Section 2 - Basin Management Objectives

The CCSD's 1980 Basin Management Program incorporated an historic, November 16, 1976 Resolution (Resolution 13-11-76), which was passed by the Cambria County Water District, the community's water purveyor prior to CCSD. This resolution entitled "Resolution Establishing Policy for San Simeon Basin Management Plan" included the following:

> WHEREAS: The Board recognizes that a basin management plan for the San Simeon Creek basin is necessary to prevent sea water intrusion, and mitigate environmental impacts on the fishery resources, supply facilities in the basin for up to 1230 acre-feet per year in accordance with water rights application No. 25002.
>
> NOW, THEREFORE, IT IS HEREBY RESOLVED, FOUND, AND DETERMINED AS FOLLOWS:
>
> The District will operate its water supply and waste water disposal facilities to serve the following functions:
>
> A. Maintain water levels in the lower basin in order to (1) sustain stream flow to the lagoon at the mouth of San Simeon Creek, and (2) prevent sea water intrusion. The objectives will be accomplished by return of waste water to the basin in accordance with Discharge Requirements of the Regional Water Quality Control Board.
>
> B. Maintain riparian vegetative growth along San Simeon Creek in the lower basin area in the event lowered ground water levels should cause damage to riparian vegetation. The District will provide irrigation facilities, within the Bonomi Ranch area owned by the District, where said damage occurs from depletion of soil moisture due to basin dewatering by District water wells."

In following the intent of the aforementioned resolution, while providing updating based on current facilities and permits, the following Basin Management Objectives are recommended.

2.1 Basin Management Objective 1

Monitor and Manage Water and Wastewater Facilities to Ensure Protection of the Area's Fishery and Riparian Habitat

Existing permit conditions require the CCSD to operate its well fields to maintain at least 3 feet of elevation at its Santa Rosa Creek monitoring well (WBE) and to maintain flow into the mouth of the San Simeon Creek lagoon. Each of these conditions have their own unique challenges, particularly during extended drought periods. To abide by these conditions, the CCSD will need to plan, budget, and develop a revenue stream to support the resources necessary to ensure compliance. Existing groundwater management efforts should be bolstered by the addition of remote sensing, as well as continued biological monitoring.

Currently, the CCSD has an adaptive management plan and associated biological monitoring in place to coincide with operation of its emergency water supply (EWS) project. A copy of this Adaptive Management Plan is being provided as Appendix E. The monitoring will be further augmented by the pending installation of remote measuring equipment, which is proposed for installation at the lower San Simeon State Campground pedestrian bridge, which spans the upper portion of the San Simeon Creek lagoon. The EWS project further includes a design feature that discharges 100 gallons per minute of flow into the mouth of the San Simeon Creek whenever the new system operates during periods of no creek flow. Biological monitoring will be budgeted and planned for as part of any future rate analysis to ensure this expense continues to be funded. This may also need to be expanded to include the lower Santa Rosa Creek reaches and lagoon area.

In addition to coordinating monitoring expenses into its operating budget, future capital projects should also consider this need. For example, the pending wastewater treatment plant improvements should address the RWQCB's 2015 draft TMDL report recommendations to further reduce nitrates and phosphorus in the CCSD plant effluent. Other possibilities may include recharging the lower Santa Rosa aquifer during the summer with highly treated wastewater effluent, as well as converting the Shamel Park irrigation system to Title 22 non-potable water from the CCSD wastewater treatment plant.

2.2 Basin Management Objective 2

Operate, Plan, and Provide CCSD Water and Wastewater Facilities in a Manner to Prevent Sea Water Intrusion and to Avoid Inelastic Ground Subsidence

Localized subsidence was last experienced along the lower Santa Rosa Creek aquifer during the 1970s and prior to the construction and operation of the CCSD's San Simeon Creek well field. This is documented within the February, 1980 California Geology article by George B. Cleveland entitled "Drought and Ground Deformation, Cambria, San Luis Obispo County, California." Causes cited within this article included: flooding that had destabilized the creek banks; the loss of soil moisture after the area was served by sewers (and local septic tanks and leach fields were abandoned); and, the 1975-1976 drought. Subsequent elevation surveys followed this period and were eventually stopped after no further ground elevation changes were found to be occurring. Since this earlier time, the CCSD also began operating its San Simeon well field, which started during 1979 and has allowed for less strenuous demand on pumping from the Santa Rosa Creek aquifer. Future operations of the CCSD's Santa Rosa Creek and San Simeon Creek aquifer well will avoid lowering groundwater elevations to a point where subsidence could possibly start to occur. Additionally, the CCSD's 2014-constructed emergency water supply project will provide further protection to the San Simeon well field area by increasing groundwater elevations during its operation. The CCSD also uses its water conservation demand offset program to ensure any future water connections are offset by water conservation measures. If static groundwater elevations go near or below 5 feet above mean sea level near the lower San Rosa Well SR-1, ground level surveys may be reinitiated along with adjustments to pump operations to avoid the potential for subsidence.

2.3 Basin Management Objective 3

Work Cooperatively with District Customers, the Agricultural Community, and Regulatory and Resource Agencies to Protect and Maintain Groundwater and Surface Water Quality

The CCSD actively participates in the County-wide Water Resources Advisory Committee (WRAC), which is widely represented and makes recommendations to the County Board of Supervisors on water related matters. It is also a signatory agency to the County-wide Integrated Regional Water Management Plan (IRWMP) memorandum of Understanding. Continuing participation in the WRAC and IRWMP by the CCSD will help foster a collaborative working relationship with the local agencies and agricultural community.

In addition to the WRAC and IRWMP, land use jurisdiction within the unincorporated CCSD service area and groundwater basins is governed by San Luis Obispo County. Because the area is within the Coastal Zone, proposed development is subject to conditions within the Local Coastal Plan, with land use development permitting by the County being appealable to the State Coastal Commission. A local North Coast Advisory Committee further reviews proposed new development and makes recommendation to County Planning and the area's local County Board Supervisor. Besides these reviews, the CCSD implements a demand offset program that requires the demand from any new water connections to be offset by water conservation measures implemented within the CCSD's water services boundary. This overall process ensures that any new development is closely reviewed for possible impacts to groundwater.

The County is also lead on administering a Hazardous Materials Management Plan (HMMP) program, which serves to further protect the local groundwater and surface water quality by documenting where and how hazardous materials are stored, as well as guiding emergency responders on how to safely and expeditiously respond to fires and accidents to minimize the potential for accidental releases.

The community has also benefitted from the past efforts of local ranchers and agricultural interests. Most recently, a local rancher allowed residents to haul irrigation water from one of his wells that had an appropriation permit. During the early 1975-1976 drought, ranchers along the Santa Rosa Creek provided temporary relief to the CCSD by piping irrigation wells into Santa Rosa Well SR-2 to locally recharge the aquifer near the CCSD wells. Others have reduced or voluntarily suspended irrigation practices during extreme drought periods. Further collaborative opportunities exist with the agricultural community, including work with the CCSD's well field neighbors.

2.4 Basin Management Objective 4

Continue to Monitor and Collect Baseline Groundwater Elevation and Quality Data for Use by Resource and Regulatory Agencies, In Assessing Progress, Developing Action Plans, and in Developing Future Groundwater Management Planning Updates

The CCSD regularly collects bi-monthly groundwater elevation data from wells installed along the lower reaches of the San Simeon Creek and Santa Rosa Creek aquifers. Elevation and water quality data is also collected to meet requirements set by the RWQCB and Division of Drinking Water as part of monitoring and reporting programs supporting operation of the Emergency Water Supply project and the CCSD's potable wells. Groundwater monitoring has previously supported geo-hydrological modeling of both the San Simeon Creek and Santa Rosa Creek aquifers by the US Geological Survey. More recently, geo-hydrological modeling of the lower San Simeon Creek aquifer was developed during 2014 to support design of the Emergency Water Supply project.

A future recommendation is for the CCSD to regularly enter elevation data from the CCSD-owned wells into the California Statewide Groundwater Elevation Monitoring (CASGEM) web site portal. This would further augment the confidential well data that has been entered for the San Simeon Basin Valley Groundwater Basin (Number 3-35) and the Santa Rosa Valley Groundwater Basin (Number 3-36). Data on the CCSD-owned wells is currently maintained by the CCSD's Water Department. Entering this data in to the CASGEM system would facilitate future study of the groundwater basins by making it more readily accessible.

Section 3 - Inter-Agency Coordination and Collaboration Plan

The CCSD has completed this Groundwater Management Plan following completion of an intense emergency response effort to the area's epic drought, which was coupled with a significant loss of revenue due to exceptional conservation efforts. To address its cash flow difficulties, while ensuring it was meeting all of the Proposition 84 grant funding requirements, the CCSD has completed this current Groundwater Management Plan using in-house staff, and has chosen to update the earlier groundwater management program by following the procedural requirements outlined in Water Code Sections 10753.4 and 10753.5.

Because of the time urgency associated with its revenues needs, the CCSD is completing a two-step adoption process that includes seeking comments from public agencies and interested parties, similar to how environmental documents are reviewed. A more elaborate agency collaboration plan is also described within this section for consideration on future Groundwater Management Plan Updates. The use of the steering committee is recommended for future groundwater management plan updates, which would more ideally occur when there is less time urgency.

3.1 Inter-Agency Coordination

The inter-agency coordination followed in adopting this current Groundwater Management Plan has included sending notices on the CCSD's intent to complete its update to regulatory and resource agencies, as well as interested private parties. Following publication of its notice per *California Government Code* §6066, the CCSD Board held an initial hearing on its intention to complete this current Groundwater Management Plan on October 15, 2015. Following deliberations during this hearing, the CCSD Board adopted Resolution 34-2015, indicating its intention to complete this Groundwater Management Plan. Appendix A includes CCSD Resolution 34-2015, a certified copy of the newspaper notification, the list of agencies and interested parties notified by mail, and the notice that was mailed.

Following a second public noticing per *California Government Code* §6066, on November 12, 2015, the CCSD held a second public hearing to consider whether a majority property owner protest existed over the adoption of the Groundwater Management Plan. Following the receipt of three written comment letters, as well as public testimony received during this hearing, the CCSD Board deliberated on District Ordinance 01-2015, and moved forward with adopting the Groundwater Management Plan. District Ordinance 01-2015, the CCSD Staff Report on this item, and written comment letters are provided in Appendix B.

3.2 Inter-Agency Collaboration Plan

It is recommended that as follow-up to adopting this current Groundwater Management Plan, the following steps be implemented to ensure continuing and future inter-agency input and collaboration. These steps should logically follow the CCSD's updating of its Urban Water Management Plan and Watershed Sanitary Surveys, which are required every five years. This would then allow pulling information from those five-year planning and updating efforts into any subsequent Groundwater Management Plan updates. This process would also include the formation of a steering committee to further guide the development of future plan updates.

Step 1 – Develop a Plan to Finance Future Groundwater Management Plan Updating

The CCSD should include as part of its planning and budgeting processes, a means to finance the regular completion of Groundwater Management Plan updates. The CCSD may want to involve the services of a consultant to assist in such efforts due to the workload such periodic efforts may require, and the specialized nature of the work. A scope of work and request for proposals would then follow for selection of a consultant to assist the CCSD.

Step 2 – Formation of a Multi-Agency Steering Committee

As lead agency, the CCSD should include contacting the following agencies and organizations to solicit representatives that would be available to attend monthly steering committee meetings and/or conference calls:

- San Luis Obispo County
- California Coastal Commission
- California Department of Fish and Wildlife
- California Department of Parks and Recreation
- Upper Salina-Las Tablas Resource Conservation District
- Natural Resources Conservation Service
- San Luis Obispo County Farm Bureau
- California Cattlemen's Association
- The Santa Rosa Creek Valley Groundwater Monitoring Cooperative
- The CCSD's agricultural neighbors
- Greenspace, The Cambria Land Conservancy
- North Coast Advisory Council
- Cambria Chamber of Commerce
- Cambrians for Water (C4 H2O)
- Regional Water Quality Control Board
- Department of Water Resources

This list may be adjusted as needed to ensure that a broad spectrum of stakeholders are available and included. The initial committee meetings would set up a mission statement, goals, rules for participation, meeting schedules, and distribute key documents for review.

Step 3 – Review and Identify Regulatory Updates and Any Recent Trends That May Require Related Groundwater Management Plan Updating

Data collected from ongoing monitoring programs would be reviewed along with progress that has been made towards meeting key regulatory and voluntary criteria. For example, future updating may include review of the RWQCB's target goals that were recently described in the draft 2015 "Total Maximum Daily Loads for Nitrate, Dissolved Oxygen, Sodium, and Chloride in San Simeon Watershed in San Luis Obispo County, California," as well as any related progress to the CCSD's wastewater treatment plant, which may contribute towards meeting such goals.

Step 4 – Develop an Action Plan to Complete Groundwater Management Plan Updates

Key points to include in a detailed action plan would include a public outreach effort, progress reporting to the CCSD Board and any Board ad-hoc committees, as well as a production schedule on a Groundwater Management Plan update. This outreach effort should plan on making special presentations to the area's North Coast Advisory Committee, County Planning Commission, County Board of Supervisors, California Coastal Commission, conservation and environmental organizations, neighboring property owners, service clubs and organizations, as well as business groups.

Step 5 – Execute the Updating Process

The completion of subsequent Groundwater Management Plan updates should regularly involve the public to make sure the key concerns are understood along with any potential alternatives towards addressing certain issues. This would include the pros and cons of various approaches being considered before the final report is finalized. The report would then be completed through a series of at least two public hearings with the CCSD Board. The first hearing would describe the CCSD's intent to complete this updated Groundwater Management Plan. The second CCSD hearing would focus on adoption of the Groundwater Management Plan. Intermediate discussions would also be made through reports by the CCSD ad-hoc committee during regular CCSD Board meetings, Board agenda discussion items, or a combination of both.

Section 4 - Groundwater Recharge and Mapping Update

Groundwater recharge to the Santa Rosa and San Simeon Creek Basins occurs through permeable alluvial materials that underlie the creek beds. Detailed mapping of the area by Hall (1974) and the USGS (1998) provided much of the detailed geology information for the area, including alluvial deposit locations. This information was used in the completion of Figure 4-1, which provides an updated map of the recharge areas within the San Simeon Creek and Santa Rosa Creek groundwater basins. Within each basin, recharge predominantly occurs through these alluvial deposits during the annual rainy season while the creeks are flowing. Certain upper reaches of each creek may also run perennially with springs contributing to surface water in the upper elevations of the watersheds during the dry summer months. During multiple-year droughts, such springs may stop flowing late in the year. Surface flow along the lower reaches of each creek typically stop during the latter dry season, with the Santa Rosa Creek having more of a propensity to flow for a longer period into the dry season period than the lower San Simeon Creek. During winter time flows, recharge will result from rainfall events and can extend through entire reach of each creek, depending upon the pattern and intensity of seasonal rains.

In addition to Figure 4-1 of this report, the CCSD has provided digital, ESRI-based mapping files to the Department of Water Resources, San Luis Obispo County, and the San Luis Obispo County Local Agency Formation Commission (LAFCO).

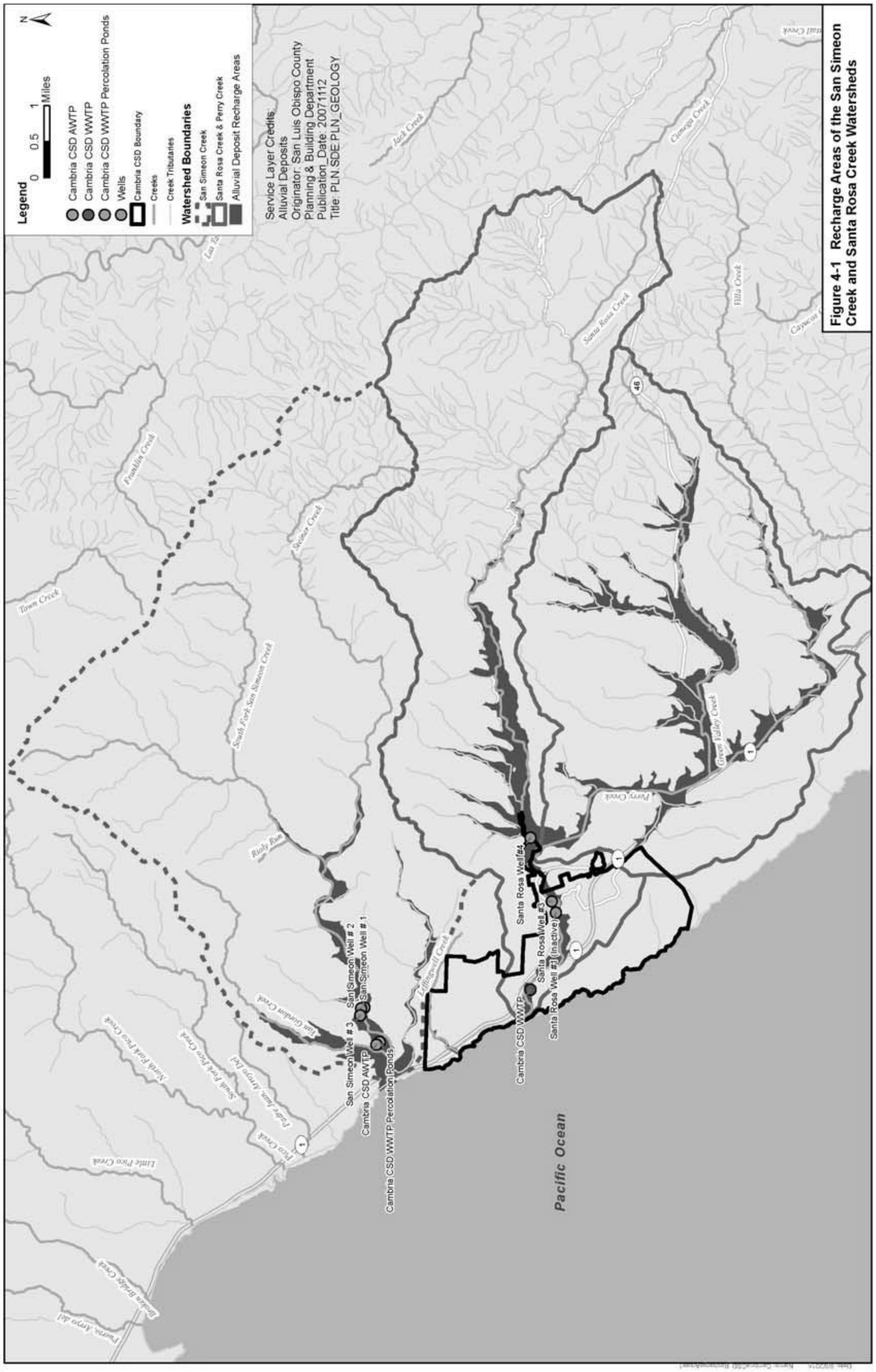


Figure 4-1 Recharge Areas of the San Simeon Creek and Santa Rosa Creek Watersheds

Figure 4-1 – San Simeon Creek and Santa Rosa Creek Watershed Recharge Areas

Section 5 - Groundwater and Surface Water Monitoring

The CCSD has collected groundwater elevation and quality data since it began water operations during the 1970s. Additionally, the US Geological Survey, San Luis Obispo County Flood Control and Water Conservation District, and RWQCB, have collected data on surface water flow and quality. In more recent times, Senate Bill 6 (SBx7-6) was enacted on November 6, 2009, which revised CWC §10920, et seq. and established a new groundwater monitoring program (CASGEM) to more regularly and systematically monitor groundwater in all or parts of groundwater basins throughout the state. The CCSD is currently the sole public entity registered with the state's CASGEM portal for groundwater monitoring within the San Simeon Creek and Santa Rosa Creek ground water basins. Data is currently being provided to the CASGEM system on CCSD-owned wells.

This section describes the following elements of the groundwater and surface water monitoring program:

- Groundwater Elevation Monitoring
- Groundwater Quality Monitoring
- Land Subsidence Monitoring
- Groundwater-Surface Water Interaction Monitoring

The monitoring program is used to adjust CCSD operations, promote collaborative efforts with other water users to protect the groundwater basins, support meeting the Basin Management Objectives outlined within this update, and in supporting future groundwater management plan updates.

5.1 Groundwater Elevation Monitoring

Groundwater elevations will continue to be monitored by the CCSD on a bi-monthly basis at the lower groundwater aquifer wells identified on Table 1-1 and shown on Figure 5-1. The data from these wells is also being reported in the statewide CSGEM web site portal by the CCSD.

Historic data plots from these wells are further shown in Appendix C. In addition to the historically plotted well field data, the CCSD also measures elevation and water quality data on its Emergency Water System project per the Monitoring and Reporting Program requirements issued by the RWQCB. The Emergency Water Supply Project monitoring is further described within its state-approved Operation Maintenance and Monitoring Program (OMMP) report. OMMP Section 18, which describes the project's Monitoring and Reporting Program, is included as Appendix D.

5.2 Groundwater Quality Monitoring

Groundwater quality monitoring is essential in assessing the overall condition of the groundwater basin, the need to take corrective measures, monitoring the progress of corrective measures, and in meeting statewide policy and local CCSD permit conditions. Statewide policy includes the SWRCB's 2009 adoption of a recycled water policy (RWP) to develop a salt and nutrient management plan within all of the state's groundwater basins. This was to occur by 2014, but subsequent progress has not met this earlier goal. The current RWP emphasis is focused on higher priority groundwater basins within the state. For the CCSD, its existing RWQCB-issued waste discharge requirements order (Order 01-100) includes a condition to maintain a salt management program, which serves to reduce salt loading into the groundwater basin.

Table 5-1 – CCSD Monthly Monitoring Wells

CCSD Water Department Well ID Code	State Well Identifier	Coordinates		Reference Elevation Point Feet Above Mean Sea Level	Notes	Estimated Survey Date
		Latitude	Longitude			
SANTA ROSA CREEK WELLS						
23R	27S 8E 23R2	N35° 34' 4.75"	W121° 04' 14.17"	83.42	Lat & long not surveyed - values from Google Earth estimate	
SR4	27S 8E 23R3	N35° 34' 5.34"	W121° 04' 15.69"	82.00	Lat & long not surveyed - values from Google Earth estimate	
SR3	27S 8E 26C5	N35° 33' 51.49"	W121° 04' 49.00"	54.30	Lat & long not surveyed - values from Google Earth estimate	
SR1	27S 8E 26D1	N35° 33' 45.12"	W121° 05' 05.02"	46.40	Lat & long not surveyed - values from Google Earth estimate	
RP#1	27S 8E 27H1	N35° 33' 40.05"	W121° 05' 13.96"	46.25	Lat & long not surveyed - values from Google Earth estimate	
RP#2	27S 8E 27G1	N35° 33' 38.62"	W121° 05' 40.43"	33.11	Lat & long not surveyed - values from Google Earth estimate	
21R3	27S 8E 21R3	Shamel Park Irrigation Well		12.88	County-owned well	
WBE	27S 8E 21R4(?)	N35° 34' 04.64"	W121° 06' 14.44"	16.87	Lat & long not surveyed - values from Google Earth estimate	
WBW	27S 8E 21R5(?)			17.02	(?) State ID number needs to be confirmed.	
SAN SIMEON CREEK WELLS						
11B1	Privately owned well - confidential			105.43		
11C1	Privately owned well - confidential			98.20		
PFNW	Privately owned well - confidential			93.22		
10A1	Privately owned well - confidential			78.18		
10G2	Privately owned well - confidential			62.95		
10G1	Privately owned well - confidential			59.55		
10F2	Privately owned well - confidential			66.92		
10M2	Privately owned well - confidential			55.21		
9J3	Privately owned well - confidential			43.45		
SS1	27S 8E 9J4	N35° 36' 01.63"	W121 ° 06' 32.19"	32.37	Elevation at painted X next to well	2/12/2015 NCE
SS2	27S 8E 9J5	N35° 36' 04.12"	W121° 06' 33.17"	33.16	Elevation at painted X next to well	2/12/2015 NCE
SS3	27S 8E 9K3	N35° 36' 04.28"	W121° 06' 38.95"	33.73	Elevation at painted X next to well	2/12/2015 NCE
SS4	27S 8E 9P5	N35° 35' 53.51"	W121° 06' 51.10"	25.92	Lat & long not surveyed - values from Google Earth estimate	
MIW		N35° 36' 04.44"	W121° 06' 41.51"	29.89	Elevation at Top of casing	2/12/2015 NCE
RIW		N35° 36' 02.69"	W121° 06' 47.74"	25.41	Elevation on concrete next to well	2/12/2015 NCE
9L1	27S 8E 9L1			27.33		
9P7	27S 8E 9P7	N35° 35' 49.47"	W121° 07' 01.26"	20.69	Elevation at Top of casing	2/12/2015 NCE
9P2	27S 8E 9P2			19.11		
9M1	Privately owned well - confidential			65.63		
MW3		N35° 35' 57.47"	W121 ° 07' 10.20"	49.56	Elevation at Top of casing	2/12/2015 NCE
MW2		N35° 35' 53.38"	W121° 07' 14.03"	38.10	Elevation at Top of casing	2/12/2015 NCE
MW1		N35° 36' 04.44"	W121° 06' 41.51"	42.11	Elevation at Top of casing	2/12/2015 NCE
MW4		N35° 35' 41.90"	W121° 07' 15.33"	15.95	Elevation at Top of casing	2/12/2015 NCE
16D1	27S 8E 16D1	N35° 35' 41.84"	W121° 07' 17.47"	11.36	Elevation at Top of casing	2/12/2015 NCE

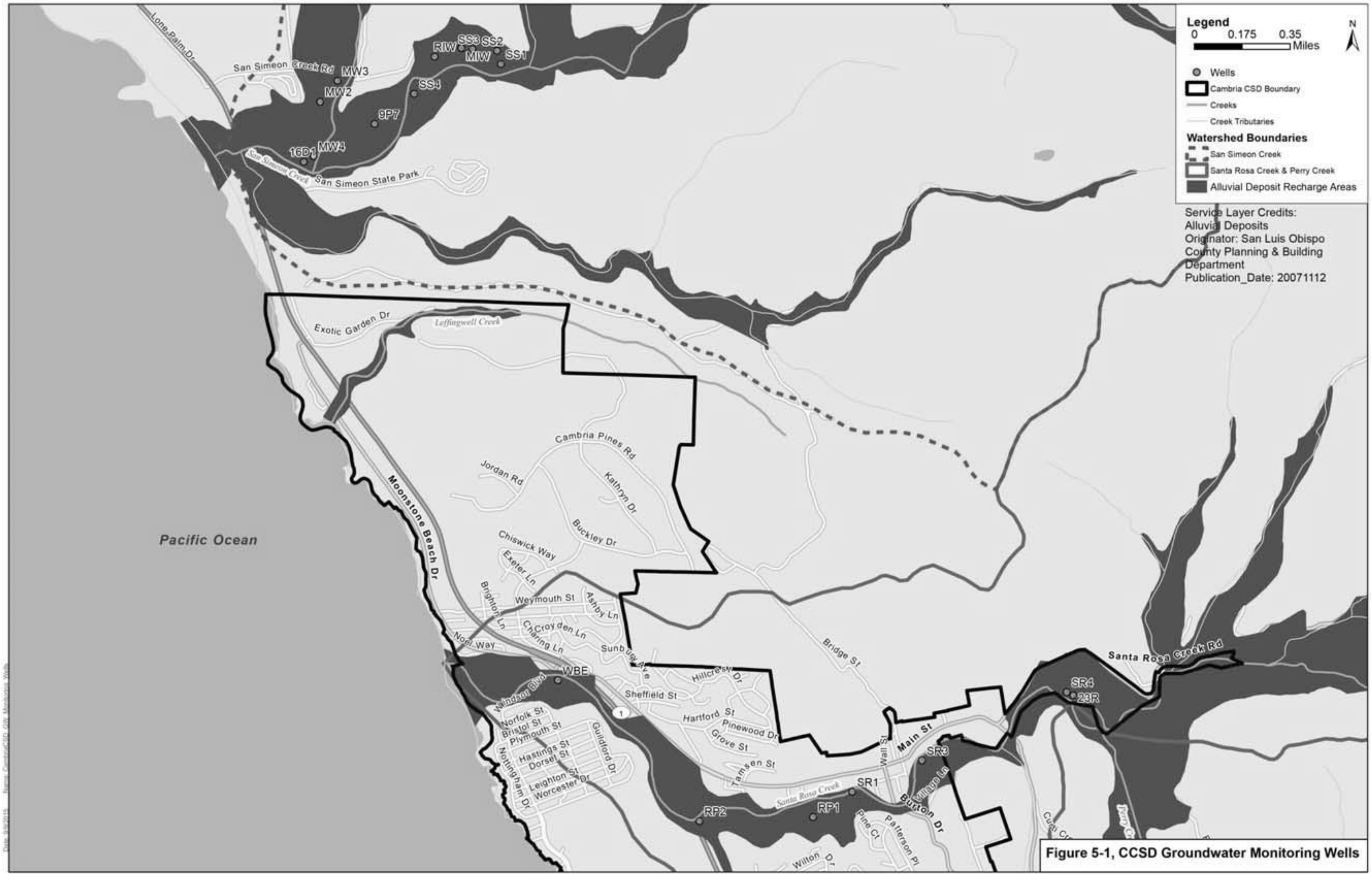


Figure 5-1 – Map of CCSD Monitoring Wells

Besides salt loadings, nutrients are a key regulatory concern due primarily to their potential impact on aquatic habitat. Of these, nitrate is the most significant contaminant of concern with regard to the CCSD's operations and long term planning. This stems from three general areas: 1) groundwater from monitoring wells downstream from the CCSD's treated wastewater effluent percolation ponds are required to have nitrate concentrations below the statewide maximum contaminant level limit for drinking water, which is 10 milligrams per liter (mg/l) when reported as nitrate expressed as nitrogen (NO_3-N); 2) operation of the emergency water supply project requires the maximum NO_3-N concentration of its final re-injected water be no greater than 2.3 mg/l; and, 3) the RWQCB's draft 2015 Total Maximum Daily Loads report for the San Simeon Creek Watershed includes a recommended numeric target of 1.3 mg/l for NO_3-N within the San Simeon Creek and lower lagoon.

Because the CCSD's existing wastewater treatment plant was designed to convert ammonia (which can be toxic to fish) into nitrate, future plant upgrades are needed to reliably remove nitrate, which can otherwise serve as a nutrient to promote excessive algae and plant life within the creek and lagoon (which can reduce dissolved oxygen concentrations at night).

Other concerns exist with regard to salt loading from the CCSD's wastewater plant, which has a total dissolved solids (TDS) effluent concentration limit of 1,000 mg/l for a 30-day mean, and 1,500 mg/l for an instantaneous measurement. Ongoing and future trends in water conservation also create a conundrum for the CCSD due to such efforts increasing TDS concentrations. This is because the same amount of waste product generally occurs even as the water volume decreases. These factors could lead to further assessment of the CCSD's salt management program efforts in reducing plant TDS concentrations.

Of benefit towards addressing the nutrient and salt management concerns, the CCSD's 2014-constructed emergency water supply project serves to further reduce salt loading and nitrates by its operation. This is due to its treatment process including reverse osmosis, which reduces the concentration of nitrates and total dissolved solids from the extracted water before it is re-injected. The CCSD wastewater operators have also made interim operational adjustment to further reduce nitrates in the plant's effluent. Groundwater monitoring and its data collection efforts will allow continuing assessment of progress made in reducing salts and nutrients.

5.3 Leaking Underground Fuel Storage Tanks

Cambria has been previously impacted by leaking underground fuel storage tanks (LUSTs), and had shut down its lower Santa Rosa Creek wells since the fuel oxygenate, methyl tert-butyl ether (MTBE) was discovered in a groundwater contamination plume during late 1999 to early 2000. This led to remedial actions, including the construction of CCSD Well SR-4 and its associated iron and manganese removal filter farther upstream from this plume. In addition, the gas station site where MTBE was detected installed groundwater treatment, including a pump and treat system that hauled away contaminated groundwater. Of the CCSD's existing production wells, Well SR-1 was the closest to the MTBE plume, while Well SR-3 was somewhat better situated than SR-1 to avoid the MTBE plume. Additionally, there have been other LUST locations, such as the one at the old Hampton Inn site (a site that has since been ruled closed by the RWQCB). Figure 5-2 shows the old LUST sites in relation to the CCSD's Santa Rosa wells.

Because of concerns over whether MTBE may be pervasive, as well as form an intermediate degradation product, tert-butyl alcohol (TBA), the CCSD conducted testing on both of these compounds during the testing and startup of converted Well SR-1 and upgraded Well SR-3 during 2014. Additionally, the CCSD converted Well SR-1 to a non-potable irrigation well that had a relatively low pumping rate due to the SR-1 water being hauled by end users. The analytical tests conducted on Wells SR-1 and SR-3 resulted in non-detection of MTBE and TBA. The CCSD will continue testing for these compounds as part of its regular operation of these lower Santa Rosa wells. If either compound is detected at reportable limits, the CCSD may suspend or otherwise modify its existing operation of these two wells.

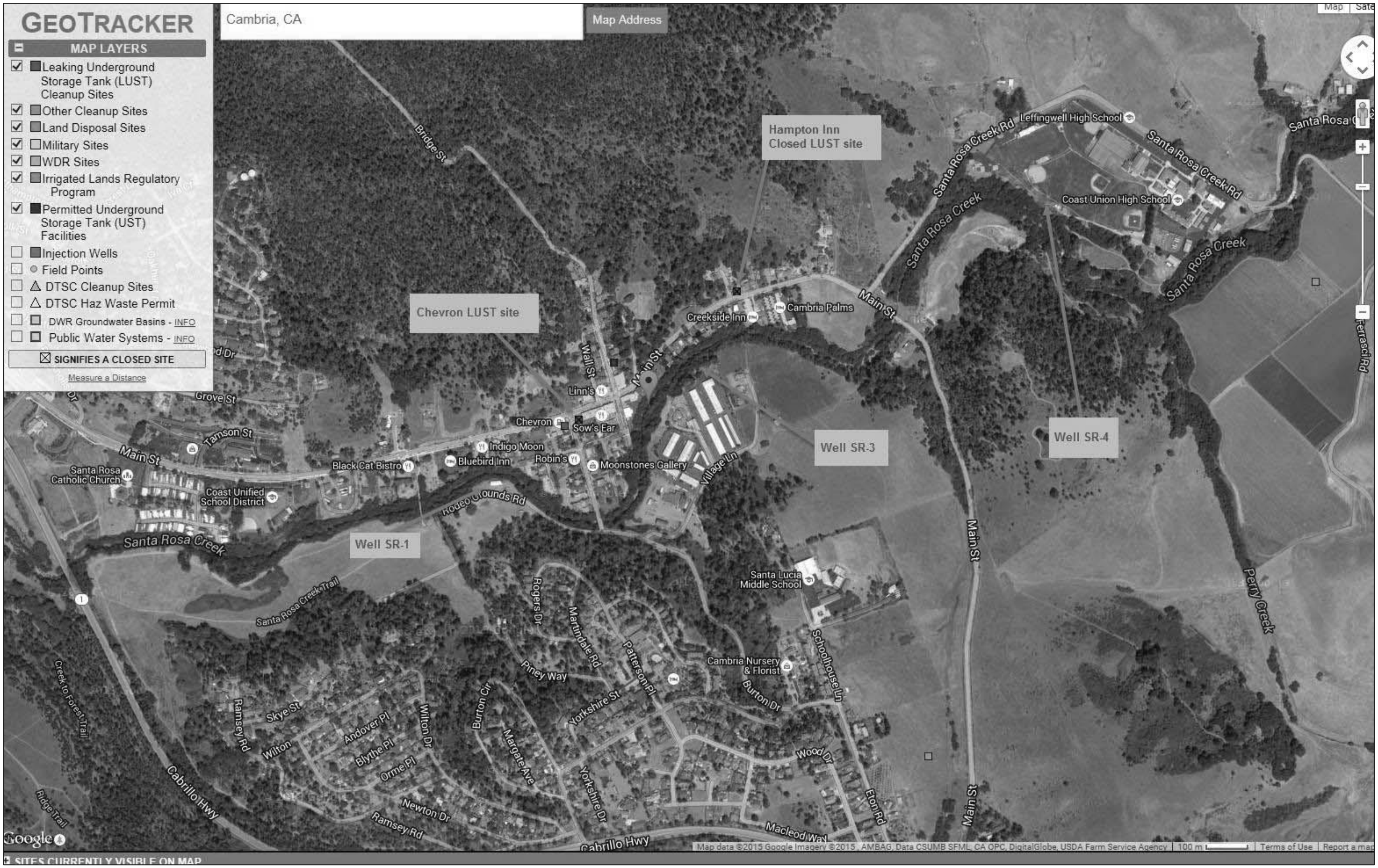


Figure 5-2 – Map of Leaking Underground Fuel Storage Sites and CCSD Santa Rosa Wells

5.4 Surface Water Quality Monitoring

Surface water quality monitoring of the San Simeon and Santa Rosa Creeks is accomplished through a combination of efforts including the CCSD's sampling in response to operating permit criteria, as well as through efforts of the Central Coast Ambient Monitoring Program (CCAMP), which is the Central Coast Regional Water Quality Control Board's regionally scaled water quality monitoring and Evaluation program. In addition to CCAMP, the Central Coast RWQCB issued Irrigated Agricultural Order R3-2012-011, which includes various water quality monitoring requirements for the area's irrigated agriculture. Water quality requirements and goals are generally driven by the beneficial uses identified within the Central Coast RWQCB's Basin Plan.

For the San Simeon Creek, CCAMP sites 310-SSC and 310-SSU have been historical sampled with historic water quality data being managed by the RWQCB. For Santa Rosa Creek, CCAMP sites 310-SRO and 310-SRU have served in a similar capacity.

The primary surface water quality focus of concern has been the listing of the San Simeon Creek watershed as having been included on the Clean Water Act (CWA) Section 303(d) list as being impaired for nitrate (NO_3), dissolved oxygen (DO), sodium (Na), and Chloride (Cl). The RWQCB's early 2015 draft Total Maximum Daily Loads report for the San Simeon Creek watershed suggested numeric limits for receiving water, and will be a key area of study as part of ongoing groundwater and surface water monitoring. This draft report will likely influence future permit requirements as well as the design of the CCSD's wastewater treatment plant improvements.

5.5 Land Subsidence Monitoring

Localized land subsidence was discovered within the lower Santa Rosa Creek aquifer during the 1970s, which was during a period that preceded completion and operation of the CCSD's San Simeon Creek aquifer wells. This earlier subsidence is further documented within the February 1980 California Geology paper by geologist George B. Cleveland of the California Division of Mines and Geology. Land subsidence surveys followed this early discovery, but were eventually stopped after subsequent years of survey found that subsidence was no longer occurring. Additionally, the CCSD also commissioned Cleath–Harris Geologists to review the proposed Well SR-3 operation during earlier 2014, which resulted in a recommendation to keep the minimum static groundwater elevation near lower Santa Rosa Well SR-1 no less than 5 feet above mean sea level in order to avoid the potential for subsidence. In addition to the San Simeon well field going on line since this earlier Santa Rosa Creek experience, the recently completed Emergency Water Supply project serves to recharge the CCSD's San Simeon Well field area to further avoid the potential for subsidence within the San Simeon Creek aquifer. Subsidence has not been observed in the lower San Simeon Creek aquifer. From review of historic CCSD well levels plots from 1988 to 2015, the lowest average groundwater elevation at the CCSD's San Simeon well field has been 0.8 feet above mean sea level. Therefore, to avoid possible subsidence in this area, the CCSD's goal will be to maintain an average San Simeon well elevation at or above the historic minimum of 1 foot above mean sea level.

5.6 Groundwater-Surface Water Interaction Monitoring

Although the CCSD does not have a direct surface water intake as part of its water supply, several permit conditions apply to CCSD's operation with regard to how groundwater pumping may interact with surface water flows. For example, the CCSD is required to stop operating its Santa Rosa Wells when the down-gradient monitoring well (Well WBE) is equal to or less than 3 feet above mean seal level. During 2014 the CCSD added the well WBE to its remote monitoring capabilities to allow for its instantaneous information and alarms. The CCSD is also required to abide by the endangered species act by avoiding the incidental taking of listed species unless it completes a consultation process with the appropriate resource agencies and develops acceptable offsetting mitigations.

To address related concerns along the lower San Simeon Creek, the CCSD included a design feature within its Emergency Water Supply Project, which provides 100 gallons per minute (gpm) of freshwater flow into the upper reach of the San Simeon Creek lagoon whenever the new facility is in operation. The 100 gpm rate was developed by a geo-hydrologist following modeling of the area and review of flow and elevation data. This flow measure also backed up by an Adaptive Management Plan (AMP), with biological monitoring to ensure favorable conditions are being maintained. As part of ongoing efforts to improve the AMP monitoring, the CCSD is also in the process of obtaining permissions to install remote creek monitoring equipment under the State campground's pedestrian bridge, which spans the upper San Simeon Creek lagoon area.

The CCSD plans to continue with its AMP monitoring and to make necessary adjustments to its operations based on input from its biologists. It will also install remote monitoring equipment after permissions are granted by State Parks and other agencies on its installation. Future planning and design of pending wastewater treatment plan improvements will also consider whether highly treated wastewater could be used to recharge or otherwise minimize the lowering of the lower Santa Rosa Creek aquifer during the dry summer months.

Periodic review of the protective measures and elevations will be used to guide CCSD operations and future groundwater management plan updates.

Section 6 - Wellhead Protection, Well Abandonment, and Well Construction Policies

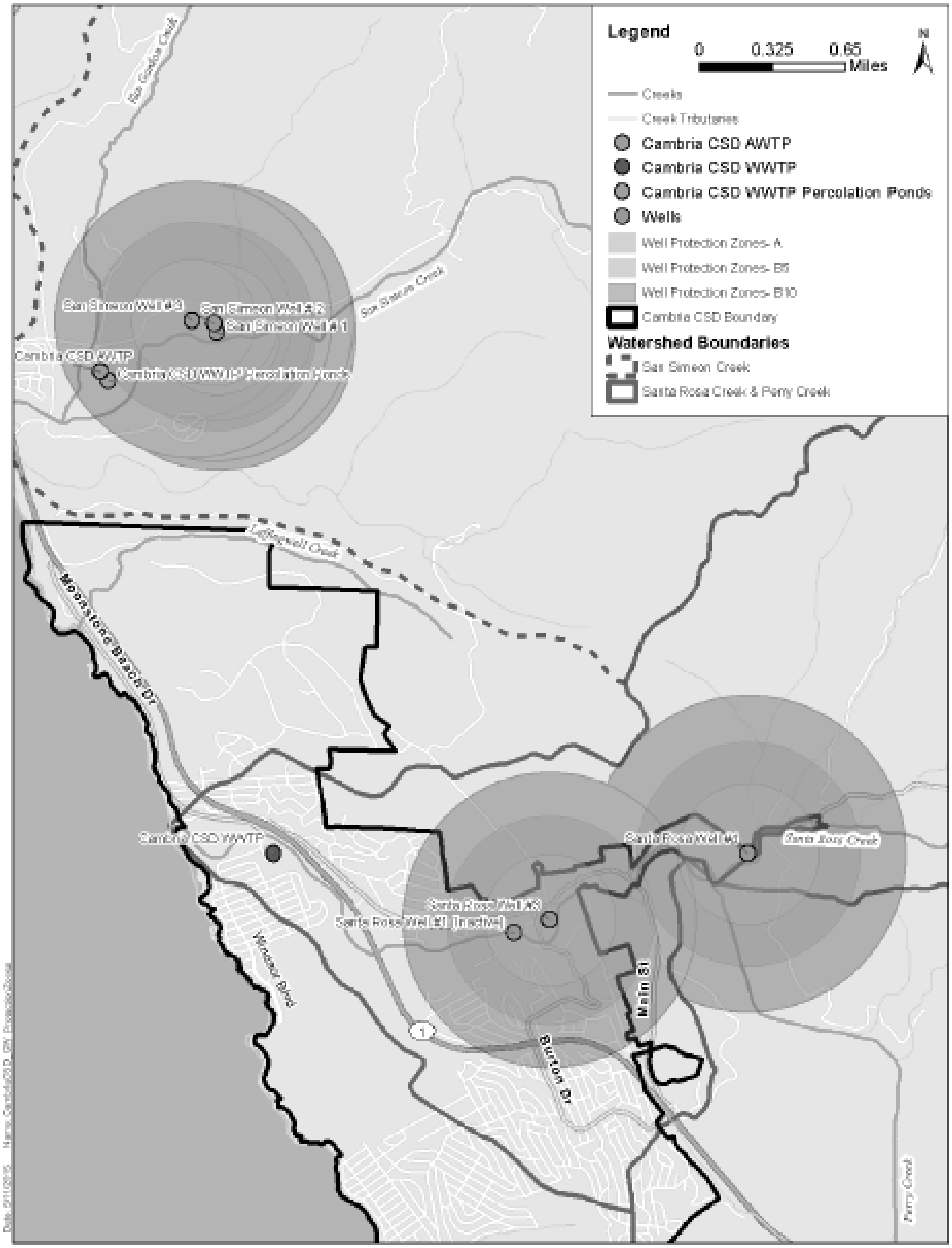
The San Luis Obispo County Department of Environmental Health administers programs within the San Simeon Creek and Santa Rosa Creek watersheds that further protect groundwater and drinking water quality. These programs include the permitting of wells and associated enforcement of the California Department of Water Resources Bulletins 74-81 and 74-90 combined standards. The efforts by County Environmental Health in this area are essential in protecting the area's groundwater quality, as improperly constructed, maintained, or destroyed wells can impact water quality by allowing:

- Pollutants, contaminants, and water to enter a well bore or casing;
- Poor quality surface and subsurface water, pollutants, and contaminants to move between the well casing and borehole wall;
- Poor quality groundwater, pollutants, and contaminants to move from one stratum or aquifer to another; and,
- The well bore to be used for illegal waste disposal

Besides wells, the County's Department of Environmental Health also administers the cross connection control program for the area, which serves to prevent the accidental introduction of contaminants into potable water systems by ensuring proper backflow prevention devices are installed and maintained.

Because its water supply wells are under the influence of surface water and subject to the state's Surface Water Treatment Regulations, the CCSD is also required to complete an updated Watershed Sanitary Survey every five years. This survey includes identifying existing and potential sources of contamination within the watersheds, providing a water quality and watershed condition assessment, and providing recommendations for watershed management practices to protect surface water quality within the watershed. The CCSD's 2015 survey update included mapping of water protection zones at each of the CCSD's potable production wells, which is shown in Figure 6-1. The identified protection zones A, B5, and B10 coincide with the relative risk that a contaminant has in reaching a well without being detected or mitigated beforehand. Zone A, the closest zone to each well, is generally based on most microbiological contaminants becoming ineffective after being submerged in groundwater for more than two years. Besides microbiological concerns, chemical contamination can travel and last for many years. Zones B5 and B10 are shown in relation to the longer time that a chemical contaminant can travel, with Zone B5 being based on an intermediate travel time of 5 years, while Zone B10 is based on a long-term 10-year travel time.

Recommendations within the CCSD 2015 Water shed Sanitary Survey include additional watershed monitoring, educational efforts on best management practices to promote watershed protection, as well as containment and pollution prevention.



From draft May 29, 2015 CCSD Watershed Sanitary Survey Update
Water Systems Consulting, Inc.

Figure 6-1 – Groundwater Protection Zones

Section 7 - Recommendations

The CCSD should regularly review and assess the condition of the Santa Rosa Creek and San Simeon Creek groundwater basins, to gauge progress on whether the Best Management Objectives (see Section 2) are being met. Future updates to the Groundwater Management Plan should be considered as conditions evolve and adjustments or additional measures are deemed necessary. A logical timing to consider such updating would follow the 5-year cycle of updating the CCSD's Urban Water Management Plan and its Watershed Sanitary Survey. If future pumpage or other conditions (e.g., climate change) result in a deficit to the groundwater basin water balance (see Table 1-3 on page 7 and its earlier discussion), the CCSD could consider weighing the need to implement measures outlined in the 2014 Sustainable Groundwater Management Act (SGMA) legislation. Because the San Simeon Creek aquifer and the Santa Rosa Creek aquifer are not classified by the state as being either a high or medium priority groundwater basin, SGMA compliance is not mandatory. However, if desired or otherwise warranted by changing conditions, future SGMA measures could include determining and developing a lead Groundwater Management Planning Agency, as well as a Sustainable Groundwater Management Plan. At this time, more near-term recommendations are outlined below.

1. The CCSD should complete its regular Coastal Development Permitting process with San Luis Obispo County on its Emergency Water Supply Project to further improve the reliability of its existing supplies. This effort is to include completion of a supporting Environmental Impact Report, which would support operating the new facilities whenever they are needed to avoid the potential waste of water; a reverse hydraulic gradient condition between its treated wastewater hydraulic mound and upstream San Simeon well field; or the onset of any future water shortage emergency.

2. The CCSD should continue to coordinate with the Army Corps of Engineers on its long-term water supply project and associated Environmental Impact Statement (EIS) process. This includes providing supporting data and information to complete the technical analyses that are needed to support the EIS consultant. The acquisition of continuing federal funding to support the Corps and its consultants would be part of this coordination.

3. The CCSD's financial planning and budgeting should include anticipating requirements associated with meeting the Basin Management Objectives. Example cost items would include:

    a. Continued funding to support the emergency water supply project's EIR and regular Coastal Development Permit.

    b. Funding to support remaining technical analyses of the Army Corps'-administered long-term water supply project's Environmental Impact Statement (EIS).

    c. Funding to support completion of a long-term water supply alternative (i.e., the preferred alternative to be identified within the Army Corps EIS).

    d. Improvements to the CCSD wastewater treatment plant.

    e. Regular biological monitoring of the riparian habitat

    f. Data collection and laboratory water quality analyses.

    g. Additional remote sensing of the creeks and monitoring wells.

    h. 5-year updating to the Groundwater Management Plan.

    i. Additional monitoring wells that may be identified as a future monitoring need.

    j. Continuance of the CCSD water conservation program and related conservation demand offset program efforts.

    k. Continuation of efforts to extend SWRCB diversion permits 20387 and 17287 (See Table 1-1.).

4. Future Groundwater Management Plan updates should allow for the time and resources to form a steering committee as part of its outreach efforts.

5. Future Groundwater Management Plan updates should allow for the time, and provide the necessary resources, to update the water budget for both basins (See Table 1-3.) using current water use information and an associated or similar modelling effort that was used in the original USGS Report (98-4061).

6. The CCSD should continue to routinely monitor and report data on its groundwater monitoring wells. This reporting would include participation in the statewide CASGEM system.

7. Review the water rights settlement agreement with the CCSD's ranch neighbor to the north of its lower San Simeon Creek property and develop means to modify or meet the future commitments outlined in this agreement.

8. Continue to assess evolving water conservation innovations and incorporate cost-effective measures into the CCSD's demand offset program. This may include point of use recycled water systems, such as the "Civis eWater" system, as well as other innovations.

Section 8 - References

The following references were used during the completion of this Groundwater Management Plan:

California Department of Water Resources, Groundwater Information Center web site

Cambria Community Services District, San Simeon Creek Water Basin Management Program and Operations Manual, August 14, 1980

Cambria Community Services District, 2010 Urban Water Management Plan

US Geological Survey Report 98-4061, "Hydrogeology, Water Quality, Water Budgets, and Simulated Responses to Hydrologic Changes in Santa Rosa and San Simeon Creek Ground-Water Basins, San Luis Obispo, CA, 1998

San Luis Obispo County Flood Control and Water Conservation District, Integrated Regional Water Management Plan; July, 2014

San Luis Obispo County Environmental Health Services web site, including links to California Department of Health Well Standards, Bulletins 74-81 and 74-90

Cambria Community Services District, Watershed Sanitary Survey Update, draft report by Water Systems Consulting, Inc. dated 5/29/2015

Personal communications between R. Gresens of the CCSD and Joshua Reynolds of Water Systems Consulting Inc. regarding production of Figure 4-1 and 5-1

Personal communications between R. Gresens of the CCSD and Tim Cleath of Cleath-Harris Geologists regarding recharge areas shown on Figure 4-1 and subsidence reference

Geologic Map of the Cambria Region, San Luis Obispo County, Clarence A. Hall, 1974, US Geological Survey, US Government Printing Office 1975-0-689-908/51

"Drought and Ground Deformation, Cambria, San Luis Obispo County, California, California," California Geology paper by George B. Cleveland, February, 1980

San Luis Obispo County Coastal Zone Land Use Ordinance

Warren – CCSD Settlement Agreement, November 20, 2006

Cambria Community Services District Water Use Efficiency Plan, Maddaus Water Management, February 28, 2013

Cambria Community Services District, "Final Report, Task 3: Recycled Water Distribution System Master Plan," by Kennedy/Jenks Consultants, July 2004

"Delineating Groundwater Sources and Protection Zones," University of California Agricultural Extension Service and California Department of Health Services, April 2002

Cambria Community Services District, "Final Report: Baseline Water Supply Analysis," by Kennedy/Jenks Consultants, December 8, 2000

"Operations, Maintenance, and Monitoring Plan for the Cambria Emergency Water Supply Project, Revised Final" by CDM Smith, January 6, 2015

Personal communications between R. Gresens of the CCSD and Mladen Bandov of San Luis Obispo County Public Works regarding plan references and requirements

Permits listed on Table 1-1 (page 5) and Table 1-2 (page 6)

Review of CCSD record drawings on wastewater and water facilities

Presentation by Bob Hitchner of Nexus eWater during the Home Builders Association's Central Coast Water Forum, Mountainbrook Church, San Luis Obispo, CA, August 5, 2015

Appendix A

Cambria CSD Resolution 34-2015

Staff Reports

Public Notices

List of Contacted Parties

RESOLUTION NO. 34-2015
October 15, 2015

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE CAMBRIA COMMUNITY SERVICES DISTRICT OF ITS INTENTION TO DRAFT A GROUNDWATER MANAGEMENT PLAN (WATER CODE SECTION 10753.2)

WHEREAS, Water Code Section 10753 et seq. provides the Cambria Community Services District with the authority to adopt a Groundwater Management Plan within its jurisdiction; and

WHEREAS, after holding a noticed public hearing in accordance with Water Code Section 10753.2(a), the Board of Directors has determined that it should initiate the process of drafting a Groundwater Management Plan.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Cambria Community Services District as follows:

1. To immediately proceed with the drafting of a Groundwater Management Plan in accordance with the provisions Water Code Sections 10753 et seq.

2. The attached Exhibit A, which is incorporated herein by reference, shall constitute the written statement required by Water Code Section 10753.4(b) describing the manner in which interested parties may participate in developing the Groundwater Management Plan.

3. In accordance with Water Code Section 10753.2(c) and (d), a copy of this Resolution shall be provided to the Department of Water Resources for posting on their website, and informed that the contact person at the CCSD for the Groundwater Management Plan is District Engineer Robert Gresens, PO Box 65, Cambria, CA 93428, (805) 927-6223.

4. The District Clerk is directed to publish this Resolution in accordance with the requirements of Water Code Section 10753.3(a), as well as to provide interested persons copies in accordance with of Water Code Section 10753.3(b).

PASSED AND ADOPTED THIS 15th day of October, 2015.

Gail Robinette

Gail Robinette, President
Board of Directors

ATTEST:

Monique Madrid

Monique Madrid, District Clerk

APROVED AS TO FORM:

Timothy J. Carmel, District Counsel

CAMBRIA COMMUNITY SERVICES DISTRICT

I, Gail Robinette, President of the Cambria Community Services District Board of Directors, hereby call a Special Meeting of the Board of Directors pursuant to California Government Code Section 54956. The Special Meeting will be held:**Thursday, October 15, 2015, 4:00 PM**, **1000 Main Street Cambria, CA.** The purpose of the special meeting is to discuss or transact the following business:

AGENDA
SPECIAL MEETING OF THE CAMBRIA COMMUNITY SERVICES DISTRICT BOARD OF DIRECTORS
Thursday, October 15, 2015, 4:00 PM
1000 Main Street
Cambria, CA

1. OPENING

A. Call to Order

B. Pledge of Allegiance

C. Establishment of Quorum

2. PUBLIC COMMENT ON AGENDA ITEMS

Members of the public wishing to address the Board on any item described in this Notice may do so when recognized by the Board President prior to Board consideration of each agenda item. Public Comment on this agenda will be limited to three (3) minutes per person.

3. CONSENT AGENDA (Estimated time: 15 Minutes)

All matters on the consent calendar are to be approved by one motion. If Directors wish to discuss a consent item other than simple clarifying questions, a request for removal may be made. Such items are pulled for separate discussion and action after the consent calendar as a whole is acted upon.

A. Consider Adoption of Resolution 33-2015 to Revise Reporting the Payment of Member Contributions to the California Public Employee's Retirement System for IAFF Local 4635 Members

4. HEARINGS AND APPEALS (Estimated time: 15 Minutes per item)

A. Public Hearing Regarding Adoption of Resolution 34-2015, A Resolution of Intention to Draft a Groundwater Management Plan

5. REGULAR BUSINESS (Estimated time: 15 Minutes per item)

A. Discussion and Consideration of Procedure to Fill the Vacancy on the CCSD Board of Directors Created by the Resignation of Muril Clift

6. ADJOURN

CAMBRIA COMMUNITY SERVICES DISTRICT

TO: Board of Directors AGENDA NO. **4. A.**

FROM: Jerry Gruber, General Manager

Meeting Date: October 15, 2015 Subject: PUBLIC HEARING REGARDING ADOPTION OF RESOLUTION 34-2015, A RESOLUTION OF INTENTION TO DRAFT A GROUNDWATER MANAGEMENT PLAN

RECOMMENDATIONS:

Staff recommends that the Board of Directors hold a public hearing in accordance with the requirements of Water Code Section 10753.2 regarding adoption of a Resolution of Intention to Draft a Groundwater Management Plan.

Staff recommends that the Board of Directors:

1. Open the Public Hearing;
2. Receive public testimony;
3. Close the Public Hearing;
4. Consider Resolution 34-2015, a Resolution of Intention to Draft a Groundwater Management Plan

FISCAL IMPACT:

There will be costs related to staff time needed to draft the Groundwater Management Plan. Once in place, it will satisfy a requirement of the Proposition 84 Integrated Regional Water Management (IRWM) Grant, so that funding can be processed to the District.

DISCUSSION:

At its meeting on September 24, 2015, the Board of Directors considered the issue of initiating the process for preparation and adoption of a Groundwater Management Plan ("GMP"). The CCSD has been awarded a Proposition 84 IRWM Grant ("Grant") for the Emergency Water Supply Project and one of the Grant conditions is the adoption of a GMP that complies with the requirements of Water Code Section 10753.7.

Adoption of the GMP must comply with the statutory procedures and requirements of Water Code Sections 10753 through 10753.10. The first step is to hold a noticed public hearing in accordance with Water Code Section 10753.2(a), after which the Board can consider adopting a Resolution of Intention to Draft a Groundwater Management Plan (the "Resolution"). The item before the Board is the public hearing to consider adoption of Resolution 34-2015, a Resolution of Intention to Draft a Groundwater Management Plan. Water Code Section 10753.4(b) also requires that the District prepare a written statement describing the manner in which interested parties may participate in developing the Groundwater Management Plan, which has been included as an exhibit to the Resolution and sets forth the process described below.

After adoption of the Resolution, a copy will be published and provided to the Department of Water Resources ("DWR") in accordance with Water Code Section 10753.2(c), which will then post it on its website, pursuant to Water Code Section 10753.2(d). The District is also required to prepare a written statement describing the manner in which interested parties may participate in developing the GMP available to the public and DWR. A draft statement is attached.

As noted in the September 24, 2015 staff report, staff believes that a balance must be struck between swiftly preparing and adopting a GMP and facilitating the community's involvement in same, so that the Grant conditions can be satisfied as quickly as possible while maximizing public participation in the process. Accordingly, public review and comment will be facilitated through a process similar to how environmental documents are reviewed. An initial workshop during which the public will be introduced to a draft GMP will be held on October 21, 2015 at 2:00 p.m. A public review and comment period will follow, where written comments can be provided to the District. A second workshop on the GMP will be held on October 29, 2015 at 2:00 p.m. to receive additional verbal comments and to discuss any written comments received. Board attendance at these workshops, which will be led by District Engineer Bob Gresens, will be limited to the Water Permitting Ad Hoc Committee. In addition, during this process, the draft GMP, as well as any subsequent revisions to the draft, will be posted on the CCSD website. Public input will be accepted and considered throughout the process. A Special Meeting is scheduled on November 12, at 12:30 p.m. in anticipation of the Board's consideration to introduce an Ordinance to Adopt the Groundwater Management Plan.

As previously noted, the GMP will be adopted under Water Code Sections 10753 et seq., which since January 1, 2015 is only available for low or very low priority groundwater basins. Both the San Simeon and Santa Rosa basins are classified as very low priority basins. This is not a Groundwater Sustainability Plan, which is a process under a different statutory scheme (reference Water Code Sections 10720 et seq.) for high or medium priority groundwater basins.

Attachments: Resolution 34-2015
Exhibit A to Resolution 34-2015

BOARD ACTION: Date ____________ Approved: ______ Denied: ________

UNANIMOUS: ___ ROBINETTE ___THOMPSON ____ BAHRINGER ___ RICE

Supervisors may fill the vacancy within ninety (90) days of the vacancy or the Board of Supervisors may order the District to call an election to fill the vacancy.

After consulting with President Robinette, who expressed a desire to facilitate the appointment process as much as possible, staff took the liberty of identifying dates that the Board of Directors could hold a Special Meeting to consider appointment. Staff also posted a Notice of Vacancy on October 2, 2015 in order to satisfy the statutory requirement. It has been determined that a quorum of Board Members is available to meet on October 19, 2015, at 12:30 p.m. to consider making an appointment to fill the vacancy. Pursuant to her authority under the Brown Act, President Robinette has indicated that she will call a Special Meeting on that date. Also, the Notice of Vacancy provided that applications were available for those interested in applying for the vacancy, and would be accepted until October 15, 2015 at 4:00 p.m. The application packet being used is consistent with the packets used for prior Board vacancies.

State law does not require any specific procedure when a community services district board seeks to fill a vacancy by appointment. Accordingly, it is appropriate for the Board of Directors to discuss and consider the procedure by which the vacancy created by the resignation of former Vice President Muril Clift will be filled.

BOARD ACTION: Date ______________ Approved: ________ Denied: __________

UNANIMOUS: ___ ROBINETTE ___ BAHRINGER ____THOMPSON ___ RICE

Exhibit A to Resolution 34-2015 (corrected)

HOW TO PARTICPATE IN DEVELOPING THE CAMBRIA COMMUNITY SERVICES DISTRICT'S PROPOSED GROUNDWATER MANAGEMENT PLAN

In accordance with the requirements of Water Code Section 10753.4, the following written statement describes the manner in which interested parties may participate in developing the Groundwater Management Plan.

The draft Groundwater Management Plan (GMP), as well as any subsequent revisions to the draft, will be posted on the CCSD's website (www.cambriacsd.org) and copies will be available in the office of the District Clerk.

An initial workshop will be held on October 21, 2015 at 2:00 p.m. at the Veterans Memorial Building located at 1000 Main Street, Cambria, CA, where the public will be introduced to a draft of the GMP. The public workshop will be followed by a public review and comment period, where written review comments can be provided to the District.

A second workshop on the GMP will be held on October 29, 2015 at 2:00 p.m. at the Veterans Memorial Building located at 1000 Main Street, Cambria, CA, to receive additional verbal comments and to discuss any written comments that have been submitted. Public input will be accepted and considered throughout the process.

In accordance with Water Code Section 10753.4(c), the CCSD will establish and maintain a list of persons interested in receiving notices regarding GMP preparation, meeting announcements, and availability of draft plans, maps, and other relevant documents. Any person may request, in writing, to be placed on the list of interested persons. Such written requests should be submitted to the CCSD District Clerk, PO Box 65, Cambria, CA 93428, mmadrid@cambriacsd.org.

Following the public workshops, it is anticipated that a Special Meeting will be held on November 12, 2015 at 12:30 p.m. for the Board to consider adoption of an ordinance to adopt the Groundwater Management Plan.

Questions regarding the GMP can be directed to the District Engineer, Bob Gresens, PO Box 65, Cambria, CA 93428, (805) 927-6223, bgresens@cambriacsd.org.

CAMBRIA COMMUNITY SERVICES DISTRICT NOTICE OF PUBLIC HEARING TO CONSIDER ADOPTING RESOLUTION OF INTENTION TO DRAFT A GROUNDWATER MANAGEMENT PLAN

NOTICE IS HEREBY GIVEN that the Cambria Community Services District (CCSD) Board of Directors will hold a Public Hearing on October 15, 2015 at approximately 4:00 p.m. in the Cambria Veteran's Hall at 1000 Main Street, Cambria, CA, for the following purpose:

To consider adoption of a Resolution of Intention to Draft a Groundwater Management Plan for the Cambria Community Services District (CCSD) service area pursuant to California Water Code Section 10753 *et seq*.

The CCSD recognizes the importance of maintaining a sustainable, reliable, high-quality groundwater supply for the long-term benefit of its customers. Adoption of a Groundwater Management Plan could further this goal. The CCSD Board of Directors will hold a Public Hearing as indicated above to provide interested members of the public with an opportunity to express their opinions and hear the Board's deliberations on whether or not to adopt a Resolution of Intention to Draft a Groundwater Management Plan. The Board will consider adopting, and may adopt, a Resolution of Intention to Draft a Groundwater Management Plan immediately following the Public Hearing. All interested persons may attend the Public Meeting and be heard.

Additional information and a copy of the proposed Resolution of Intention to Draft a Groundwater Management Plan may be obtained by contacting the CCSD Offices at (805) 927-6223, or by visiting the CCSD web site at CambriaCSD.org.

Dated: September 24, 2015

By Monique Madrid, CCSD District Clerk

THE TRIBUNE Newspaper of the Central Coast
3825 South Higuera • Post Office Box 112 • San Luis Obispo, California 93406-0112 • (805) 781-7800

In The Superior Court of The State of California
In and for the County of San Luis Obispo
AFFIDAVIT OF PUBLICATION

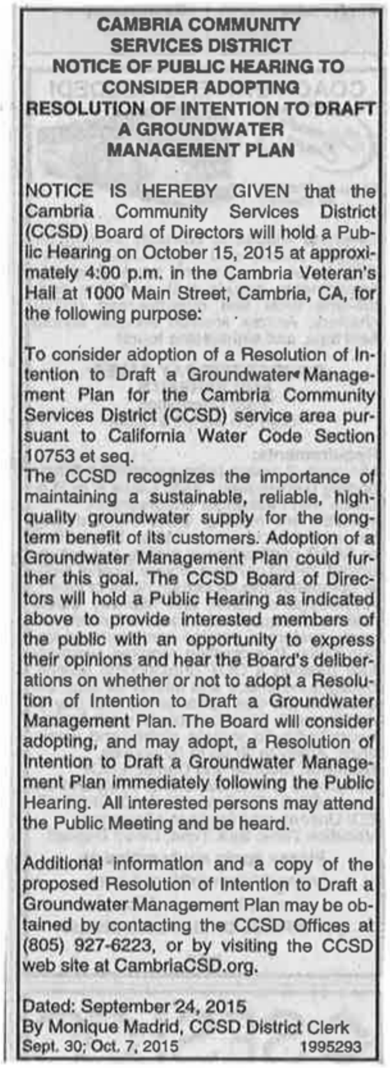
AD # 1995293
CARMEL & NACCASHA, LLP

STATE OF CALIFORNIA
ss.
County of San Luis Obispo

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen and not interested in the above entitled matter; I am now, and at all times embraced in the publication herein mentioned was, the principal clerk of the printers and publishers of THE TRIBUNE, a newspaper of general Circulation, printed and published daily at the City of San Luis Obispo in the above named county and state; that notice at which the annexed clippings is a true copy, was published in the above-named newspaper and not in any supplement thereof – on the following dates to wit; SEPTEMBER 30; OCTOBER 7, 2015 that said newspaper was duly and regularly ascertained and established a newspaper of general circulation by Decree entered in the Superior Court of San Luis Obispo County, State of California, on June 9, 1952, Case #19139 under the Government Code of the State of California.

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Jane E. Durand
(Signature of Principal Clerk)
DATED: OCTOBER 7, 2015
AD COST: $280.24



CAMBRIA COMMUNITY SERVICES DISTRICT NOTICE OF PUBLIC HEARING TO CONSIDER ADOPTING RESOLUTION OF INTENTION TO DRAFT A GROUNDWATER MANAGEMENT PLAN

NOTICE IS HEREBY GIVEN that the Cambria Community Services District (CCSD) Board of Directors will hold a Public Hearing on October 15, 2015 at approximately 4:00 p.m. in the Cambria Veteran's Hall at 1000 Main Street, Cambria, CA, for the following purpose:

To consider adoption of a Resolution of Intention to Draft a Groundwater Management Plan for the Cambria Community Services District (CCSD) service area pursuant to California Water Code Section 10753 et seq.
The CCSD recognizes the importance of maintaining a sustainable, reliable, high-quality groundwater supply for the long-term benefit of its customers. Adoption of a Groundwater Management Plan could further this goal. The CCSD Board of Directors will hold a Public Hearing as indicated above to provide interested members of the public with an opportunity to express their opinions and hear the Board's deliberations on whether or not to adopt a Resolution of Intention to Draft a Groundwater Management Plan. The Board will consider adopting, and may adopt, a Resolution of Intention to Draft a Groundwater Management Plan immediately following the Public Hearing. All interested persons may attend the Public Meeting and be heard.

Additional information and a copy of the proposed Resolution of Intention to Draft a Groundwater Management Plan may be obtained by contacting the CCSD Offices at (805) 927-6223, or by visiting the CCSD web site at CambriaCSD.org.

Dated: September 24, 2015
By Monique Madrid, CCSD District Clerk
Sept. 30; Oct. 7, 2015 1995293

THE TRIBUNE *Newspaper of the Central Coast*

3825 South Higuera • Post Office Box 112 • San Luis Obispo, California 93406-0112 • (805) 781-7800

In The Superior Court of The State of California
In and for the County of San Luis Obispo
AFFIDAVIT OF PUBLICATION

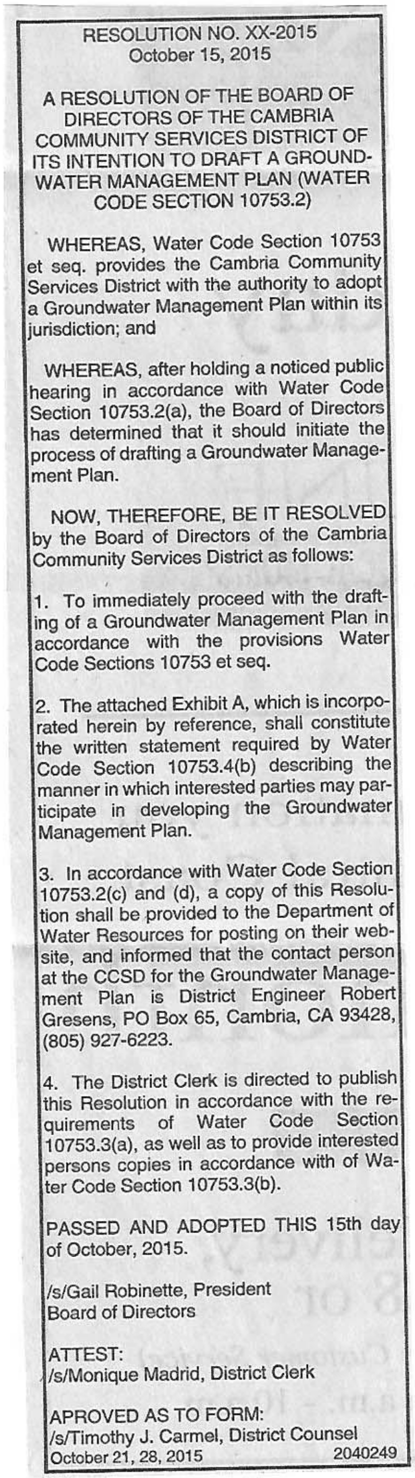
AD # 2040249
CARMEL & NACCASHA LLP

STATE OF CALIFORNIA
ss.
County of San Luis Obispo

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen and not interested in the above entitled matter; I am now, and at all times embraced in the publication herein mentioned was, the principal clerk of the printers and publishers of THE TRIBUNE, a newspaper of general Circulation, printed and published daily at the City of San Luis Obispo in the above named county and state; that notice at which the annexed clippings is a true copy, was published in the above-named newspaper and not in any supplement thereof – on the following dates to wit; OCTOBER 21, 28, 2015 that said newspaper was duly and regularly ascertained and established a newspaper of general circulation by Decree entered in the Superior Court of San Luis Obispo County, State of California, on June 9, 1952, Case #19139 under the Government Code of the State of California.

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Jane E. Durand
(Signature of Principal Clerk)
DATED: OCTOBER 28, 2015
AD COST: $379.68



RESOLUTION NO. XX-2015
October 15, 2015

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE CAMBRIA COMMUNITY SERVICES DISTRICT OF ITS INTENTION TO DRAFT A GROUNDWATER MANAGEMENT PLAN (WATER CODE SECTION 10753.2)

WHEREAS, Water Code Section 10753 et seq. provides the Cambria Community Services District with the authority to adopt a Groundwater Management Plan within its jurisdiction; and

WHEREAS, after holding a noticed public hearing in accordance with Water Code Section 10753.2(a), the Board of Directors has determined that it should initiate the process of drafting a Groundwater Management Plan.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Cambria Community Services District as follows:

1. To immediately proceed with the drafting of a Groundwater Management Plan in accordance with the provisions Water Code Sections 10753 et seq.

2. The attached Exhibit A, which is incorporated herein by reference, shall constitute the written statement required by Water Code Section 10753.4(b) describing the manner in which interested parties may participate in developing the Groundwater Management Plan.

3. In accordance with Water Code Section 10753.2(c) and (d), a copy of this Resolution shall be provided to the Department of Water Resources for posting on their website, and informed that the contact person at the CCSD for the Groundwater Management Plan is District Engineer Robert Gresens, PO Box 65, Cambria, CA 93428, (805) 927-6223.

4. The District Clerk is directed to publish this Resolution in accordance with the requirements of Water Code Section 10753.3(a), as well as to provide interested persons copies in accordance with of Water Code Section 10753.3(b).

PASSED AND ADOPTED THIS 15th day of October, 2015.

/s/Gail Robinette, President
Board of Directors

ATTEST:
/s/Monique Madrid, District Clerk

APROVED AS TO FORM:
/s/Timothy J. Carmel, District Counsel
October 21, 28, 2015 2040249

THE *Newspaper of the Central Coast*
TRIBUNE

3825 South Higuera • Post Office Box 112 • San Luis Obispo, California 93406-0112 • (805) 781-7800

In The Superior Court of The State of California
In and for the County of San Luis Obispo
AFFIDAVIT OF PUBLICATION

AD # 2059178
CARMEL & NACCASHA

STATE OF CALIFORNIA
ss.
County of San Luis Obispo

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen and not interested in the above entitled matter; I am now, and at all times embraced in the publication herein mentioned was, the principal clerk of the printers and publishers of THE TRIBUNE, a newspaper of general Circulation, printed and published daily at the City of San Luis Obispo in the above named county and state; that notice at which the annexed clippings is a true copy, was published in the above-named newspaper and not in any supplement thereof – on the following dates to wit; OCTOBER 29; NOVEMBER 5, 2015 that said newspaper was duly and regularly ascertained and established a newspaper of general circulation by Decree entered in the Superior Court of San Luis Obispo County, State of California, on June 9, 1952, Case #19139 under the Government Code of the State of California.

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Jane E. Durand

(Signature of Principal Clerk)
DATED: NOVEMBER 5, 2015
AD COST: $402.28

NOTICE OF PUBLIC HEARING TO CONSIDER INTRODUCTION OF AN ORDINANCE ADOPTING THE CAMBRIA COMMUNITY SERVICES DISTRICT GROUNDWATER MANAGEMENT PLAN

NOTICE IS HEREBY GIVEN that the Cambria Community Services District ("CCSD") Board of Directors ("Board") will hold a Public Hearing on November 12, 2015 at approximately 12:30 p.m. in the Cambria Veterans Hall at 1000 Main Street, Cambria, CA, for the following purpose:

To consider introduction of an ordinance adopting the Cambria Community Services District Groundwater Management Plan, pursuant to California Water Code Sections 10753 et seq.

The draft CCSD Groundwater Management Plan summarizes Santa Rosa Basin and San Simeon Groundwater Basin conditions, identifies groundwater issues, defines basin management objectives, long term water supply planning, conservation efforts, regional planning, interagency coordination and collaboration, groundwater recharge, mapping and quality issues. The plan covers both the Santa Rosa and San Simeon Groundwater Basins.

The CCSD recognizes the importance of maintaining a sustainable, reliable, high-quality groundwater supply for the long-term benefit of its customers. Adoption of a Groundwater Management Plan will further this goal. The Board will hold the Public Hearing as indicated above to provide interested members of the public with an opportunity to express their opinions and hear the Board's deliberations on whether or not to adopt the draft Groundwater Management Plan. Landowners within the jurisdiction of the CCSD may file written protests to the adoption of the Groundwater Management Plan. Written protests must include a description of the land owned sufficient to identify the land (ex: APN or street address) and the landowner's signature. Written protests must be received by the Clerk of the Board prior to the close of the Public Hearing. The Board will consider written protests prior to the adoption of the draft Groundwater Management Plan. The Board will consider introducing an ordinance adopting the draft CCSD Groundwater Management Plan immediately following the Public Hearing. All interested persons may attend the Public Hearing and be heard.

Additional information and a copy of the proposed Groundwater Management Plan may be obtained by contacting the CCSD Offices at (805) 927-6223, or by visiting the CCSD web site at CambriaCSD.org.

Dated: October 26, 2015
By Monique Madrid, CCSD District Clerk
Oct. 29; Nov. 5, 2015 2059178

CAMBRIA COMMUNITY SERVICES DISTRICT

Groundwater Management Plan – Workshop 1

Wednesday, October 21, 2015 – 2:00 PM

VETERANS MEMORIAL BUILDING, 1000 MAIN ST., CAMBRIA, CA

AGENDA

Please note that this workshop agenda is not for a CCSD Board meeting. The meeting will end by 4:00 p.m. due to commitments for the facility.

1. **OPENING**
   - **A**. Introductions
   - **B.** Purpose of today's workshop
   - **C.** Review of today's agenda

2. **INTRODUCTION TO DRAFT CAMBRIA CSD GROUNDWATER MANAGEMENT PLAN – DISTRICT ENGINEER BOB GRESENS**

3. **REVIEW OF SECOND PLANNED GROUNDWATER MANAGEMENT WORKSHOP AND OTHER MEETINGS**

4. **HOW TO PARTICIPATE IN THE CONTINUED DEVELOPMENT OF THE PROPOSED GROUNDWATER MANAGEMENT PLAN**

5. **PUBLIC COMMENTS AND QUESTIONS**
   Each speaker has up to three minutes. Speaker slips (available at the entry) should be submitted to the District Clerk.

6. **ADJOURN**

CAMBRIA COMMUNITY SERVICES DISTRICT

Groundwater Management Plan – Workshop 2

Wednesday, October 29, 2015 – 2:00 PM

VETERANS MEMORIAL BUILDING, 1000 MAIN ST., CAMBRIA, CA

AGENDA

Please note that this workshop agenda is not for a CCSD Board meeting. The meeting will end by 4:00 p.m. due to commitments for the facility.

1. **OPENING**
   - **A.** Introductions
   - **B.** Purpose of today's workshop
   - **C.** Review of today's agenda

2. **BRIEF OVERVIEW OF GROUNDWATER MANAGEMENT PLAN**

3. **REVIEW OF UPDATES MADE TO DRAFT CAMBRIA CSD GROUNDWATER MANAGEMENT PLAN IN RESPONSE TO PUBLIC COMMENTS MADE DURING AND FOLLOWING WORKSHOP NO. 1**

4. **HOW TO PARTICIPATE IN THE CONTINUED DEVELOPMENT OF THE PROPOSED GROUNDWATER MANAGEMENT PLAN**

5. **PUBLIC COMMENTS AND QUESTIONS**

   Each speaker has up to three minutes. Speaker slips (available at the entry) should be submitted to the District Clerk.

6. **REMINDER ON SPECIAL CCSD BOARD MEETING OF NOVEMBER 12, 2015**

7. **ADJOURN**

Cambria Community Services District Contacts List

The following individuals and organizations were contacted during completion of the Groundwater Management Plan:

Zaffar Eusuff – California Department of Water Resources

Monica Reis - California Department of Water Resources

Bruce Gibson - San Luis Obispo County Supervisor, District 2

Ken Topping, - San Luis Obispo County Planning Commissioner, District 2

Matt Janssen – San Luis Obispo County Planning & Building

Wade Horton – San Luis Obispo County Public Works

Mladen Bandov – San Luis Obispo County Public Works

Airlin Singewald - San Luis Obispo County, Planning & Building

Callie Lewis – San Luis Obispo County

Ken Harris - California Water Board, Central Coast Region

Howard Kolb – California Water Board, Central Coast Region

Jeff Densmore - California Water Board, Division of Drinking Water

Dan Carl, California Coastal Commission

Daniel Robinson – California Coastal Commission

Tom Luster - California Coastal Commission

Brooke Gutierrez – California State Parks, Hearst – San Luis Obispo Coast District

Doug Barker – California State Parks, Hearst – San Luis Obispo Coast District

Jeffrey Single - California Department of Fish and Wildlife

Becky Ota – California Department of Fish and Wildlife

Dean Marston – California Department of Fish and Wildlife

Tim Duff – California State Coastal Conservancy

Devin Best - Upper Salinas - Las Tablas Resource Conservation District

James Worthley - San Luis Obispo Council of Governments

Carolyn Skinder – Monterey Bay National Marine Sanctuary

California Native American Heritage Commission
Fred Segobia - Salinan Tribe of San Luis Obispo. Monterey, and San Benito Counties

Connie Gannon– Greenspace, The Cambria Land Conservancy
Mary Webb – Greenspace, The Cambria Land Conservancy

EcoSLO – San Luis Obispo

Elizabeth Bettenhausen – Cambria Resident
Mahala Burton – Cambria Resident
Tina Dickason – Cambria Resident
Bill Allen – Cambria Resident
Clyde Warren - Cambria Area Rancher
Jon Pedotti – Cambria Area Rancher
George Kendall – Cambria Area Rancher
Mark Rochefort – Cambrians for Water (C4H2O)
Deryl Robinson - UnLoc
Cynthia Hawley - Landwatch
Bruce Fosdike – North Coast Advisory Commission

Cambria Community Services District Contacts List

Mel McColloch – Cambria Chamber of Commerce

Dixie Walker – Cambria Lions Club

Cambria Rotary Club

Joy Fitzhugh, San Luis Obispo County Farm Bureau

Michael Bell, The Nature Conservancy

Heidi Holmes – Cambria Community Healthcare District

Marcia Betrue, Coast Union School District

Tom Gray – Public Information Consultant to the Cambria CSD

Dean Florez – Balance Public Relations, Cambria CSD Consultant

Rita Garcia – Michael J. Baker International, Cambria CSD Consultant

Mike Smith – CDM Smith, Cambria CSD Consultant

Gregg Cummings – CDM Smith, Cambria CSD Consultant

Kathe Tanner – Cambrian Newspaper

KSBY TV

KCBX Radio

New Times, San Luis Obispo

KVEC Radio

CalCoast News

Bailey Hudson, Central Coast Urban Forest Council

Caitlin Malone, Brownstein Hyatt Farber Schreck

Jena Shof, Brownstein Hyatt Farber Schreck

Appendix B

Cambria CSD Ordinance 01-2015

November 19, 2015 Cambria CSD Staff Report

November 12, 2015 Cambria CSD Staff Report

Comment Letters

ORDINANCE NO. 01-2015

BOARD OF DIRECTORS
CAMBRIA COMMUNITY SERVICES DISTRICT
DATED: NOVEMBER 19, 2015

AN ORDINANCE ADOPTING THE CAMBRIA COMMUNITY SERVICES DISTRICT GROUNDWATER MANAGEMENT PLAN

WHEREAS, Water Code Section 10750 et seq. provides the Cambria Community Services District with the authority to adopt a Groundwater Management Plan within its jurisdiction; and

WHEREAS, after holding a noticed public hearing in accordance with Water Code Section 10753.2(a), the Board of Directors adopted Resolution 34-2015 regarding its intention to draft a Groundwater Management Plan in accordance with the requirements of Water Code Sections 10753 through 10753.10; and

WHEREAS, subsequent to the adoption of Resolution 34-2015, workshops were held in order to provide interested parties with an opportunity to participate in the development of the Groundwater Management Plan and opportunities were provided for the submittal of written and verbal comments and public input; and

WHEREAS, as required by Water Code Section 10753.5 and Government Code Section 6066, notice of a second public hearing relating to the Groundwater Management Plan was published and a second public hearing was conducted on November 12, 2015 by the Board of Directors of the Cambria Community Services District in order to receive and consider any protests on whether or not to adopt the Groundwater Management Plan. Pursuant to Water Code Section 10753.6(c)(3), the Board of Directors has determined that a majority protest has not been filed and therefore, the Board wishes to take action to adopt the Groundwater Management Plan.

NOW THEREFORE, BE IT ORDAINED by the Board of Directors of the Cambria Community Services District (CCSD) as follows:

Section 1. The foregoing Recitals are true and correct and are incorporated herein.

Section 2. Pursuant to Water Code Sections 10753 and 10753.6, the Cambria Community Services District Groundwater Management Plan, attached hereto as Exhibit A and incorporated herein by reference, is hereby adopted.

Section 3. The adoption of the Cambria Community Services District Groundwater Management Plan is hereby determined to be both statutorily and categorically exempt from the California Environmental Quality Act (CEQA) under CEQA Guidelines Sections 15262, 15306, 15307, and 15308. The General Manager is hereby authorized and directed to file a Notice of Exemption in accordance with the provisions of CEQA.

Section 4. If any section, subsection, subdivision, paragraph, sentence, or clause of this Ordinance or any part thereof is for any reason held to be unlawful, such decision shall not affect the validity of the remaining portion of this Ordinance or any part thereof. The Board of Directors hereby declares that it would have passed each section, subsection, subdivision, paragraph, sentence, or clause thereof, irrespective of the fact that any one or more section, subsection, subdivision, paragraph, sentence, or clause be declared unconstitutional.

Section 5. This Ordinance shall take effect thirty (30) days after its adoption.

The foregoing Ordinance was adopted at a regular meeting of the Board of Directors of the Cambria Community Services District held on the 19th day of November, 2015.

AYES: 5
NOES: 0
ABSENT: 0

Gail Robinette
Gail Robinette
President, Board of Directors

APPROVED AS TO FORM:

Timothy J. Carmel
District Counsel

Monique Madrid
Monique Madrid
District Clerk

CAMBRIA COMMUNITY SERVICES DISTRICT

TO: Board of Directors

AGENDA NO. **9.B.**

FROM: Jerry Gruber, General Manager

Meeting Date: November 19, 2015

Subject: CONSIDERATION OF ADOPTION OF ORDINANCE 01-2015 AN ORDINANCE ADOPTING THE CAMBRIA COMMUNITY SERVICES DISTRICT GROUNDWATER MANAGEMENT PLAN AND DIRECTING THAT A NOTICE OF EXEMPTION BE FILED

RECOMMENDATIONS:

Staff recommends that the Board of Directors move to adopt Ordinance 01-2015 An Ordinance Adopting the Cambria Community Services District Groundwater Management Plan (the "Ordinance") by title only and waive further reading. The Ordinance also directs that a Notice of Exemption be filed pursuant to CEQA.

FISCAL IMPACT:

There were costs incurred related to staff time needed to draft the Groundwater Management Plan (GMP). Once in place, the GMP will satisfy a requirement of the Proposition 84 Integrated Regional Water Management (IRWM) Grant, so that funding can be processed to the District.

DISCUSSION:

The CCSD has been awarded a Proposition 84 IRWM Grant for the Emergency Water Supply Project and one of the Grant conditions is the adoption of a GMP that complies with the requirements of Water Code Section 10753.7. At its meeting on November 12, 2015 the Board of Directors held a public hearing in accordance with Water Code Section 10753.5 to consider any protests to the adoption of the GMP and to determine whether or not to introduce it. After the public hearing, the Board determined that a majority protest did not exist and introduced Ordinance 01-2015. The Ordinance is now being presented to the Board of Directors for adoption.

The GMP is statutorily exempt from the California Environmental Quality Act (CEQA) under California Code of Regulations, Title 14 (CEQA Guidelines), Section 15262 (feasibility and planning studies), and categorically exempt under the State CEQA Guidelines Section 15306 (information collection), Section 15307(actions by regulatory agencies for protection of natural resources), and Section 15308 (actions by regulatory agencies for protection of the environment). The Ordinance provides for a determination relating to these CEQA exemptions and directs that a Notice of Exemption be filed pursuant to CEQA.

Attachment:
Ordinance No. 01-2015 An Ordinance Adopting the Cambria Community Services District Groundwater Management Plan

---

BOARD ACTION: Date ____________ Approved: _______ Denied: _________

UNANIMOUS: ___ ROBINETTE ___ THOMPSON ___ BAHRINGER ____ RICE ___ SANDERS

CAMBRIA COMMUNITY SERVICES DISTRICT

I, Gail Robinette, President of the Cambria Community Services District Board of Directors, hereby call a Special Meeting of the Board of Directors pursuant to California Government Code Section 54956. The Special Meeting will be held:**Thursday, November 12, 2015, 12:30 PM**, **1000 Main Street Cambria, CA.** The purpose of the special meeting is to discuss or transact the following business:

AGENDA
SPECIAL MEETING OF THE CAMBRIA COMMUNITY SERVICES DISTRICT BOARD OF DIRECTORS

Thursday, November 12, 2015, 12:30 PM
1000 Main Street
Cambria, CA

1. OPENING

A. Call to Order

B. Pledge of Allegiance

C. Establishment of Quorum

2. ACKNOWLEDGEMENTS AND PRESENTATIONS

A. Presentation of Proclamation recognizing Vice-President Clift for his years of service to the CCSD and the Cambria Community

3. PUBLIC COMMENT ON AGENDA ITEMS

Members of the public wishing to address the Board on any item described in this Notice may do so when recognized by the Board President prior to Board consideration of each agenda item. Public Comment on this agenda will be limited to three (3) minutes per person.

4. HEARINGS AND APPEALS (Estimated time: 15 Minutes per item)

A. Public Hearing to Consider Introduction of Ordinance 01-2015 Adopting the Cambria Community Services District Groundwater Management Plan

5. REGULAR BUSINESS (Estimated time: 15 Minutes per item)

A. Receive and Discuss Water and Sewer Rate Study from Bartle Wells & Associates, and Consider and Approve the Notice of Proposed Increase in Water Rates

6. ADJOURN

CAMBRIA COMMUNITY SERVICES DISTRICT

TO: Board of Directors AGENDA NO. **4.A.**

FROM: Jerry Gruber, General Manager

Meeting Date: November 12, 2015 Subject: PUBLIC HEARING TO CONSIDER INTRODUCTION OF ORDINANCE 01-2015 ADOPTING THE CAMBRIA COMMUNITY SERVICES DISTRICT GROUNDWATER MANAGEMENT PLAN

RECOMMENDATIONS:

Staff recommends that the Board of Directors hold a public hearing in accordance with the requirements of Water Code Section 10753.5 to consider protests and determine whether to introduce an Ordinance Adopting the Cambria Community Services District Groundwater Management Plan (GMP).

Staff recommends that the Board of Directors:

1. Open the Public Hearing;
2. Receive public testimony and consider protests to the adoption of the GMP;
3. Close the Public Hearing;
4. Determine whether a majority protest exists (reference Water Code Section 10753.6); and
5. If the Board of Directors finds that a majority protest has not been filed, move to introduce Ordinance 01-2015 An Ordinance Adopting the Cambria Community Services District Groundwater Management Plan by title only and waive further reading.

FISCAL IMPACT:

There have been costs related to staff time needed to draft the GMP. Once in place, the GMP will satisfy a requirement of the Proposition 84 Integrated Regional Water Management (IRWM) Grant, so that funding can be processed to the District.

DISCUSSION:

The CCSD has been awarded a Proposition 84 IRWM Grant (“Grant”) for the Emergency Water Supply Project and one of the Grant conditions is the adoption of a GMP that complies with the requirements of Water Code Section 10753.7. At its meeting on October 15, 2015, the Board of Directors held a public hearing in accordance with the requirements of Water Code Section 10753.2 and adopted a Resolution of Intention to Draft a Groundwater Management Plan.

Subsequent to the adoption of the Resolution of Intention to Draft a Groundwater Management Plan, two public workshops on the proposed GMP were held, with public review and comment periods and instructions as to how written comments could be provided to the District. Public input has been accepted and considered throughout the process and will continue to be until such time as an Ordinance is introduced. The GMP was and will continue to be updated, as appropriate, in response to that public input. Staff will distribute the final revised draft GMP under separate cover prior to or at the November 12, 2015 special meeting. Any revision of the attached version will be clearly identified.

The Board of Directors is now being asked to hold a second public hearing in accordance with Water Code Section 10753.5 to consider any protests to the adoption of the plan and determine whether or not to adopt it. Water Code Section 10753.6 provides that written protests may be filed by landowners, and a majority protest exists if the Board of Directors finds that protests filed and not withdrawn prior to the conclusion of the second hearing represent more that 50 percent of the assessed value of the land within the District. If a majority protest exists, the GMP may not be adopted and the District cannot consider adopting a plan for a one year period. If a majority protest does not exist, the District may then proceed with the process of adopting the GMP. Since the District is authorized to act by ordinance, the GMP is to be adopted by an ordinance in accordance with Water Code Section 10753(a). Accordingly, Ordinance 01-2015 has been prepared for consideration by the Board of Directors if it is determined that a majority protest does not exist.

Attachments:
1. Ordinance 01-2015 An Ordinance Adopting the Cambria Community Services District Groundwater Management Plan
2. Draft Groundwater Management Plan (Exhibit “A” to Ordinance 01-2015)

BOARD ACTION: Date ____________ Approved: ______ Denied: ________

UNANIMOUS: ___ ROBINETTE ___ THOMPSON ___ BAHRINGER ____ RICE ___ SANDERS

ORDINANCE NO. 01-2015

BOARD OF DIRECTORS
CAMBRIA COMMUNITY SERVICES DISTRICT
DATED: , 2015

AN ORDINANCE ADOPTING THE CAMBRIA COMMUNITY SERVICES DISTRICT GROUNDWATER MANAGEMENT PLAN

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WHEREAS, subsequent to the adoption of Resolution 34-2015, workshops were held in order to provide interested parties with an opportunity to participate in the development of the Groundwater Management Plan and opportunities were provided for the submittal of written and verbal comments and public input; and

WHEREAS, as required by Water Code Section 10753.5 and Government Code Section 6066, notice of a second public hearing relating to the Groundwater Management Plan was published and a second public hearing was conducted on November 12, 2015 by the Board of Directors of the Cambria Community Services District in order to receive and consider any protests on whether or not to adopt the Groundwater Management Plan. Pursuant to Water Code Section 10753.6(c)(3), the Board of Directors has determined that a majority protest has not been filed and therefore, the Board wishes to take action to adopt the Groundwater Management Plan.

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Section 4. If any section, subsection, subdivision, paragraph, sentence, or clause of this Ordinance or any part thereof is for any reason held to be unlawful, such decision shall not affect the validity of the remaining portion of this Ordinance or any part thereof. The Board of Directors hereby declares that it would have passed each section, subsection, subdivision, paragraph, sentence, or clause thereof, irrespective of the fact that any one or more section, subsection, subdivision, paragraph, sentence, or clause be declared unconstitutional.

Section 5. This Ordinance shall take effect thirty (30) days after its adoption.

The foregoing Ordinance was adopted at a regular meeting of the Board of Directors of the Cambria Community Services District held on the day of 2015.

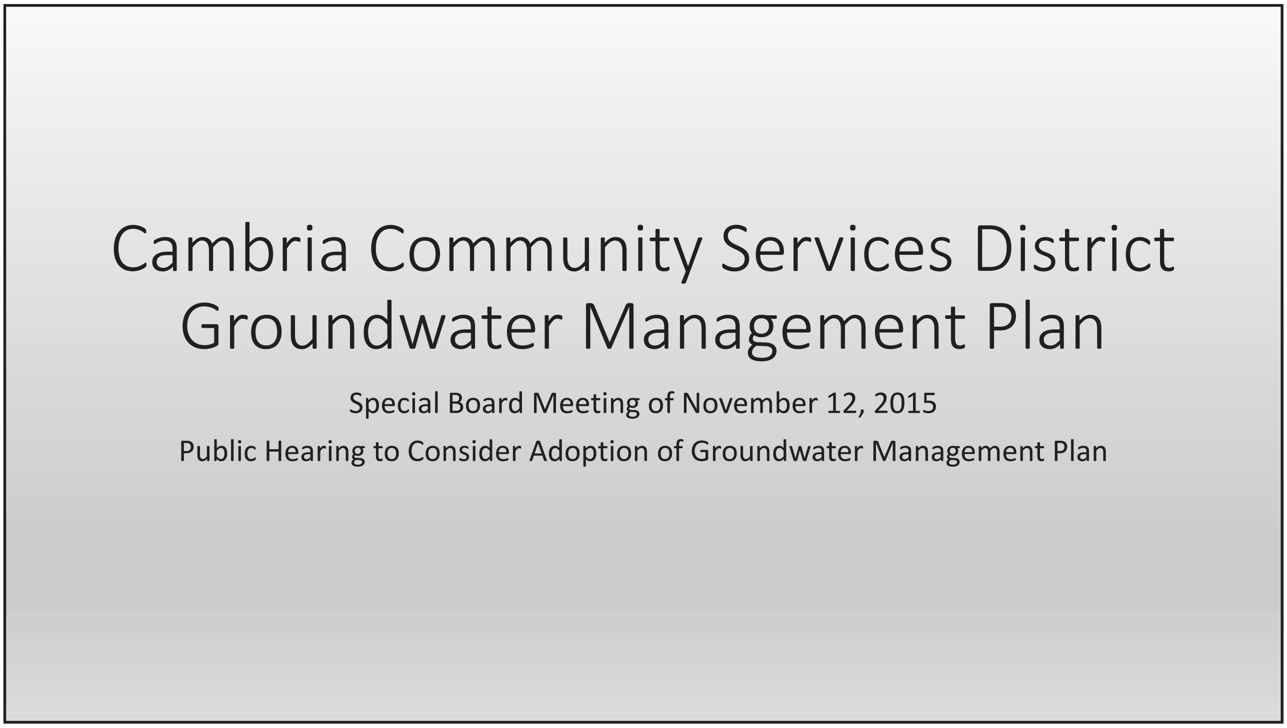
AYES:
NOES:
ABSENT:

Gail Robinette
President, Board of Directors

APPROVED AS TO FORM:

Monique Madrid
District Clerk

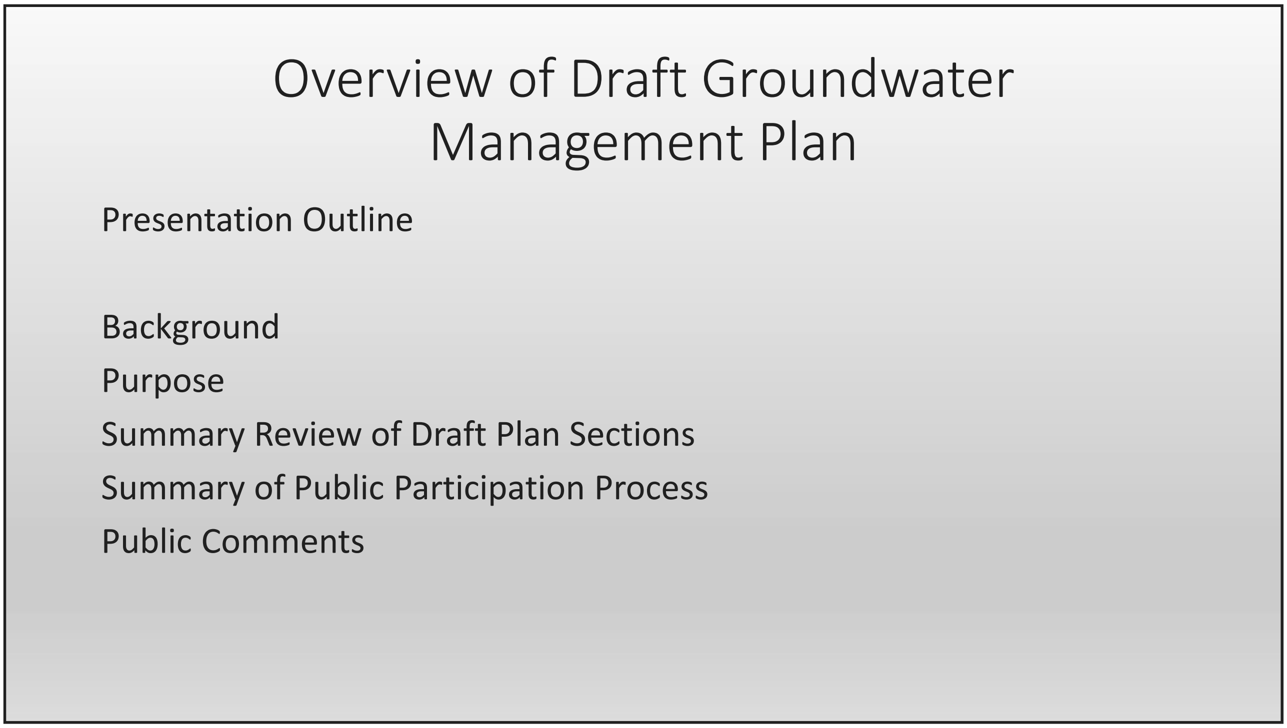
Timothy J. Carmel
District Counsel



Cambria Community Services District Groundwater Management Plan

Special Board Meeting of November 12, 2015

Public Hearing to Consider Adoption of Groundwater Management Plan



Overview of Draft Groundwater Management Plan

Presentation Outline

Background
Purpose
Summary Review of Draft Plan Sections
Summary of Public Participation Process
Public Comments

General Groundwater Management Plan Background Information

- Groundwater Management Act (AB 3030) added to the Water Code in 1992
- CCSD had completed a 1980 basin management plan in response to permit conditions
- Groundwater Management Plan requirements are described in California Water Code Sections (Sections 10753 through 10753.10)
- Proposition 84 grant funding requirement
- Proposed plan will include the required components of a Groundwater Management Plan
- Proposed plan is not to be confused with the 2014 Sustainable Groundwater Management Planning Act requirements.

Plan Purpose

- Work with basin stakeholders to maintain a sustainable, reliable, high-quality groundwater supply.
- San Simeon Creek basin (3-35)
- Santa Rosa Creek basin (3-36)

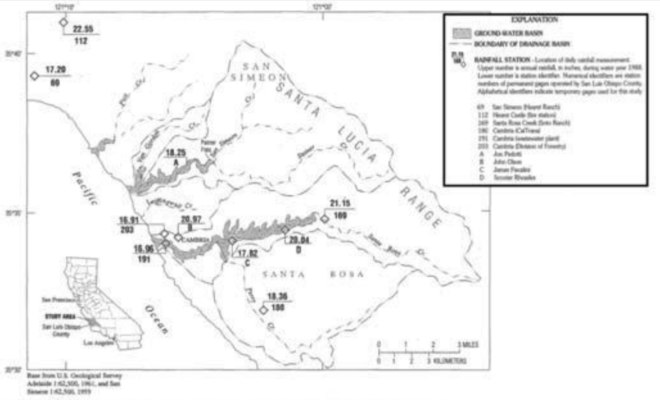


Figure 1. Locations of creeks, drainage-area boundaries, ground-water basins, and rainfall stations in the Cambria area, San Luis Obispo County, California—Continued.

From USGS Report 98-4061, "Hydrogeology, Water Quality, Water Budgets, and Simulated Responses to Hydrologic Changes in Santa Rosa and San Simeon Creek Ground-Water Basin, Yates & Van Konyenberg

Figure 1-1 – San Simeon Creek and Santa Rosa Creek Groundwater Basins

Draft Groundwater Management Plan Contents

1. Purpose & Background
2. Basin Management Objectives
3. Inter-Agency Coordination and Collaboration Plan
4. Groundwater Recharge and Mapping
5. Groundwater and Surface Water Monitoring
6. Wellhead Protection, Well Abandonment, & Well Construction Policies
7. Recommendations
8. References

   Appendices

Basin Management Objectives

1. Monitor & Manage Water and Wastewater Facilities to Ensure Protection of the Area’s Fishery and Riparian Habitat
2. Operate, Plan, and Provide CCSD Water and Wastewater Facilities in a Manner to Prevent Seawater Intrusion and to Avoid Inelastic Ground Subsidence
3. Work Cooperatively with District Customers, the Agricultural Community, and Regulatory & Resource Agencies to Protect and Maintain Groundwater and Surface Water Quality
4. Continue to Monitor & Collect Baseline Groundwater Elevation and Quality Data for use by Resource and Regulatory Agencies in Assessing Progress, Developing Action Plans, and in Developing Future Groundwater Management Plan Updates

Inter-Agency Coordination and Collaboration Plan

- Inter-Agency Coordination
  - Outreach via noticing
  - Review & response to plan comments
- Inter-Agency Collaboration Plan
  - Financing to allow for future plan updating
  - Formation of a multi-agency steering committee
  - Review regulatory updates and trends that warrant planning updates
  - Action Plan for Update
  - Execute future updates

Groundwater Recharge & Mapping Update

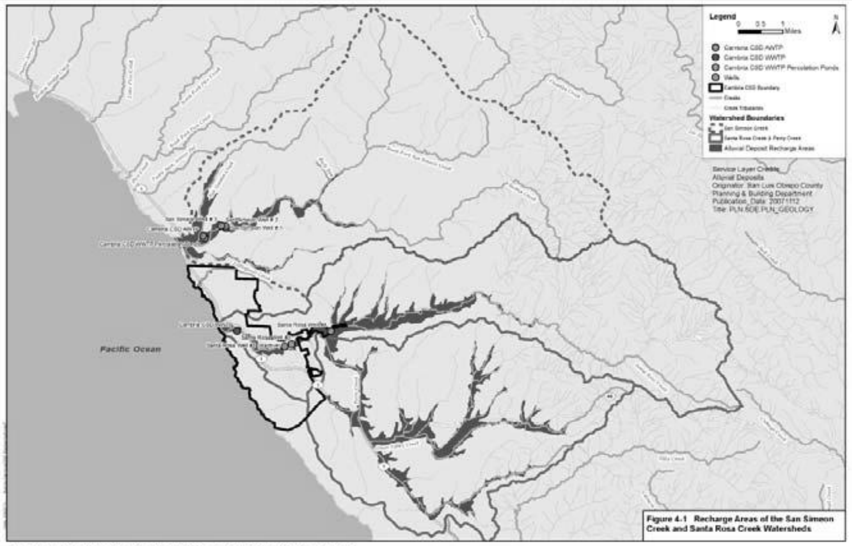


Figure 4-1 – San Simeon Creek and Santa Rosa Creek Watershed Recharge Areas

Groundwater & Surface Water Monitoring

- Groundwater Elevation Monitoring
  - Participation in statewide effort (CASGEM)
  - Permitted/regulatory requirements
  - Operational need
- Groundwater Quality Monitoring
  - Permitted/regulatory requirements
  - Salt & nutrient management planning requirement for recycled water
  - Operational need
- Land Subsidence Monitoring
- Groundwater – Surface Water Interaction Monitoring
  - Permitted/regulatory requirements
  - Adaptive Management Plan – includes biological monitoring of habitat

Wellhead Protection, Well Abandonment, & Well Construction

- Administered by SLO County Environmental Health Department
- Standards include California Department of Water Resources Bulletins 74-81 and 74-90
- Very important for water quality protection due to:
  - Potential for contaminants to enter well bore casing
  - Contamination could travel between/move down well casing and borehole wall.
  - Contamination could move between underground formations
  - Potential for bore to be used for illegal waste disposal
- CCSD also required to complete Watershed Sanitary Survey Updates

Recommendations

- Regularly review & gauge progress in meeting Basin Management Objectives
- 5-year review cycle suggested following UWMP Updating and Watershed Sanitary Surveys
- Could consider the Sustainable Groundwater Management Act requirements in future updates if Basin Management Objectives are not being met, or other concerns arise
- Foster collaboration with basin stakeholders.
- Allow more time for future plan updates to incorporate steering committee approach.
- Continue to pursue completion of regular Coastal Development Permit of Emergency Water Supply Project (I.e., Water Restoration Project)
- Financial planning and budgeting to allow funding of future plan updates and projects that support meeting Basin Management Objectives

Recommendations - continued

- Emergency water supply project’s EIR and regular Coastal Development Permit
- Technical analyses of the Army Corps’-administered long-term water supply project’s EIS
- Completion of a long-term water supply alternative
- Improvements to the CCSD wastewater treatment plant.
- Regular biological monitoring of the riparian habitat
- Continued data collection and laboratory water quality analyses.
- Additional remote sensing of the creeks and monitoring wells.
- 5-year updating to the Groundwater Management Plan.
- Additional monitoring wells that may be identified as a future monitoring need.
- Continuance of the CCSD water conservation program and related conservation demand offset program efforts.
- Continuation of efforts to extend SWRCB diversion permits 20387 and 17287

Summary of Public Participation

- September 24, 2015 Board Meeting to consider completing a Groundwater Management Plan
- October 15, 2015 Workshop 1
- October 29, 2015, Workshop 2
- Updated report in response to review comments
- Posted report updates on cambriacsd.org web site.
- Revision log provided
- Published announcements per water code criteria are in Appendix A
- Comment letters with responses to comments provided in Appendix B

Today's Meeting is to Consider Adopting the Groundwater Management Plan by Ordinance 01-2015

Cambria Community Services District

Groundwater Management Plan

Revisions Log

No.	Date	Revision Summary	Report pages
1	10/20/2015	Revised report date to 10/20/2015	cover
2	10/20/2015	Changed second public hearing meeting date shown in part 3.1 from 11/19/2015 to 11/12/2015.	15
3	10/28/2015	Revised listing of agencies and organizations shown under Step 2	16
4	10/28/2015	Added second sentence in first paragraph of subsection 5.4, which references Irrigated Agricultural Order R3-2012-011.	25
5	10/28/2015	Added recommendation 5, and renumbered subsequent recommendations.	30
6	10/28/2015	Revised the order of monitoring wells listed on Table 5-1 to begin at the furthest up-gradient wells and end at the lowest down-gradient well.	21
7	11/05/2015	Revised report date to 11/05/2015	cover
8	11/05/2015	Added sentence on basins being within SLO County	1
9	11/05/2015	Replaced the word “increasing” with “maximizing”	4
10	11/05/2015	Corrected typo on the word “expend” by replacing with “expand”	8
11	11/05/2015	Describe addition of Adaptive Management Plan as Appendix E	12

12	11/05/2015	Added the word “Storage” to part 5. 3 header.	23
13	11/05/2015	Added last two sentences to part 5.5	25
14	11/05/2015	Providing comment letters for Appendix B	
15	11/05/2015	Providing Adaptive Management Plan as newly added Appendix E	
16	11/08/2015	Part 1.7; changed “to the most” to “to be the most”	8
17	11/08/2015	Part 1.7; changed “(remove nitrates) to “(to remove nitrates)”	9
18	11/08/2015	Part 1.9, changed “resulting” to “resulted”	10
19	11/08/2015	Part 2.3, changed Integrated Water” to “Integrated Regional Water”	13
20	11/08/2015	Part 5.2, Changed “design convert” to “designed to convert”	23
21	11/08/2015	Part 5.5, changed “1 feet” to 1 foot”	25
22	11/08/2015	Added materials to Appendices A, B, C, & D.	
23	11/09/2015	Revised titles used for Appendices A & B to indicate resolution number and ordinance number	TOC iii
24	11/09/2015	Part 3.1, Revised second paragraph to better match discussion in 11/12/2015 staff report.	15
25	11/09/2015	Revised date on front cover to 11/09/2015. Updated list of CCSD Board of Directors	cover
26	11/12/2015	Revised cover sheet date to 11/12/2015	cover

27	11/12/2015	Approval sheet, which follows the cover sheet to indicate Ordinance (as opposed to earlier resolution reference)	After cover page
28	11/12/2015	Added footnotes 1 and 2 to Table 1-1 (this also revised the report’s page break and subsequent page numbers)	5
29	11/12/2015	Added recommendation 3.k to the list of recommendations in Section 7	Page 30

CAMBRIA COMMUNITY SERVICES DISTRICT

DIRECTORS:
GAIL ROBINETTE, President
MICHAEL THOMPSON, Vice President
JIM BAHRINGER
AMANDA RICE
GREG SANDERS

OFFICERS:
JEROME D. GRUBER, General Manager
MONIQUE MADRID, District Clerk
TIMOTHY J. CARMEL, District Counsel

1316 Tamsen Street, Suite 201 • P.O. Box 65 • Cambria CA 93428
Telephone (805) 927-6223 • Facsimile (805) 927-5584

November 5, 2015

Ms. Mary Webb
Greenspace, The Cambria Land Trust
P. O. Box 1505
Cambria, CA 93428-1505

Subject: October 29, 2015 Review Comments to Cambria CSD's Draft Groundwater Management Plan

Dear Ms. Webb,

Thank you for taking the time to review and comment on our draft Groundwater Management Plan. Where appropriate, we are updating the draft Groundwater Management Plan to incorporate your suggestions and requests. The following summarizes the updates we will be making, provides additional background information, or otherwise explains where answers to your questions can be found in the existing draft Groundwater Management Plan (GMP), which is posted on our website at cambriacsd.org. Our responses are also numbered in the same order as those shown on the attached annotated copy of your October 29, 2015 letter:

1) The Emergency Water Supply project was constructed per the County-issued Emergency Coastal Development Permit (CDP) and Coastal Zone Land Use Ordinance Section 23.03.045. The Emergency CDP included conditions requiring numerous protective measures that were followed during construction, including biological monitoring, archeological monitoring, and cultural resource monitoring. An environmental impact report (EIR) to support the project's regular CDP is currently being completed, with a 45-day public review period of the draft EIR estimated to begin around this coming mid-December to early January. In addition, part 1.7 of the GMP provides discussion on the CCSD's long-term water supply efforts, which will include completion of a NEPA-compliant Environmental Impact Statement (EIS) through a cooperative agreement with the Army Corps of Engineers.

The Emergency Water Supply project is abiding by permits that were issued by the County and the Water Board. The Water Board's permitting process contained detailed technical reviews, including their review of results from the project's tracer study that was conducted from July 24, 2014 to September 29, 2014. To meet the State's 60-day travel time, the re-injection rate into the aquifer and pumping rate from wells SS-1 and SS-2 out of the aquifer cannot exceed 400 gpm. The 400 gpm rate is lower than the average pumping rate during the tracer test, which was 435 gpm. The test results were used to calibrate the project's groundwater model, which resulted in meeting the 60-day minimum travel time requirement by limiting the extraction rate from existing wells SS1 and SS2 to no more than 400 gpm. A future tracer study test will be completed as a follow up to the Water Board's November 12, 2014 letter, which summarized their review of the tracer study. Since this letter was issued, the Water Board subsequently amended the timing of a future tracer study, which now allows for it to be completed next year.

Water quality violations were primarily related to mist from the emergency water supply project's mechanical evaporators momentarily drifting past the limits of the evaporation pond liner. Adjustments have since been completed to the evaporator system to prevent this from re-occurring. The "chlorine spill" you describe occurred when drinking-water-quality water entered the creek during a limited pipeline testing period. Detailed responses describing the corrections made to address these past events have been provided to the Water Board. On April 17, 2015 the Emergency Water Supply project was shut down one week earlier than planned due to nitrate concentrations exceeding the project's permitted value of 2.3 mg/l (with nitrate being expressed as nitrogen, I.e., NO_3-N), which were still well below the allowable drinking water limit of 10 mg/l (NO_3-N). Since then, the CCSD's wastewater treatment plant operators made adjustments to significantly lower nitrates within the plant's effluent before it is introduced into the percolation ponds. The Emergency Water Supply project was restarted on September 20, 2015, and is currently being operated eight-hours per day, Monday through Friday. There is also regular reporting to the Water Board on the facility's operations to ensure compliance with permit conditions. For further reference, GMP Table 1-2 provides a listing of the permits that were issued for the Emergency Water Supply Project.

2) The Emergency Water Supply project is re-injecting approximately 192,000 gallons per day of water, while it is operated over an 8-hour period per work day. This equates to 0.56 acre-ft per 8-hour work day shift. Of the re-injected water, approximately 40% will remain in the aquifer, with the remainder being pumped by wells SS1 and SS2.

3) The Emergency Water Supply project includes a design feature that provides 100 gallons per minute of water to the head of the San Simeon Creek lagoon during dry periods. This feature serves to benefit and protect coastal resources.

4) The Emergency Water Supply project is limited by the conditions found in the permits that are listed in Table 1-2 of the GMP.

5) The Emergency Water Supply project does not appropriate water beyond what has been previously permitted by the SWRCB (permit numbers 20387 & 17287) and the Coastal Commission (CDP 428-10). Water that is extracted by its supply well is treated and re-injected back into the same groundwater basin.

6) Our analyses found that the Emergency Water Supply project provides a beneficial impact to the riparian and lagoon habitat through its design feature that provides 100 gpm of flow to the upper end of the San Simeon Creek lagoon during dry conditions. The project's lagoon water design feature is also backed up by an existing Adaptive Management Plan (AMP), which is currently being followed, along with its supporting and ongoing biological monitoring of in-stream and riparian habitat associated with the San Simeon Creek and Van Gordon Creek. Our next posted update to the Groundwater Management Plan (GMP) will expand upon the discussion found under Part 2.1, "Basin Management Objective 1 – Monitor and Manage Water and Wastewater Facilities to Ensure Protection of the Area's Fishery and Habitat," which can found on page 12 of the draft GMP. We will reference the AMP and include it as an appendix within this same GMP update. We also believe the AMP is consistent with the GMP objective, which

is why GMP Recommendation 3.e on page 29, includes planning and budgeting for "Regular biological monitoring of the riparian habitat."

7) The San Simeon Creek well levels during 2014 were influenced by the community's approximate 40 percent reduction in water demand from its unprecedented historic level of water conservation, as well as there being no diversion occurring from the San Simeon aquifer during the aforementioned tracer study, which occurred from July 24, 2014 to September 29,2014. Comparison between the 2013 and 2015 levels show a significant difference, with higher levels occurring in 2015 following start up and operation of the Emergency Water Supply project. Our Mid-October average San Simeon well elevations were 10.72 feet for 2015; 9.11 feet for 2014; and, 6.77 feet for 2013. These elevations are expressed as feet above mean sea level.

8) See related discussion under item 6).

9) We are cognizant of the steelhead recovery plan, which is described as a guidance document by NOAA. Per the aforementioned discussion in item 6), the Emergency Water Supply project serves to significantly improve habitat conditions within the lagoon during dry weather. This design feature is further backed up by biological monitoring being conducted per an Adaptive Management Plan (AMP). The AMP was developed, in part, as a means to avoid an incidental take of steelhead. Lastly, the CCSD had also issued an amendment to its EIR consultant to include permitting efforts that would cover a Section 7, Endangered Species Act consultation. Although the related Section 7 permitting consultation is on hold due to funding limitations, the CCSD intends to pursue this additional permitting effort after it completes the Groundwater Management Plan.

10) Discussion on the Total Maximum Daily Loading in San Simeon Creek can be found in sections 1.7 and 5.2 of the GMP. In addition, recommendation 3.d on page 29 of the GMP recommends planning and budgeting for improvements to the CCSD wastewater treatment plant, which will further improve water quality.

11) See response under item 6). The Adaptive Management Plan is being provided as an appendix to the next posted update of the GMP.

12) Please see the discussion on long-term planning, which is provided in section 1.7 of the GMP. Also see the related recommendation 2 on page 29 of the GMP.

13) Operation of the Emergency Water Supply project has no growth inducing impacts.

14) The GMP was developed to meet the requirements of State Water Code Sections 10753 et seq. The EIR currently being prepared for the Emergency Water Supply project will allow for further public review and comments per the process required of the California Environmental Quality Act.

In closing, we appreciate your time and efforts in providing comments to the draft GMP. We will be posting an update to the GMP later this week and will notify you by email once an update is available on our cambriacsd.org web site.

Sincerely,

Robert C. Gresens
District Engineer
Cambria Community Services District

Attach (1)

cc w/attach: County of San Luis Obispo Public Works Department; Mladen Bandov
Department of Water Resources – Planning and Local Assistance; Monica Reis
California Department of Fish and Wildlife; Dr. Jeffrey R. Single
California State Parks; Brooke Gutierrez
California Coastal Commission; Tom Luster
Regional Water Quality Control Board; Ken Harris

GREENSPACE
THE CAMBRIA LAND TRUST

October 29, 2015

Bob Gresens, Dist. Engineer
Cambria Community Services District
1316 Tamson Drive, Suite 201
Cambria, CA 93428

Via Email: bgresens@cambriacsd.org

RE: Cambria Community Services District "Draft" Groundwater Management Plan

Thank you for the opportunity to comment on the Draft Groundwater Management Plan. I understand the plan was rushed and comments are due today. The Districts "emergency" water project cannot be uncoupled from the Groundwater Management Plan.

1 The CSD 'emergency' water project was constructed without adequate environmental review or permits between August 2014 and December of 2014. The project did not pass a 60 day tracer test in the fall of 2014, failed to complete a 90 day test phase this year, caused numerous (13?) water quality violations including a chlorine spill into San Simeon Creek noticed by the Regional Water Quality Control Board in March of 2014, and was shut down due to the high cost of monitoring and reporting requirements and staffing shortfalls in April. The project is reportedly operating again, however it is unclear under what conditions it should be allowed to run given the lack of appropriate permits and agency review.

Greenspace is still awaiting responses to comments made on the Districts "emergency" water project in July of 2014 and a public scoping session of March of 2015 . The effects of the water project on the biological resources of both San Simeon and Santa Rosa Creek remains unknown . Unanswered project questions and concerns include but are not limited to:

- 2 Amount of water to be produced by the project
- 3 Timing of project operation that would protect coastal resources
- 4 Limits of project operation
- 5 Water rights and water use is in question based on project operations
- 6 Project failed to provide adequate mitigation water to SanSimeon Creek Lagoon during operation
- 7 Need for the project based on above average well levels since January of 2014
- 8 Lack of instream flow studies to provide baselines to measure ecological impacts to the creek

- 9 Impacts of the project on South-Central California Steelhead Recovery
- 10 Water quality concerns and questions on the TMDL loads from CSD wastewater at San Simeon Creek
- 11 Lack of specifics and need for independent oversight of a proposed "Adaptive Management Plan"
- 12 Lack of specifics on relationship between the "Brackish Water Desalination Emergency Project" and the "Long Term Public Works Project".
- 13 Lack of funding for the Cambria Build Out Reduction Plan which is required mitigation for the growth inducing effects of desalination.

14 Until our questions, and all agency questions that were submitted between July 2014- March 2015 are answered by the CSD the groundwater management plan is incomplete for review.

We look forward to receiving responses to the detailed and lengthy comments that were submitted in the past. The way forward to a sustainable water supply for resident, tourists and businesses is one that does not cause harm to all the other life we treasure on the Central Coast.

For the Board of Directors of
Greenspace-the Cambria Land Trust
Mary Webb, Interim President

cc: Cambria CSD Board of Directors, Dept. of Water Resources, San Luis Obispo County, Coastal Commission, CA Fish and Wildlife, CA State Parks

CAMBRIA COMMUNITY SERVICES DISTRICT

DIRECTORS:
GAIL ROBINETTE, President
MICHAEL THOMPSON, Vice President
JIM BAHRINGER
AMANDA RICE
GREG SANDERS

OFFICERS:
JEROME D. GRUBER, General Manager
MONIQUE MADRID, District Clerk
TIMOTHY J. CARMEL, District Counsel

1316 Tamsen Street, Suite 201 • P.O. Box 65 • Cambria CA 93428
Telephone (805) 927-6223 • Facsimile (805) 927-5584

November 5, 2015

Mr. Tom Luster
California Coastal Commission
45 Fremont Street
Suite 2000
San Francisco, CA 94105-2219

Subject: October 29, 2015 Review Comments to Cambria CSD's Draft Groundwater Management Plan

Dear Mr. Luster,

Thank you for taking the time to review and comment on our draft Groundwater Management Plan. Where appropriate, we are updating the draft Groundwater Management Plan (GMP) to incorporate your suggestions and requests. The following summarizes the updates we will be making to the GMP, provides further background information, or otherwise explains where answers to your comments can be found within the existing draft GMP (The GMP is posted on our website at cambriacsd.org.). Our responses are also numbered in the same order as the numbered points in your October 29, 2015 letter, which began on page 2:

1) Our analyses found that the Emergency Water Supply project provides a beneficial impact to the riparian and lagoon habitat through its design feature that provides 100 gpm of flow to the upper end of the San Simeon Creek lagoon during dry conditions. This feature is also backed up by an existing Adaptive Management Plan (AMP), which is currently being followed, along with its supporting and ongoing biological monitoring of in-stream and riparian habitat associated with the San Simeon Creek and Van Gordon Creek. Our next posted update to the Groundwater Management Plan (GMP) will expand upon the discussion found under Part 2.1, "Basin Management Objective 1 – Monitor and Manage Water and Wastewater Facilities to Ensure Protection of the Area's Fishery and Habitat," which can found on page 12 of the draft GMP. We will reference the AMP and include it as an appendix within this same GMP update. We also believe the AMP is consistent with the GMP objective, which is why GMP Recommendation 3.e on page 29, includes planning and budgeting for "Regular biological monitoring of the riparian habitat."

   We also recognize there may be some confusion over the flow rates due to the emergency water supply project extracting, treating, and then re-injecting water back into the groundwater basin. The project also recycles a portion of the community's treated wastewater effluent, which is discharged into the percolation ponds near extraction well 9P7. To meet the State's 60-day travel time requirement for the indirect potable reuse of recycled water, the re-injection rate into the aquifer, as well as the total pumping rate from well field pumps SS-1 and SS-2 out of the aquifer, cannot exceed 400 gpm. The project's groundwater extraction well (aka Well 9P7) will pump at approximately 629 gpm. However, this pump cycles on and off during facility operation based on levels within a transfer tank that it discharges into prior to the treatment facility's microfiltration process. Therefore, the 629 gpm rate of the project's extraction well is not necessarily a continuous flow. Of the water pumped from well 9P7, 100 gpm of that water is returned to the head of the San Simeon Creek lagoon, which normally occurs after it passes through microfiltration. Another 40 gpm is returned back to the groundwater from the project's micro-filter backwash water, which is discharged into an existing percolation pond. To maximize water use efficiency, the project minimizes the amount of reverse osmosis reject water that is discharged into the evaporation pond by having three stages of reverse osmosis. This results in a 92 percent recovery rate, with only 40 gpm of RO reject water being discharged to the project's evaporation pond. Net production from the project will be less than the 400 gpm groundwater re-injection rate due to about 60 percent of the injected water being pumped by the CCSD's San Simeon potable wells (SS1 and SS2). Therefore, the net production from the project is estimated to be 60 percent of the 400 gpm re-injection rate, which is about 240 gpm of the 400 gpm of water being pumped out by wells SS1 and SS2.

The volume of water produced by the project will also vary by how long the facility operates each day. For example, since September 20, 2015, the facility has been operating during our water operators' 8-hour work day, which has been Monday through Friday.

2) Beyond the explanation provided in item 1) above, we believe your discussion may be more relevant as comments for the Emergency Water Supply Project's project EIR. Stream monitoring that the CCSD and its consultant conducted in 2014 was used to support analyses related to the project's 100 gpm lagoon flow value. This will be described in more detailed within the project's EIR, which will expand upon an explanation that was provided as part of an earlier August 27, 2014 presentation during our joint agency meeting at the Santa Cruz offices of the Coastal Commission. We also found many historical references that indicate the creek is not perennial, which date back to times before the CCSD facilities existed. Additionally, the 2014 regional assessment relied in part on a 2006 study, which did not include a specific evaluation of San Simeon Creek or the lagoon. Therefore, the 0.5 cfs summer time value of the 2014 flow assessment report is an overestimate, which was based on a rough approximating method when compared to the detailed analysis CCSD's consultant completed to support design of the emergency water supply project.

We are also aware of the steelhead recovery plan, which is described as a guidance document by NOAA. Per the aforementioned discussion in item 1), the project serves to improve habitat conditions within the lagoon during dry weather. This design feature is further backed up by biological monitoring being conducted per an Adaptive Management Plan (AMP). The AMP was developed, in part, as a means to avoid an incidental take of steelhead. Lastly, the CCSD had also issued a contract amendment to its EIR consultant to include permitting efforts that would cover a Section 7, Endangered Species Act consultation. Although the related Section 7 permitting consultation is on hold due to funding limitations, the CCSD intends to pursue this additional permitting effort after it completes the Groundwater Management Plan and the CCSD's Proposition 84 grant reimbursement funding is received.

3) Respectfully, your assertion that CCSD's water rights applications have expired without being perfected is incorrect. The CCSD is aware of the need to extend its existing water right permits with the State Water Resources Control Board (SWRCB) and filed the appropriate petitions with the SWRCB during 2014. This filing also included the payment of a fee to cover what is to be used for the funding of prioritized instream flow studies by the state per Public Resource Code sections 10000-10005. The Groundwater Management Plan further acknowledged the related Coastal Development Permit 428-10 (See Table 1-1, on p. 5), which does not have a similar expiration timeline. The SWRCB is processing CCSD's extension petitions, and future GMP updates will reflect the outcome thereof.

4) The GMP's water quality discussion includes the Central Coast RWQCB's draft 2014 TMDL report on the San Simeon Creek, and can be found in the draft GMP's parts 5.2 and 5.4. The GMP's discussion includes mention that operation of the emergency water supply project serves to improve groundwater quality through its removal of salts and nutrients. This project benefit was also described by the RWQCB during their April 2014 presentation on the draft TMDL report in Cambria (by Howard Kolb of the RWQCB.). The GMP's recommendations also include financing and budgeting for improvements to the CCSD wastewater treatment plant (recommendation 3.d, on p. 29), which will also remove nutrients from its effluent before entering the groundwater percolation basins.

5) The CCSD plans to continue to abide by existing laws and regulations, as it has in completing the Groundwater Management Plan and past projects. Further discussion on applicable North Coast Area Plan regulatory requirements will also follow in the emergency water supply project's EIR.

In closing, we appreciate your time and efforts in providing comments to the draft GMP. We will be posting an update to the GMP later this week and will notify you by email once an update is available on our cambriacsd.org web site.

Sincerely,

Robert C.

Robert C. Gresens
District Engineer

Cambria Community Services District

cc: County of San Luis Obispo Public Works Department; Mladen Bandov
Department of Water Resources – Planning and Local Assistance; Monica Reis
Central Coast Regional Water Quality Control Board; Howard Kolb

STATE OF CALIFORNIA—NATURAL RESOURCES AGENCY

EDMUND G. BROWN, JR., *GOVERNOR*

CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE (415) 904-5200
FAX (415) 904-5400
TDD (415) 597-5885

October 29, 2015

Mr. Robert Gresens, P.E., District Engineer
Cambria Community Services District
1316 Tamson Drive, Suite 201
Cambria, CA 93428

VIA EMAIL: bgresens@cambriacsd.org

RE: Comments on Cambria Community Services District ("CCSD") Draft Groundwater Management Plan

Dear Mr. Gresens:

Thank you for the opportunity to comment on the above-referenced Draft Groundwater Management Plan ("GMP"). As we have discussed with you several times, we are acutely aware of the severity of Cambria's water supply issues and we remain supportive of the CCSD developing appropriate and environmentally sustainable long-term responses to address these issues. We welcome working with you to develop a groundwater management approach that will be consistent with the requirements for the proposed GMP as provided in Section 10753 *et seq*. of the California Water Code and will also address and fully conform to the water planning, resource protection, and growth management requirements of the Local Coastal Program (LCP) and the Coastal Act. Our comments below are focused on helping the Final GMP be consistent with those Water Code requirements in a manner consistent with these other related policies and regulations.

As detailed below, our primary comments identify elements of the Draft GMP that do not yet include relevant documentation about basin characteristics and relevant policies needed to adequately address Water Code requirements. The additional documentation and analyses needed in the Final GMP relate to the following:

- The role of the CCSD's emergency water project in affecting groundwater characteristics;
- The effects of CCSD's proposed measures on streamflow and the related protection of biological resources;
- The effects of the CCSD's limited water rights on implementing groundwater management objectives;
- The effects of water quality concerns in the basins on the CCSD's ability to implement groundwater management objectives; and,
- The role of existing baseline requirements on the GWP's proposed planning process.

Comments and Recommendations

1) **Include descriptions and analyses of the CCSD's emergency water project related to groundwater management:** The Draft GMP includes some brief descriptions of CCSD operations in the San Simeon Creek basin, including mention of the emergency water supply project constructed last year. However, other than stating that the project includes a 100 gallon-per-minute mitigation flow, it does not describe the full effect of the project on surface and groundwater resources in the basin. We recommend the Final GMP more fully describe the amounts of water proposed to be extracted and produced by the project. Over the past year, project descriptions have stated that it would extract varying amounts of groundwater – from about 400 to 690 gallons per minute – and that it would produce similarly varying amounts.

   We additionally recommend that the Final GMP also include, or at least describe, that project's proposed Adaptive Management Plan that we understand the CCSD is preparing as part of the project EIR and permit applications. At a minimum, the Final GMP should include an evaluation of the proposed Adaptive Management Plan to ensure it is consistent with the Final GMP.

2) **Relationship of CCSD's groundwater management to streamflow and protection of biological resources:** The GMP must identify how the CCSD's proposed groundwater management measures are expected to affect streamflow and protect the basins' biological resources.[1] For example, the emergency water project is proposed to operate during periods when well levels are low and streamflows are below levels needed to protect fish and other aquatic species. We recommend the GMP's analyses incorporate findings of the January 2014 San Luis Obispo County *Regional Instream Flow Assessment*, which identified the necessary minimum flows for steelhead in San Simeon Creek as ranging from minimum flows of 1.5 to 1.6 cubic feet per second (cfs) in the spring to no less than 0.5 cfs in the summer. The project's proposed 100 gpm mitigation flow would provide only 0.223 cfs, or less than half, of the minimum amount needed to protect this threatened species. Groundwater management objectives and measures need to fully account for the biological productivity of these coastal zone resources, including ensuring adequate in stream flows to protect these resources and their related habitats.

   We also strongly recommend the Final GMP describe whether the CCSD's proposed groundwater management approach conforms to the December 2014 *South-Central California Steelhead Recovery Plan* published by the National Marine Fisheries Service. This Plan identifies the San Simeon Creek steelhead population as the highest priority area for recovery within the Plan boundaries and also identifies groundwater extraction in the San Simeon Creek watershed as one of the highest threats to recovery. The Final GMP should identify how the CCSD will manage basin groundwater resources to ensure protection of the

---

[1] For example, Section 10753.7(a)(1) states, in relevant part, that the GMP is to include basin management objectives that address "changes in surface flow and surface water quality that directly affect groundwater levels or quality or are caused by groundwater pumping in the basin." This is also necessary to allow the GMP to conform to relevant policies of the County's LCP and Coastal Zone Land Use Ordinance, such as those described later in this letter – e.g., LCP ESHA Policy 21, which requires development be compatible with continuance of streams' habitat values, and those in the North Coast Area Plan related to *Environmentally Sensitive Habitat – Coastal Creeks (ESH-CC)* requirements and *Cambria Program 11a* requirements for completion of an instream flow study prior to proposing any major water supply project that relies on San Simeon Creek.

streamflows needed to support this and other species reliant on San Simeon Creek habitat. It may also be necessary for the Final GMP to identify any additional groundwater management provisions necessary for the CCSD to avoid "take" of steelhead. We strongly recommend this be incorporated into the Final GMP's Section 2.1 – *Basin Management Objective 1: Monitor and Manage Water and Wastewater Facilities to Ensure Protection of the Area's Fishery and Riparian Habitat*.

3) **Water rights and related agreements:** The Draft GMP (at Section 1.8, for example) describes just one of several water rights components the CCSD is subject to within the two basins – i.e., a 2006 agreement for the CCSD to provide up to 205 acre-feet of water per year to a property within the San Simeon basin. We believe it is necessary for the Final GMP to more completely identify the water rights that affect basin management, and evaluate how the CCSD's existing water rights will affect or limit the CCSD's ability to meet basin management objectives. The Final GMP should more thoroughly describe the CCSD's existing water rights and incorporate them into its analyses. As we understand it, the CCSD's current water rights are considerably less than the amount of water the CCSD has anticipated would be available for water production and groundwater basin management. As noted in our previous correspondences, the CCSD's original water rights applications expired without being perfected, so the currently available amounts are *less than half* the CCSD's expected amounts.[2] The Draft GMP does not appear to be based on these reduced water rights (see, for example, the expected "Municipal Pumpage" in Table 1-3), and thus we highly recommend that the Final GMP's analyses and objectives be consistent with the current/accurate water rights.

4) **Water quality:** The Draft GMP only briefly describes water quality concerns in the two basins and the effect of water quality changes on basin groundwater. The Final GMP should provide more detailed evaluations of water quality issues – i.e. limitations that may be imposed on groundwater basin management objectives due to high nitrates, TMDL listings, low dissolved oxygen levels, and other water quality concerns that have been described in other CCSD documents.

5) **Coordination and Planning:** The Draft GMP describes (at Section 3) a proposed Interagency Coordination and Collaboration Plan that includes a proposal to *Review and Identify Regulatory Updates and Any Recent Trends That May Require Related Groundwater Management Plan Updating*. We strongly recommend the Final GMP add a provision that coordination and planning will also evaluate the CCSD's conformity to **existing** regulatory requirements, including the following:

   - The County's North Coast Area Plan (NCAP) and its applicable provisions/standards and Combining Designations requirements, including areas of the groundwater basins subject to provisions applicable to *Geologic Study Area* (*GSA*) and *Flood Hazard* (*FH*) designations, and Sensitive Resource Areas (*SRAs*), Environmentally Sensitive Habitat –

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[2] We understand that the CCSD's initial applications were for water rights of up to 798 acre-feet per year from the Santa Rosa watershed and up to 1230 acre-feet per year from the San Simeon watershed (including a maximum dry season diversion from San Simeon of no more than 370 acre-feet). When those applications expired several years ago, it is our understanding that the "perfected" amounts are now about 218 acre-feet per year in the Santa Rosa watershed and about 798 acre-feet in the San Simeon watershed. The available amount in the San Simeon watershed is further reduced by the above-referenced contractual obligation of the CCSD to provide approximately 205 acre-feet per year to a neighboring property.

Coastal Creeks (*ESH-CC*), and Terrestrial Habitat (*TH*). The NCAP is a part of the County's LCP.
- NCAP Planning Area Standards (Chapter 7) Community Wide Standards.
- NCAP Cambria Programs 11a, which requires the CCSD to prepare an instream flow study before proposing any major water supply project that relies on additional water supplied by San Simeon Creek.
- LCP Coastal Plan ESHA policies, including LCP ESHA Policy 21, which requires that all development be compatible with continuance of stream habitat values.

Thank you for your attention to these comments. We are happy to help revise the GMP in response to these comments and we look forward to the interagency coordination anticipated by the GMP. Please contact me at 415-904-5248 or tluster@coastal.ca.gov if you have any questions.

Sincerely,

Tom Luster

Tom Luster
Senior Environmental Scientist

Cc: County of San Luis Obispo Public Works Department
Department of Water Resources – Planning and Local Assistance

Bob Gresens

From: Michael Broadhurst <mdbroadhurst@att.net>
Sent: Saturday, October 24, 2015 7:50 PM
To: George Kendall; Monique Madrid; Bob Gresens
Subject: Re: Comments on CCSD's proposed Groundwater Management Plan

Thanks to George for his comments on the draft Groundwater Management Plan. I agree fully with his comments. This is a good plan. I have also reviewed selected sections of the draft plan. My comments are as follows:
1. I felt the conservation section was weak and did not mention positive measures that have been taken of which I am aware. Nonetheless, you know best what is required to meet the requirements of such a plan.
2. A steering committee sounds to be a good idea that includes relevant stakeholders. To be effective, however, it will need a strong commitment from staff and your Board. I served as an agricultural representative on a similar committee in Cambria a number of years ago and found a lack of commitment or interest made effective recommendations impossible.
3. I strongly feel that Cambria should make a commitment now to become the lead SGA for the two basins our community relies on for their water supply. I found no mention of SGMA in this report. Limited experience suggests there is a lack of understand of SGMA and its impact by staff and the Board. I know the deadlines for SGPs is 7 years off, but without a good approach process, Cambria will likely be left to devices of other agencies. As Chair of the US-LT RCD Board of Directors, I am currently leading an initiative for our agency to consider becoming an SGA.

Mike Broadhurst

On Saturday, October 24, 2015 3:40 PM, George Kendall <georgekendall01@gmail.com> wrote:

Dear Monique and Bob,

Attached please find a word document with my comments on the proposed groundwater management plan. I will likely be unable to attend the October 29 public workshop, but I appreciate your consideration of the comments.

Thank you,
George Kendall

To:
M. Madrid
CCSD District Clerk
P O Box 65
Cambria, CA 93428

From:
George Kendall
4330 Santa Rosa Creek Rd.
Cambria, CA 93428
(805) 924-1008

Re: Draft of CCSD Groundwater Management Plan

To whom it concerns:

Thank you for posting the Cambria CSD's draft Groundwater Management Plan on your web site. The plan appears to be thorough and should be a good foundation for future management efforts.

I am encouraged by your intention to reach out to basin stakeholders. As a farmer in the Santa Rosa Creek Valley, I especially appreciate your inclusion of the county Farm Bureau and the Upper Salinas - Las Tablas Resource Conservation District in your list of organizations to solicit for inclusion in a multi-agency steering committee. You may also want to consider the Cattleman's Association and the Natural Resources Conservation Service.

Many of the farmers along Santa Rosa Creek are members of the Santa Rosa Creek Valley Groundwater Monitoring Cooperative for the purposes of monitoring groundwater quality to satisfy requirements of the RWQCB's Irrigated Agricultural Order (R3-2012-0011). We sample selected irrigation wells along the creek for several potential contaminants on a multi-year schedule. As co-leader of the cooperative, I can say that we will appreciate good communication with the CCSD regarding any groundwater quality issues or concerns along Santa Rosa Creek. The cooperative's contacts are George Kendall (924-1008) and Mike Broadhurst (924-1260).

The possibility of future groundwater recharge in the lower Santa Rosa Creek Valley, possibly using treated water, was mentioned in the plan. This possibility could both improve groundwater levels in the lower basin and have environmental benefits. I encourage you to pursue this idea as time and funding allow.

One of your basic references is USGS Report 98-4061 covering the hydrology and related topics of the Santa Rosa and San Simeon basins. I have found this report to be an excellent source of information and analysis for these two groundwater basins.

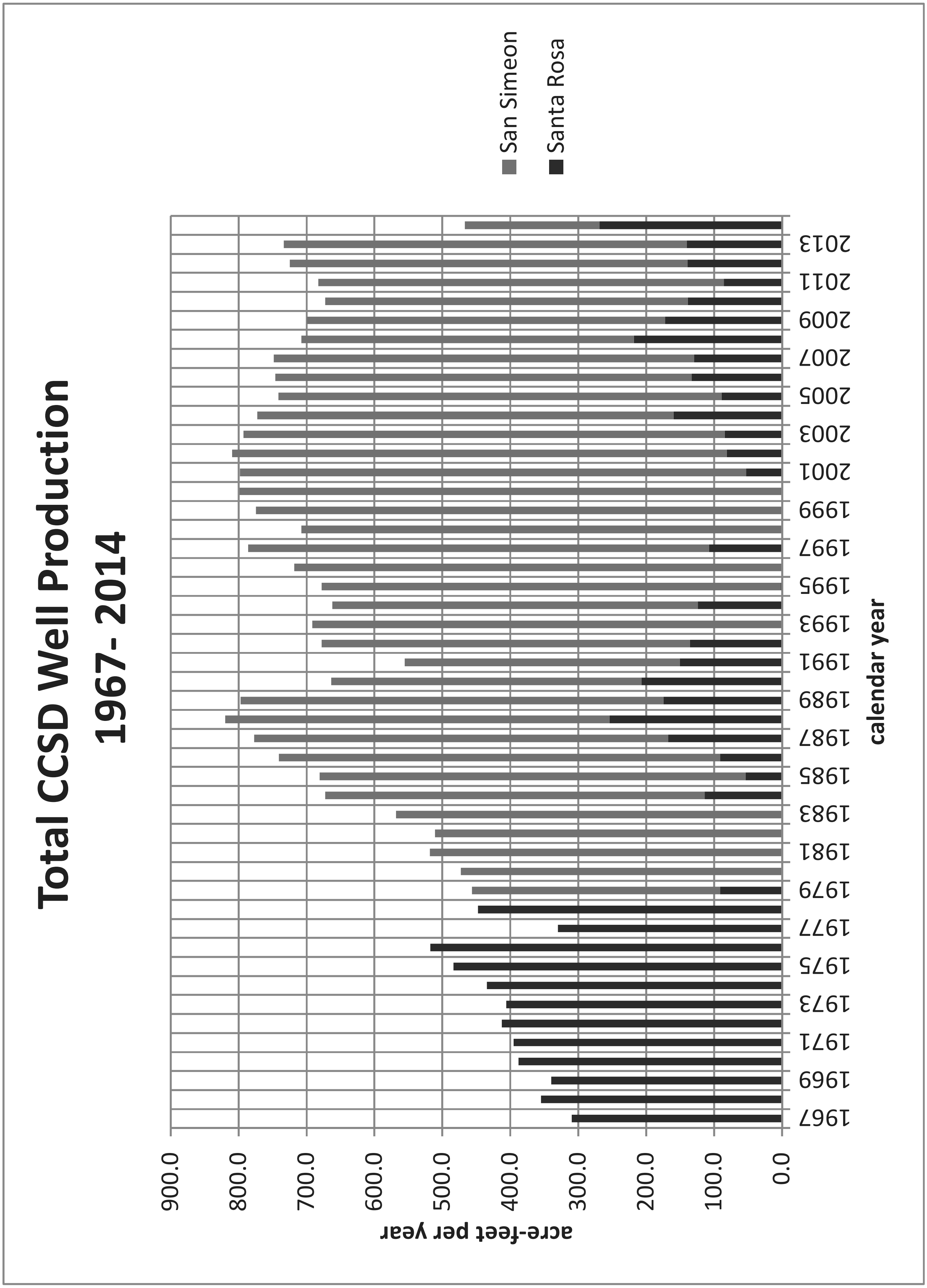
Thank you for the opportunity to comment on the CCSD's draft groundwater management plan.

Sincerely,

George W. Kendall

Appendix C

Plots of Historic Groundwater Elevations


Total CCSD Well Production
1967- 2014
San Simeon
Santa Rosa
acre-feet per year
900.0
800.0
700.0
600.0
500.0
400.0
300.0
200.0
100.0
0.0
calendar year
1967
1969
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013

2015

CAMBRIA COMMUNITY SERVICES DISTRICT
WATER PRODUCTION, BY SOURCE

ACRE-FEET

YEAR	SOURCE	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	1000.0 TOTAL	YEAR
1988	S.S.	51.20	57.90	63.20	47.30	57.40	44.20	50.00	51.70	41.90	37.40	27.40	36.00	565.60	1988
	S.R.	0.00	0.00	0.00	16.30	15.70	30.70	31.20	34.90	36.00	34.90	35.20	19.00	253.90	
	TOTAL	51.20	57.90	63.20	63.60	73.10	74.90	81.20	86.60	77.90	72.30	62.60	55.00	819.50	
1989	S.S.	51.00	47.90	53.90	61.90	57.20	62.20	69.20	60.90	36.30	38.70	42.60	40.60	622.40	1989
	S.R.	0.00	0.00	0.00	1.00	13.80	13.50	17.90	28.00	42.00	22.60	17.60	18.20	174.60	
	TOTAL	51.00	47.90	53.90	62.90	71.00	75.70	87.10	88.90	78.30	61.30	60.20	58.80	797.00	
1990	S.S.	45.70	47.00	55.28	44.75	31.46	32.34	40.00	38.00	31.91	31.40	29.40	29.90	457.14	1990
	S.R.	8.70	0.80	0.50	18.03	32.30	26.79	22.30	22.20	20.64	20.20	19.30	14.90	206.66	
	TOTAL	54.40	47.80	55.78	62.78	63.76	59.13	62.30	60.20	52.55	51.60	48.70	44.80	663.80	
1991	S.S.	26.90	23.10	32.70	39.60	48.60	44.10	40.10	34.80	30.50	28.00	26.40	30.10	404.90	1991
	S.R.	15.30	13.10	0.50	0.10	0.10	5.50	15.00	21.60	20.20	21.00	19.70	18.70	150.80	
	TOTAL	42.20	36.20	33.20	39.70	48.70	49.60	55.10	56.40	50.70	49.00	46.10	48.80	555.70	
1992	S.S.	45.30	42.20	45.90	55.20	64.00	58.10	44.90	41.80	35.00	32.80	34.00	43.10	542.30	1992
	S.R.	0.80	0.30	0.10	0.40	0.50	6.10	22.70	28.10	26.30	25.10	19.50	5.50	135.40	
	TOTAL	46.10	42.50	46.00	55.60	64.50	64.20	67.60	69.90	61.30	57.90	53.50	48.60	677.70	
1993	S.S.	50.10	45.70	52.60	56.30	68.30	68.80	68.10	69.80	59.80	56.10	51.40	43.50	690.50	1993
	S.R.	0.50	0.30	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	
	TOTAL	50.60	46.00	52.60	56.30	68.40	68.80	68.10	69.80	59.80	56.10	51.40	43.50	691.40	
1994	S.S.	47.00	38.60	48.60	52.00	54.60	63.40	69.30	47.80	31.70	30.80	28.20	26.00	538.00	1994
	S.R.	0.00	0.00	0.00	0.00	0.10	0.00	0.00	25.00	30.20	27.70	21.20	19.90	124.10	
	TOTAL	47.00	38.60	48.60	52.00	54.70	63.40	69.30	72.80	61.90	58.50	49.40	45.90	662.10	
1995	S.S.	41.30	41.10	47.10	52.14	53.50	59.00	74.70	74.10	65.40	64.70	55.30	47.60	675.94	1995
	S.R.	1.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.90	
	TOTAL	43.20	41.10	47.10	52.14	53.50	59.00	74.70	74.10	65.40	64.70	55.30	47.60	677.84	
1996	S.S.	46.66	43.40	47.39	56.95	66.18	70.83	75.70	77.27	68.23	65.58	50.37	49.43	717.99	1996
	S.R.	0.01	0.03	0.03	0.03	0.03	0.01	0.03	0.02	0.01	0.02	0.02	0.02	0.26	
	TOTAL	46.67	43.43	47.42	56.98	66.21	70.84	75.73	77.29	68.24	65.60	50.39	49.45	718.25	
1997	S.S.	50.61	49.20	65.66	68.65	76.18	79.14	82.31	57.02	37.32	27.50	38.96	45.96	678.51	1997
	S.R.	0.02	0.08	0.02	0.02	0.02	0.02	0.38	25.92	31.54	36.85	12.41	0.01	107.29	
	TOTAL	50.63	49.28	65.68	68.66	76.20	79.16	82.69	82.94	68.86	64.35	51.37	45.97	785.80	
1998	S.S.	44.39	46.36	47.00	50.53	56.43	63.43	77.75	80.30	68.35	66.58	54.06	52.13	707.31	1998
	S.R.	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.09	0.01	0.00	0.00	0.00	0.16	
	TOTAL	44.40	46.37	47.01	50.54	56.43	63.44	77.76	80.39	68.36	66.58	54.06	52.13	707.47	
1999	S.S.	56.40	45.26	52.16	57.40	70.43	71.35	85.41	82.68	69.45	68.04	57.78	57.69	774.05	1999
	S.R.	0.01	0.01	0.01	0.04	0.02	0.07	0.01	0.02	0.32	0.02	0.00	0.00	0.53	
	TOTAL	56.41	45.27	52.17	57.44	70.45	71.42	85.42	82.70	69.77	68.06	57.78	57.69	774.58	
2000	S.S.	56.41	50.43	55.27	65.40	70.84	73.60	85.00	84.68	73.30	65.60	58.49	59.80	798.82	2000
	S.R.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	TOTAL	56.41	50.43	55.27	65.40	70.84	73.60	85.00	84.68	73.30	65.60	58.49	59.80	798.82	
2001	S.S.	56.16	48.05	55.92	60.69	73.30	77.51	85.01	78.50	53.45	56.21	48.16	52.29	745.25	2001
	S.R.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.78	21.08	16.87	8.06	0.89	52.68	
	TOTAL	56.16	48.05	55.92	60.69	73.30	77.51	85.01	84.28	74.53	73.08	56.22	53.18	797.93	
2002	S.S.	54.43	52.23	60.70	65.43	60.75	55.13	66.79	73.35	66.59	62.03	56.36	53.98	727.77	2002
	S.R.	1.28	1.27	1.10	1.11	14.82	22.79	19.54	9.67	3.52	4.02	2.04	0.55	81.71	
	TOTAL	55.71	53.50	61.80	66.54	75.57	77.92	86.33	83.02	70.11	66.05	58.40	54.53	809.48	
2003	S.S.	52.73	49.97	57.35	58.32	62.82	68.22	65.05	63.34	58.91	67.08	56.20	48.84	708.83	2003
	S.R.	0.70	1.11	0.48	0.94	1.84	5.63	19.77	22.04	16.00	6.58	3.12	5.84	84.05	
	TOTAL	53.43	51.08	57.83	59.26	64.66	73.85	84.82	85.38	74.91	73.66	59.32	54.68	792.88	
2004	S.S.	55.83	51.40	58.56	64.33	67.98	52.62	47.04	39.68	41.06	34.80	49.30	49.92	612.52	2004
	S.R.	0.00	0.61	1.17	4.84	8.68	22.08	30.80	36.30	27.32	24.95	1.73	1.63	160.11	
	TOTAL	55.83	52.01	59.73	69.17	76.66	74.70	77.84	75.98	68.38	59.75	51.03	51.55	772.63	
2005	S.S.	50.05	46.16	51.09	55.01	65.70	68.81	80.52	61.60	48.71	47.08	40.83	36.70	652.26	2005
	S.R.	0.00	0.62	0.93	0.76	0.76	0.73	1.64	17.32	20.25	21.69	16.92	7.36	88.98	
	TOTAL	50.05	46.78	52.02	55.77	66.46	69.54	82.16	78.92	68.96	68.77	57.75	44.06	741.24	
2006	S.S.	50.81	49.10	48.82	49.65	60.58	65.65	56.12	59.67	52.49	42.86	34.46	42.75	612.96	2006
	S.R.	0.00	0.78	0.00	0.62	0.74	2.56	23.58	20.72	20.17	23.88	26.46	13.63	133.14	
	TOTAL	50.81	49.88	48.82	50.27	61.32	68.21	79.70	80.39	72.66	66.74	60.92	56.38	746.10	
2007	S.S.	57.70	47.45	56.47	60.50	56.11	51.21	55.95	63.48	58.72	37.58	34.83	38.61	618.61	2007
	S.R.	0.00	0.00	0.60	1.81	14.47	22.24	23.47	12.37	5.29	18.70	21.20	9.42	129.57	
	TOTAL	57.70	47.45	57.07	62.31	70.58	73.45	79.42	75.85	64.01	56.28	56.03	48.03	748.18	
2008	S.S.	43.35	45.35	51.55	52.59	40.45	33.03	40.15	47.57	47.24	41.53	21.47	25.41	489.69	2008
	S.R.	2.33	0.67	0.71	2.20	24.69	33.55	32.94	24.87	18.26	21.03	32.21	24.46	217.92	
	TOTAL	45.68	46.02	52.26	54.79	65.14	66.58	73.09	72.44	65.50	62.56	53.68	49.87	707.61	
2009	S.S.	28.17	37.57	50.95	58.52	48.56	37.47	48.80	40.69	31.99	44.62	53.05	46.55	526.94	2009
	S.R.	24.83	3.81	0.00	0.00	13.53	26.06	25.21	34.10	32.64	11.02	0.00	1.34	172.54	
	TOTAL	53.00	41.38	50.95	58.52	62.09	63.53	74.01	74.79	64.63	55.64	53.05	47.89	699.48	
2010	S.S.	45.44	40.48	47.48	48.39	56.26	55.29	50.73	44.58	35.05	37.61	36.14	36.45	533.90	2010
	S.R.	0.00	0.00	0.77	0.62	0.68	8.74	21.96	27.30	32.52	21.71	14.48	9.73	138.51	
	TOTAL	45.44	40.48	48.25	49.01	56.94	64.03	72.69	71.88	67.57	59.32	50.62	46.18	672.41	
2011	S.S.	48.05	43.36	45.17	52.11	53.94	49.27	60.52	55.52	45.40	45.67	46.28	51.87	597.16	2011
	S.R.	0.00	0.70	0.00	0.76	6.65	11.03	12.97	14.82	19.45	14.15	5.19	0.00	85.72	
	TOTAL	48.05	44.06	45.17	52.87	60.59	60.30	73.49	70.34	64.85	59.82	51.47	51.87	682.88	
2012	S.S.	50.12	48.09	52.60	50.52	60.06	56.53	48.17	41.12	36.72	42.22	48.70	50.88	585.73	2012
	S.R.	3.54	0.79	0.00	0.66	1.44	11.14	27.95	33.22	29.98	21.43	8.86	0.00	139.01	
	TOTAL	53.66	48.88	52.60	51.18	61.50	67.67	76.12	74.34	66.70	63.65	57.56	50.88	724.74	
2013	S.S	51.09	47.40	54.72	55.27	63.18	46.01	60.82	72.32	57.73	29.84	26.72	28.61	593.70	2013
	S.R.	0.00	0.00	0.00	4.27	5.28	27.57	18.12	3.50	7.62	22.56	25.38	25.61	139.91	
	TOTAL	51.09	47.40	54.72	59.54	68.45	73.58	75.82	75.82	65.41	52.40	52.11	54.22	733.61	
2014	S.S	22.93	16.97	24.90	25.03	19.39	14.40	11.94	0.00	0.76	24.32	13.74	23.81	198.17	2014
	S.R.	34.69	19.85	10.00	10.44	18.88	24.19	30.89	43.09	36.26	12.06	18.63	9.62	268.59	
	TOTAL	57.62	36.82	34.90	35.04	38.27	41.02	42.82	43.09	37.01	36.37	32.36	33.44	466.76	
2015	S.S	19.95	16.65	17.16	17.79	16.18	14.14	15.14	17.39	20.36	26.17			180.91	2015
	S.R.	14.77	14.90	20.53	20.68	20.99	26.51	29.51	27.78	21.94	16.05			213.66	
	AWTP									3.03	8.97			12.00	
	TOTAL	34.72	31.55	37.69	38.47	37.17	40.65	44.65	45.17	42.30	42.22			394.57	
	DIFFERENCE	-22.91	-5.27	2.79	3.43	-1.10	-0.37	1.83	2.08	5.29	5.85	-19.74	-20.79	-72.19	

Example Cambria CSD Well Levels Summary

11/2/15

CAMBRIA COMMUNITY SERVICES DISTRICT
WELL WATER LEVELS FOR 11/2/15

Well Code	Distance Ref. Point to Water Level	Reference Point Distance Above Sea Level	Depth of Water to Sea Level	Remarks
		SANTA ROSA CREEK WELLS		
23R	45.61	83.42	37.81	
SR4	43.08	82.00	38.92	
SR3	32.40	54.30	21.90	
SR1	23.06	46.40	23.34	
RP#1	23.22	46.25	23.03	
RP#2		33.11		Not Read
21R3	9.16	12.88	3.72	37892
WBE	12.95	16.87	3.92	
WBW	13.25	17.02	3.77	

AVERAGE LEVEL OF CCSD SANTA ROSA WELLS SR1 & SR3 = 22.62 FEET

CCSD SANTA ROSA WELL SR4 = 38.92 FEET

SAN SIMEON CREEK WELLS

16D1	6.69	11.36	4.67	
MW4	11.10	15.95	4.85	
MW1	23.11	42.11	19.00	
MW2	22.10	38.10	16.00	
MW3	29.30	49.56	20.26	
9M1	34.50	65.63	31.13	
9P2	13.95	19.11	5.16	
9P7	11.81	20.69	8.88	
9L1	18.00	27.33	9.33	
RIW	17.28	25.41	8.13	
SS4	17.91	25.92	8.01	**SS4 to 9P2 Gradient =** + **2.85**
MIW	19.70	29.89	10.19	
SS3	23.03	33.73	10.70	
SS2	22.71	33.16	10.45	
SS1	22.57	32.37	9.80	
11B1	50.80	105.43	54.63	
11C1	44.29	98.20	53.91	
PFNW		93.22		Not Read
10A1	43.41	78.18	34.77	
10G2	32.81	62.95	30.14	
10G1	30.79	59.55	28.76	
10F2	38.96	66.92	27.96	
10M2	34.65	55.21	20.56	
9J3	26.81	43.45	16.64	

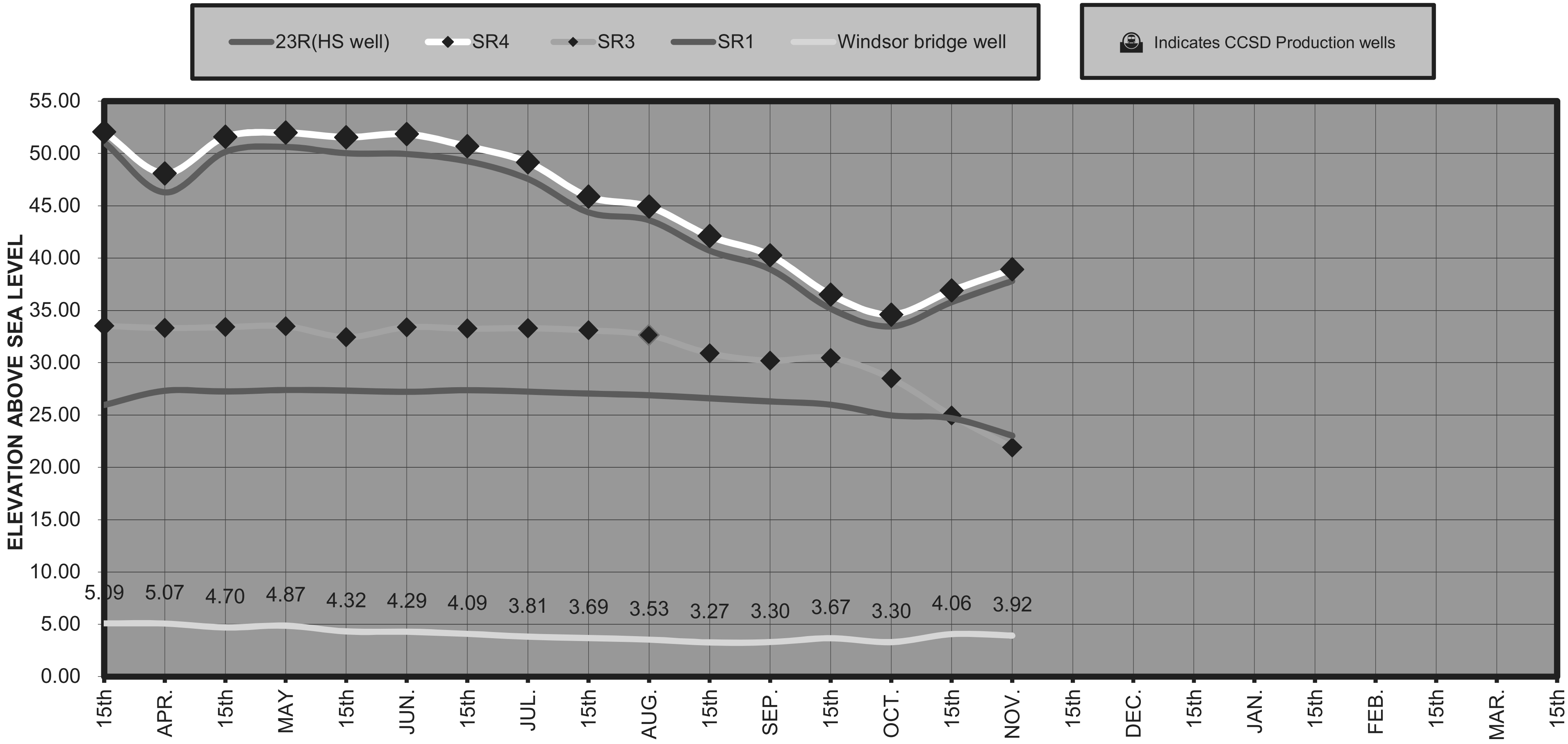
AVERAGE LEVEL OF CCSD SAN SIMEON WELLS SS1,SS2 & SS3 = 10.32 FEET

Red Font are the CCSD's Production Wells, as measured on 11/2/15

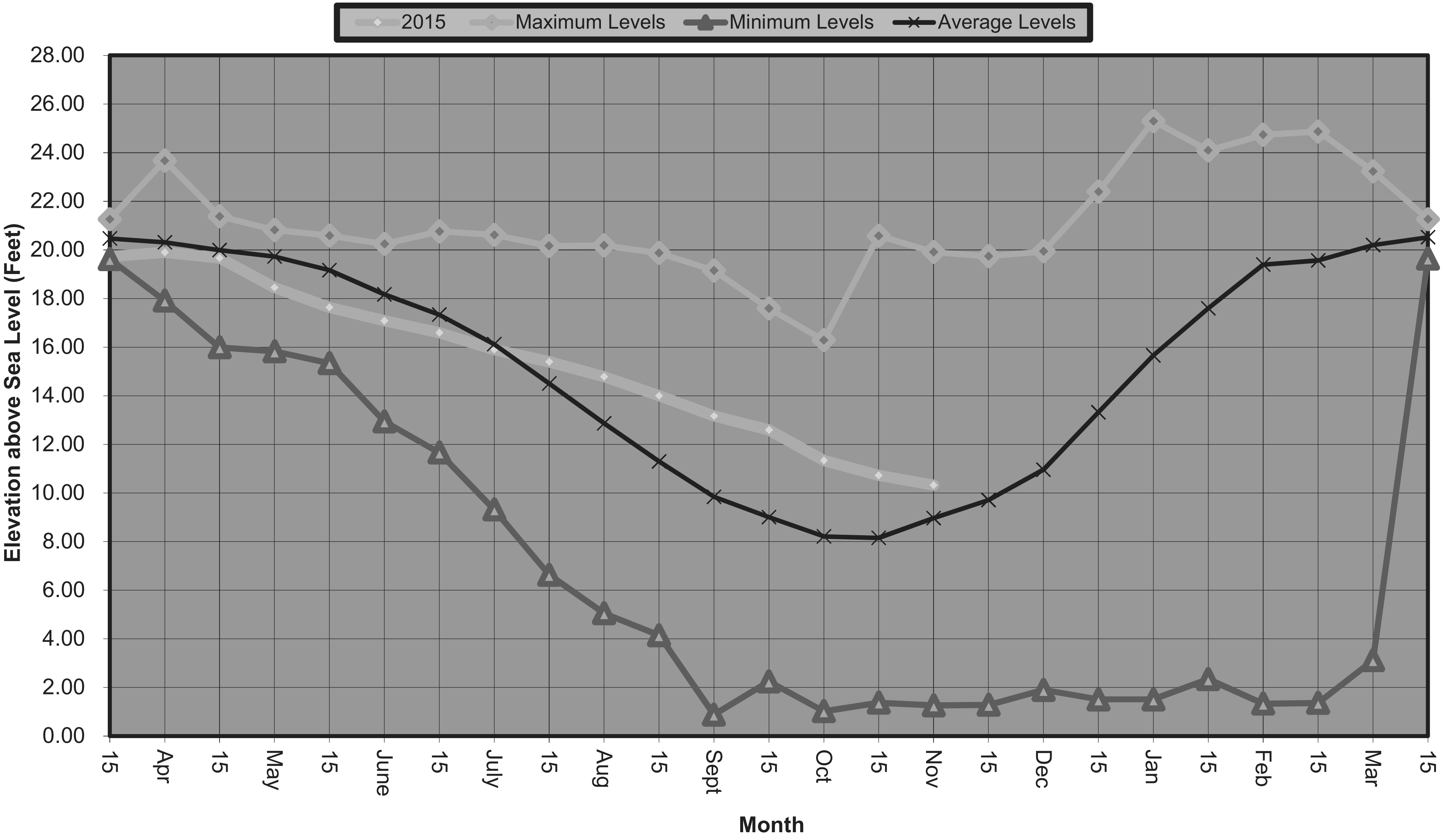
Reference point on 16d1,miw1,miw2,miw3,9p7,riw,miw1,ss1,ss2 and ss3 updatec 2/17/2015

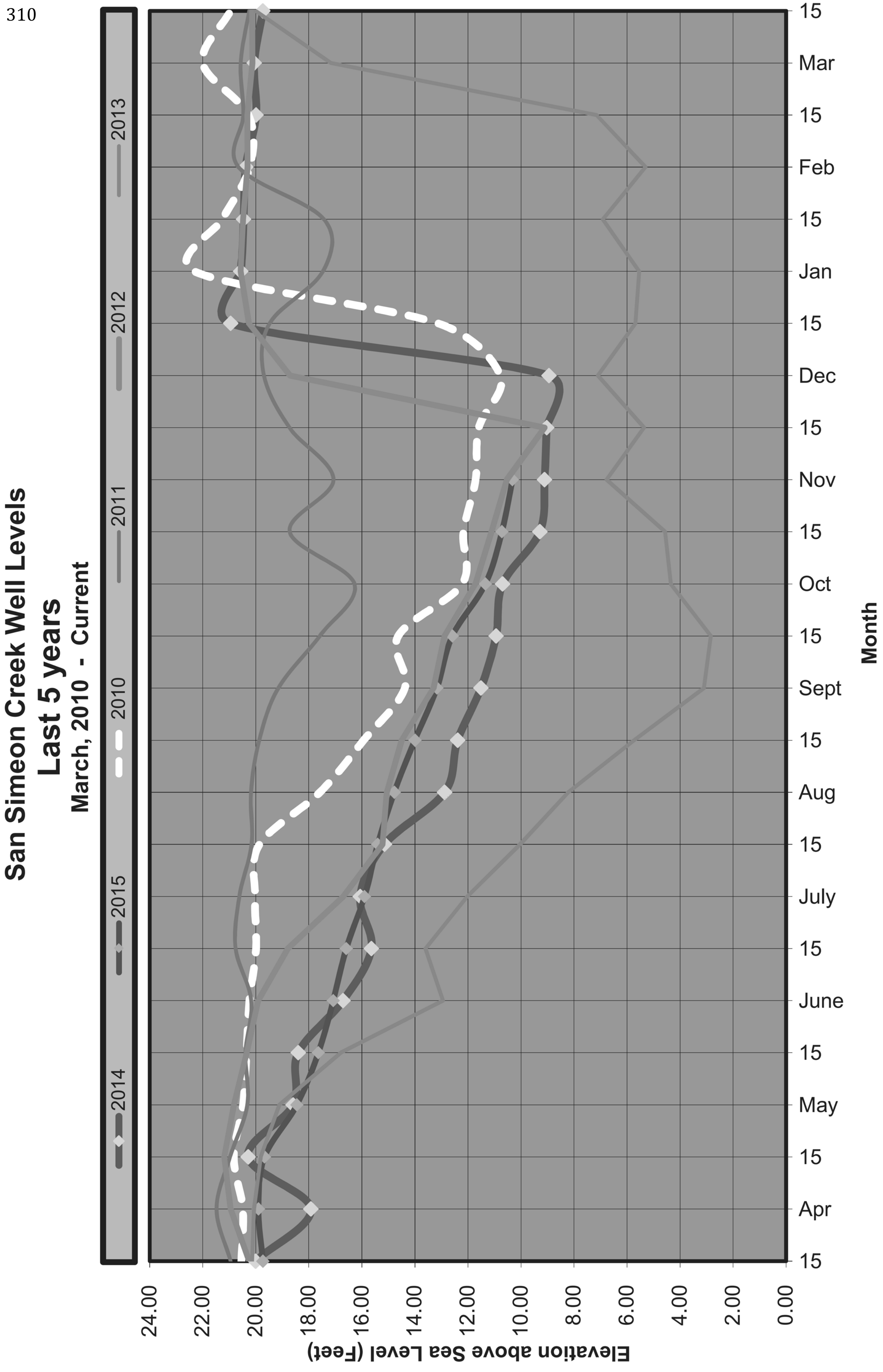
Example Cambria CSD
Santa Rosa Creek Well Levels Plot

SANTA ROSA CREEK WELL LEVELS
March 15th, 2015 - Current

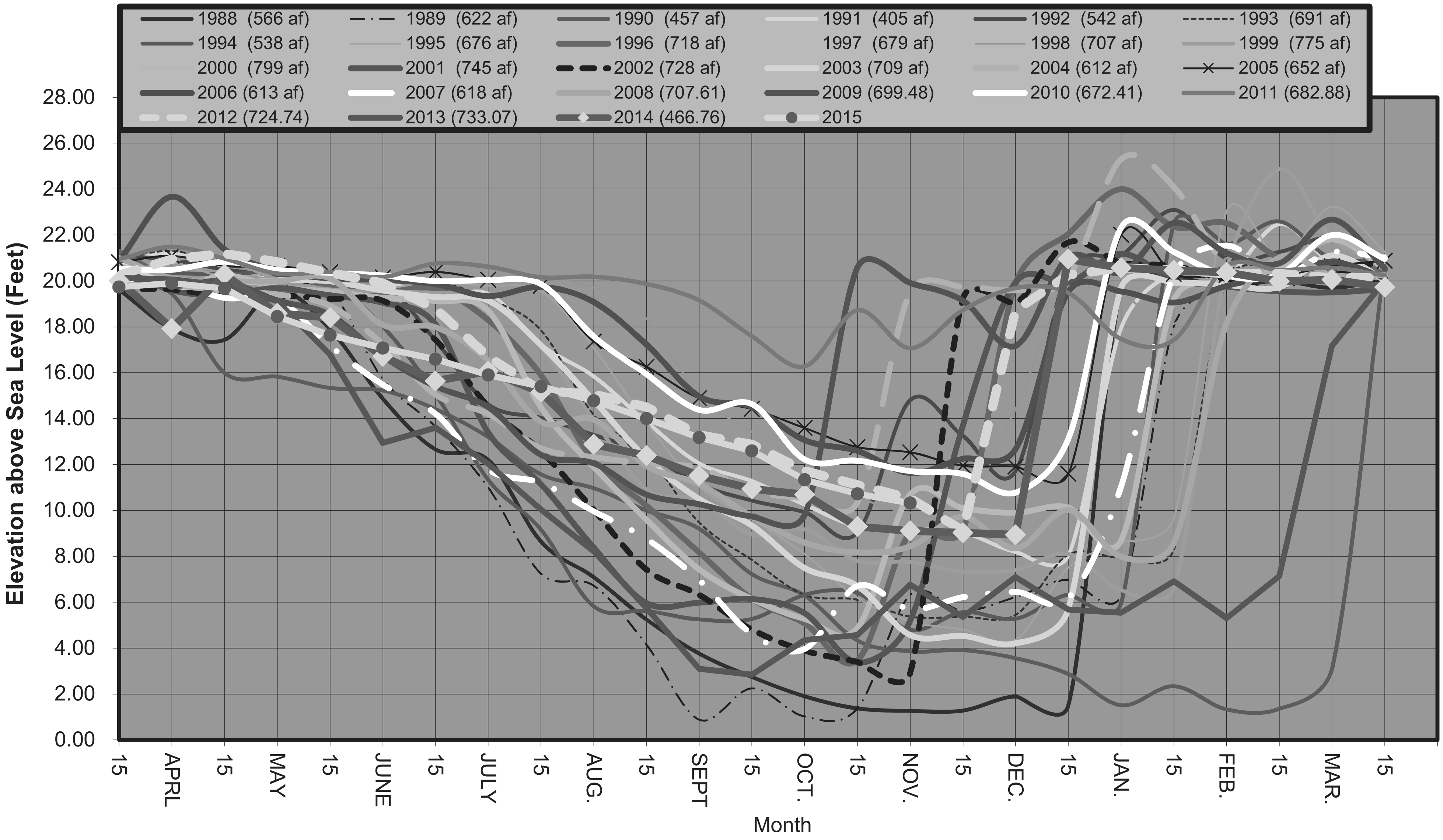


San Simeon Creek Well Levels
Water Year 2015/2016 levels to date and
1988 to Current Min, Max, & Average

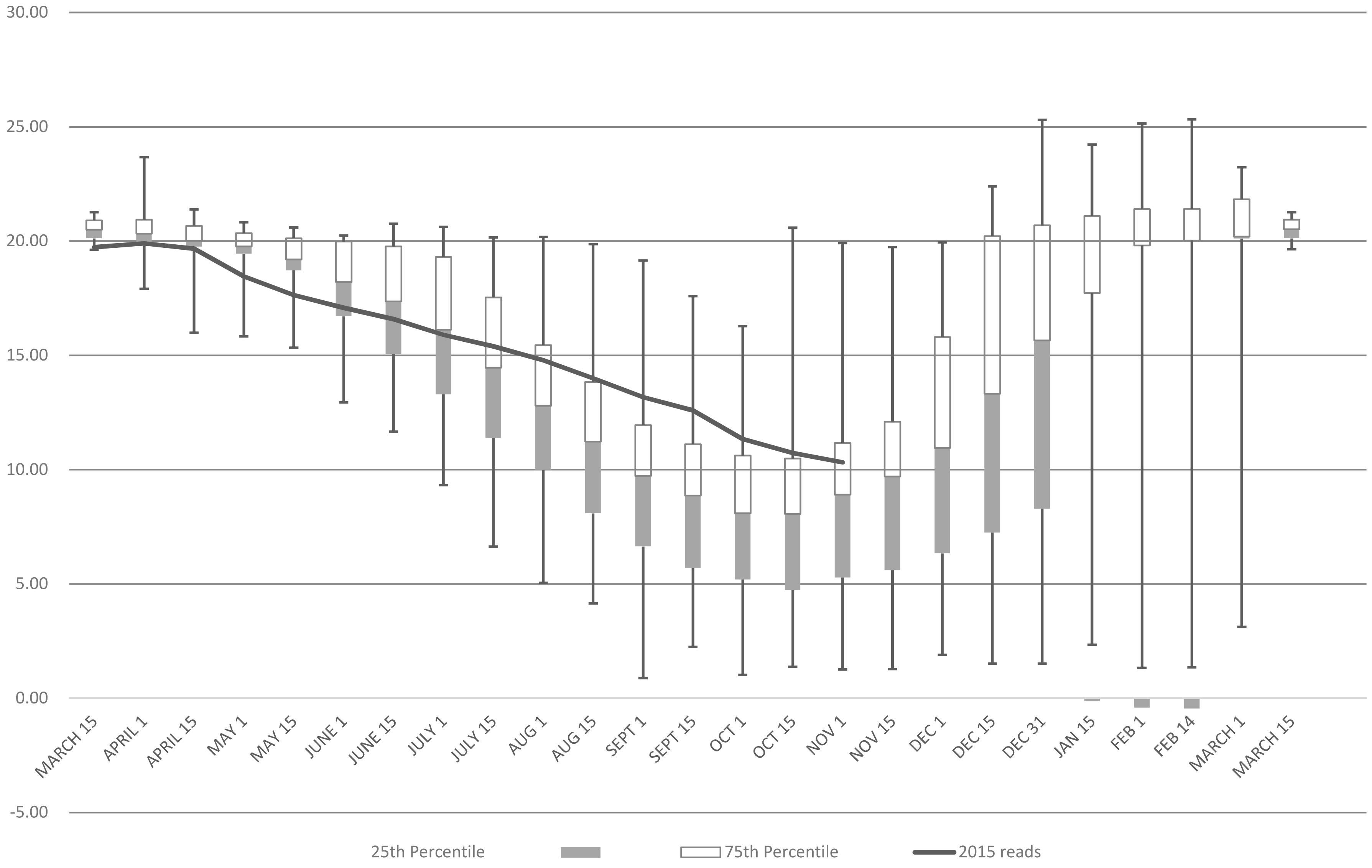



San Simeon Creek Well Levels
Last 5 years
March, 2010 - Current
2014
2015
2010
2011
2012
2013
24.00
22.00
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
Elevation above Sea Level (Feet)
15
Apr
15
May
15
June
15
July
15
Aug
15
Sept
15
Oct
15
Nov
15
Dec
15
Jan
15
Feb
15
Mar
15
Month

San Simeon Creek Well Levels
1988 - Current



1988 -2014 Statistical San Simeon Well Level Summary by Month
showing Minimums, Maximums, 25 % Percentile, 75% Percentile
Average Level is the line between the Purple (hatched) and Green (solid) bars



Appendix D

Section 18 – Proposed Monitoring and Reporting Program of the Operations, Maintenance, and Monitoring Program for the Cambria Emergency Water Supply Program

Prepared by:

CDM Smith
9220 Cleveland Avenue,
Suite 100
Rancho Cucamonga, CA 91730

Operations, Maintenance and Monitoring Plan for the Cambria Emergency Water Supply Project

REVISED FINAL

Prepared for:

Cambria Community Services District
1316 Tamson Street
Cambria, California 93428

**CDM Smith Project No.
138760-104133**

January 6, 2015

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Section 18

PROPOSED MONITORING AND REPORTING PROGRAM

18.1 AWTP Monitoring

18.1.1 General Monitoring Provisions

The CCSD will monitor the flow and quality of the following according to the manner and frequency specified in this MRP:

- Influent to the AWTP;
- AWTP product water;
- Receiving groundwater (monitoring well specified in Section 2); and,
- For the production wells nearest to the injection well, as identified in Section 2, the CCSD will review and evaluate the publicly available Title 22 monitoring data.

Monitoring reports will include, but not limited to, the following:

- Analytical results;
- Location of each sampling station where representative samples are obtained, including a map, at a scale of 1 inch equals 1,200 feet or less, that clearly identifies the locations of all injection wells, monitoring wells, and production wells;
- Analytical test methods used and the corresponding minimum reporting levels (MRLs);
- Name(s) of the laboratory, which conducted the analyses;
- Copy of laboratory certifications by the DDW's Environmental Laboratory Accreditation Program (ELAP); and,
- Quality assurance and control information, including documentation of chain of custody.

The CCSD will instruct its laboratories to establish calibration standards so that the MRLs (or its equivalent if there is a different treatment of samples relative to calibration standards) are the lowest calibration standard.

Upon request by the CCSD, the RWQCB, in consultation with the DDW Quality Assurance Program, may establish minimum reporting limits (MRLs), in any of the following situations:

- When the pollutant has no established method under 40 CFR 141,
- When the method under 40 CFR 14,1 in the Code of Federal Regulations, for the pollutant has a MRL higher than the limit specified in the amended WDR/WRR, or

- When the CCSD agrees to use a test method that is more sensitive than those specified in 40 CFR Part 141.

For regulated constituents, the laboratory conducting the analyses will be certified by ELAP or approved by the RWQCB, or the DDW, for a particular pollutant or parameter.

Samples will be analyzed within allowable holding time limits as specified in 40 CFR Part 141. All QA/QC analyses will be run on the same dates that samples are actually analyzed. The CCSD will retain the QA/QC documentation in its files and make available for inspection and/or submit them when requested by the RWQCB, or the DDW. Proper chain of custody procedures will be followed and a copy of this documentation will be submitted with the quarterly report.

For all bacterial analyses, sample dilutions will be performed so the range of values extends from 1 to 800. The detection methods used for each analysis will be reported with the results of the analyses.

Quarterly monitoring for effluent and groundwater will be performed during the months of February, May, August, and November, provided the Emergency Water Supply is in operation or has been operated within the previous two months. Semiannual monitoring for effluent will be performed during the months of February and August. Semiannual monitoring for groundwater will be performed during the months of May and November. Should there be instances when monitoring could not be done during these specified months, the CCSD will conduct the monitoring as soon as it can and state the reason in the monitoring report the reason that the monitoring could not be conducted during the specified month. Results of quarterly analyses will be reported in the quarterly monitoring report following the analysis.

For unregulated chemical analyses, the CCSD will select methods according to the following approach:

- Use drinking water methods, if available,
- Use DDW-recommended methods for unregulated chemicals, if available,
- If there is no DDW-recommended drinking water method for a chemical, and more than a single USEPA-approved method is available, use the most sensitive of the USEPA-approved methods, or
- If there is no USEPA-approved method for a chemical, and more than one method is available from the scientific literature and commercial laboratory, after consultation with DDW, use the most sensitive method.

18.1.2 Influent Monitoring

Influent monitoring will be conducted to determine compliance with water quality conditions and standards and to assess AWTP performance. The date and time of sampling will be reported with the analytical values determined. Sampling of plant influent will only be conducted during weeks, months, or quarters when the facility is operational. **Table 18-1** constitutes the influent monitoring program:

Table 18-1: Influent Monitoring (Order No. R3-2014-0050, Table M-2)

Constituents	Units	Type of Sample	Minimum Frequency of Analysis
Total Flow	mgd	Recorder	Continuous [1]
pH	pH units	Recorder	Continuous
Turbidity	NTU	Recorder	Continuous [1]
Ammonia-N	mg/L	Grab	Weekly
BOD_5	mg/L	24-hour Composite	Weekly
Boron	mg/L	Grab	Weekly
Chloride	mg/L	24-hour Composite	Weekly
Nitrate-N	mg/L	Grab	Weekly
Nitrite-N	mg/L	Grab	Weekly
Nitrate plus Nitrate	mg/L	Grab	Weekly
Sodium	mg/L	24-hour Composite	Weekly
Sulfate	mg/L	Grab	Weekly
Total Suspended Solids	mg/L	24-hour Composite	Weekly
Total Coliform	mg/L	Grab	Weekly
Total Dissolved Solids	mg/L	24-hour Composite	Weekly
Total Kjeldahl Nitrogen-N	mg/L	Grab	Weekly
Total Nitrogen [2]	mg/L	Grab	Weekly
TOC	mg/L	24-hour Composite	Weekly

[1] For those pollutants that are continuously monitored, the CCSD shall report the monthly minimum and maximum, and daily average values.

[2] Total Nitrogen includes nitrate-N, nitrite-N, ammonia-N, and organic-N.

18.1.3 AWTP Product Water Monitoring

Product water monitoring will be implemented to:

- Determine compliance with conditions contained in Order No. R3-2014-0050;
- Identify operational problems and aid in improving facility performance; and,
- Provide information on product water characteristics and flows for use in interpreting water quality and biological data.

Tables 18-2 through 18-12 constitute the proposed AWTP product water monitoring program, consistent with the GWR Regulations published on June 18, 2014 and the DDW's Recycled Water Policy amended on January 22, 2013. Sampling of plant product water will only be conducted during weeks, months, or quarters when the facility is operational. Some parameters include increased monitoring frequency during the first one or two years of operation.

In keeping with the current practice, product water samples will be collected from the channel downstream of the sodium hypochlorite injection point. Should the need for a change in the sampling station(s) arises in the future, the CCSD will seek approval of the proposed station by the RWQCB Executive Officer prior to use.

Table 18-2: AWTP Product Water Monitoring (Order No. R3-2014-0050, Table M-4)

Constituent/Parameters	Units	Type of Sample	Minimum Frequency of Analysis [1]
Total Recycled Water Flow	mgd	Metered	Continuous
pH	pH units	Metered	Continuous
Turbidity	NTU	Metered	Continuous
Conductivity [2]	mmho/cm	Metered	Continuous
Free residual chlorine	mg/L	Metered	Continuous
Total Coliform	MPN/100 ml	Grab	Daily
TOC	mg/L	Grab	Weekly
Temperature	°C	Metered	Continuous
Total Nitrogen	mg/L	24-hour comp or grab	Twice per week at least 3 days apart [3]
Ammonia-N	mg/L	Grab	Weekly
Nitrate-N	mg/L	Grab	Weekly
Nitrite-N	mg/L	Grab	Weekly
Nitrate plus Nitrate	mg/L	Grab	Weekly
Total Kjeldahl Nitrogen-N	mg/L	Grab	Weekly
Inorganics with primary MCLs [4]	mg/L	Grab	Quarterly
Constituents/parameters with secondary MCL [5]	various	Grab	Quarterly
Radioactivity [6],[14]	pci/L	Grab	Monthly for first 12 consecutive months
Regulated organic chemicals [7],[14]	µg/L	Grab	Monthly for first 12 consecutive months
Disinfection byproducts [8],[14]	µg/L	Grab	Monthly for first 12 consecutive months
General physical [9]	various	Grab	Quarterly
General minerals [9]	µg/L	Grab	Quarterly
Constituents with Notification Levels [10],[14]	µg/L	Grab	Monthly for first 12 consecutive months
Remaining priority pollutants [11]	µg/L	Grab	Annually
Constituents of Emerging Concerns (CECs) [12]	ng/L	Grab	Varies
Surrogates [13]	Varies	Varies	Varies

[1] For those pollutants that are continuously monitored, the CCSD shall report the monthly minimum and maximum, and daily average values.
[2] Monitor the effluent of each RO unit (Stage 1 and 2) and the third stage RO unit (Stage 3). Report the average and maximum conductivity from the effluent of each unit daily.
[3] If no problem is detected, analysis of nitrogen can be reduced to weekly after 12 months of data collection.
[4] For specific constituents to be monitored and their monitoring frequency, refer to Table 18-3 (Order No. R3-2014-0050, Table M-5).
[5] For specific constituents to be monitored and their monitoring frequency, refer to Table 18-4 (Order No. R3-2014-0050, Table M-6).
[6] For specific constituents to be monitored and their monitoring frequency, refer to Table 18-5 (Order No. R3-2014-0050, Table M-7).
[7] For specific constituents to be monitored and their monitoring frequency, refer to Table 18-6 (Order No. R3-2014-0050, Table M-8).
[8] For specific constituents to be monitored and their monitoring frequency, refer to Table 18-7 (Order No. R3-2014-0050, Table M-9).
[9] For specific constituents to be monitored and their monitoring frequency, refer to Table 18-8 (Order No. R3-2014-0050, Table M-10).
[10] For specific constituents to be monitored and their monitoring frequency, refer to Table 18-9 (Order No. R3-2014-0050, Table M-11).
[11] For specific constituents to be monitored and their monitoring frequency, refer to Table 18-10 (Order No. R3-2014-0050, Table M-12).
[12] For specific constituents to be monitored and their monitoring frequency, refer to Table 18-11 (Order No. R3-2014-0050, Table M-13).
[13] For specific constituents to be monitored and their monitoring frequency, refer to Table 18-12 (Order No. R3-2014-0050, Table M-14).
[14] Each month, the CCSD shall collect samples (grab or composite) representative of the effluent of the advanced treatment process and have the samples analyzed for contaminants having MCLs and notification levels (NLs). After 12 consecutive months with no results exceeding an MCL or NL, the CCSD may apply for a reduced monitoring frequency. The reduced monitoring frequency shall be no less than quarterly. The effluent of the advanced treatment process shall not exceed an MCL or NL.

Table 18-3: Inorganics with Primary MCLs (Order No. R3-2014-0050, Table M-5)

Constituents		
Aluminum	Beryllium	Nickel
Antimony	Cadmium	Nitrite (as nitrogen)
Arsenic	Chromium	Selenium
Asbestos	Cyanide	Thallium
Barium	Mercury	Fluoride

Type of Sample: Grab
Monitoring Frequency: Quarterly

Table 18-4: Constituents/parameters with secondary MCL (Order No. R3-2014-0050, Table M-6)

Constituents		
Aluminum	Iron	Silver
Copper	Manganese	Thiobencarb
Corrosivity	Methyl-tert-butyl-ether (MTBE)	Turbidity
Foam Agents (MBAS)	Odor - Threshold	Zinc

Type of Sample: Grab
Monitoring Frequency: Quarterly

Table 18-5: Radioactivity (Order No. R3-2014-0050, Table M-7)

Constituent		
Gross Alpha Particle Activity (Including Radium-226 but Excluding Radon and Uranium)	Combined Radium-226 and Radium-228	Tritium
Gross Beta Particle Activity	Strontium-90	Uranium

Type of Sample: Grab
Monitoring Frequency: Monthly. Each month, the CCSD shall collect samples (grab) representative of the effluent of the advanced treatment process and have the samples analyzed for contaminants having MCLs and notification levels (NLs). After 12 consecutive months with no results exceeding an MCL or NL, the CCSD may apply for a reduced monitoring frequency. The reduced monitoring frequency shall be no less than quarterly. The effluent of the advanced treatment process shall not exceed an MCL or NL.

Table 18-6: Regulated Organics (Order No. R3-2014-0050, Table M-8)

Constituents		
(a) Volatile Organic Chemicals	1,1,1-Trichloroethane	Endothall
Benzene	1,1,2-Trichloroethane	Endrin
Carbon Tetrachloride (CTC)	Trichloroethylene (TCE)	Ethylene Dibromide (EDB)
1,2-Dichlorobenzene	Trichlorofluoromethane	Glyphosate
1,4-Dichlorobenzene	1,1,2-Trichloro-1,2,2-Trifluoroethane	Heptachlor
1,1-Dichloroethane	Vinyl Chloride	Heptachlor Epoxide
1,2-Dichloroethane (1,2-DCA)	Xylenes (m,p)	Hexachlorobenzene
1,1-Dichloroethene (1,1-DCE)	**(b) Non-Volatile synthetic Organic Constituents**	Hexachlorocyclopentadiene
Cis-1,2-Dichloroethylene	Alachlor	Lindane
Trans-1,2-Dichloroethylene	Atrazine	Methoxychlor
Dichloromethane	Bentazon	Molinate
1,2-Dichloropropane	Benzo(a)pyrene	Oxamyl
1,3-Dichloropropene	Carbofuran	Pentachlorophenol
Ethylbenzene	Chlordane	Picloram

Table 18-6: Regulated Organics (Order No. R3-2014-0050, Table M-8)

Constituents		
Methyl-tert-butyl-ether (MTBE)	2,4-D	Polychlorinated Biphenyls
Monochlorobenzene	Dalapon	Simazine
Styrene	1,2-Dibromo-3-chloropropane (DBCP)	Thiobencarb
1,1,2,2-Tetrachloroethane	Di(2-ethylhexyl)adipate	Toxaphene
Tetrachloroethylene (PCE)	Di(2-ethylhexyl)phthalate	2,3,7,8-TCDD (Dioxin)
Toluene	Dinoseb	2,4,5-TP (Silvex)
1,2,4-Trichlorobenzene	Diquat	

Type of Sample: 24-hour Composite
Monitoring Frequency: Monthly. Each month, the CCSD shall collect samples (24-hour composite) representative of the effluent of the advanced treatment process and have the samples analyzed for contaminants having MCLs and notification levels (NLs). After 12 consecutive months with no results exceeding an MCL or NL, the CCSD may apply for a reduced monitoring frequency. The reduced monitoring frequency shall be no less than quarterly. The effluent of the advanced treatment process shall not exceed an MCL or NL.

Table 18-7: Disinfection Byproducts (Order No. R3-2014-0050, Table M-9)

Constituent		
Total Trihalomethanes (TTHM)	Haloacetic acid (five) (HAA5)	Bromate
Bromodichloromethane	Monochloroacetic acid	Chlorite
Bromoform	Dichloroacetic acid	
Chloroform	Trichloroacetic acid	
Dibromochloromethane	Monobromoacetic acid	
	Dibromoacetic acid	

Type of Sample: 24-hour Composite
Monitoring Frequency: Monthly. Each month, the CCSD shall collect samples (24-hour composite) representative of the effluent of the advanced treatment process and have the samples analyzed for contaminants having MCLs and notification levels (NLs). After 12 consecutive months with no results exceeding an MCL or NL, the CCSD may apply for a reduced monitoring frequency. The reduced monitoring frequency shall be no less than quarterly. The effluent of the advanced treatment process shall not exceed an MCL or NL.

Table 18-8: General Physical and General Minerals (Order No. R3-2014-0050, Table M-10)

Constituents		
Asbestos	Potassium	Foaming Agents
Calcium	Sodium	Odor
Chloride	Sulfate	Specific Conductance
Copper	Zinc	Total Dissolved Solids
Iron	Color	Total Hardness
Manganese	Corrosivity	

Type of Sample: Grab.
Monitoring Frequency: Quarterly

Table 18-9: Constituents with Notification Levels (Order No. R3-2014-0050, Table M-11)

Constituents	Units	Type of Sample	Minimum Frequency of Analysis [1]
Boron	µg/L	Grab	Quarterly
n-Butylbenzene	µg/L	Grab	Annually
sec-Butylbenzene	µg/L	Grab	Annually
tert-Butylbenzene	µg/L	Grab	Annually
Carbon disulfide	µg/L	Grab	Quarterly

Table 18-9: Constituents with Notification Levels (Order No. R3-2014-0050, Table M-11)

Constituents	Units	Type of Sample	Minimum Frequency of Analysis [1]
Chlorate	µg/L	Grab	Quarterly
2-Chlorotoluene	µg/L	Grab	Annually
4-Chlorotoluene	µg/L	Grab	Annually
Diazinon	µg/L	Grab	Annually
Dichlorodifluoromethane (Freon 12)	µg/L	Grab	Annually
1,4-Dioxane	µg/L	Grab	Quarterly
Ethylene glycol	µg/L	Grab	Annually
Formaldehyde	µg/L	Grab	Annually
HMX	µg/L	Grab	Annually
Isopropylbenzene	µg/L	Grab	Annually
Manganese	µg/L	Grab	Quarterly
Methyl isobutyl ketone (MIBK)	µg/L	Grab	Annually
Naphthalene	µg/L	Grab	Annually
n-Nitrosodiethyamine (NDEA)	µg/L	Grab	Annually
n-Nitrosodimethylamine (NDMA)	µg/L	Grab	Quarterly
n-Nitrosodi-n-propylamine (NDPA)	µg/L	Grab	Annually
Propachlor	µg/L	Grab	Annually
n-Propylbenzene	µg/L	Grab	Annually
RDX	µg/L	Grab	Annually
Tertiary butyl alcohol (TBA)	µg/L	Grab	Quarterly
1,2,3-Trichloropropane (1,2,3-TCP)	µg/L	Grab	Annually
1,2,4-Trimethylbenzene	µg/L	Grab	Annually
1,3,5-Trimethylbenzene	µg/L	Grab	Annually
2,4,6-Trinitrotoluene (TNT)	µg/L	Grab	Annually
Vanadium	µg/L	Grab	Annually

[1] Monitoring Frequency: Monthly. Each month, the CCSD shall collect samples (24-hour composite) representative of the effluent of the advanced treatment process and have the samples analyzed for contaminants having MCLs and notification levels (NLs). After 12 consecutive months with no results exceeding an MCL or NL, the CCSD may apply for a reduced monitoring frequency. The reduced monitoring frequency shall be no less than quarterly. The effluent of the advanced treatment process shall not exceed an MCL or NL.

Table 18-10: Remaining Priority Pollutants (Order No. R3-2014-0050, Table M-12)

Constituents		
Pesticides	**Metals**	Di-n-butyl phthalate
Aldrin	Chromium III	Di-n-octyl phthalate
Dieldrin	Chromium VI	Diethyl phthalate
4,4’-DDT	**Base/Neutral Extractibles**	Dimethyl phthalate
4,4’-DDE	Acenaphthene	Benzo(a)anthracene
4,4’-DDD	Benzidine	Benzo(a)fluoranthene
Alpha-endosulfan	Hexachloroethane	Benzo(k)fluoranthene
Beta-endosulfan	Bis(2-chloroethyl)ether	Chrysene
Endosulfan sulfate	2-chloronaphthalene	Acenaphthylene
Endrin aldehyde	1,3-dichlorobenzene	Anthracene
Alpha-BHC	3,3’-dichlorobenzidine	1,12-benzoperylene
Beta-BHC	2,4-dinitrotoluene	Fluorene

Table 18-10: Remaining Priority Pollutants (Order No. R3-2014-0050, Table M-12)

Constituents		
Delta-BHC	2,6-dinitrotoluene	Phenanthrene
Acid Extractibles	1,2-diphenylhydrazine	1,2,5,6-dibenzanthracene
2,4,6-trichlorophenol	Fluoranthene	Indeno(1,2,3-cd)pyrene
P-chloro-m-cresol	4-chlorophenyl phenyl ether	Pyrene
2-chlorophenol	4-bromophenyl phenyl ether	**Volatile Organics**
2,4-dichlorophenol	Bis(2-chloroisopropyl)ether	Acrolein
2,4-dimethylphenol	Bis(2-chloroethoxyl)methane	Acrylonitrile
2-nitrophenol	Hexachlorobutadiene	Chlorobenzene
4-nitrophenol	Isophorone	Chloroethane
2,4-dinitrophenol	Nitrobenzene	1,1-dichloroethylene
4,6-dinitro-o-cresol	N-nitrosodiphenylamine	Methyl chloride
Phenol	Bis(2-ethylhexyl)phthalate	Methyl bromide
	Butyl benzyl phthalate	2-chloroethyl vinyl ether

Type of Sample: Grab
Monitoring Frequency: Annually

Table 18-11: Constituents of Emerging Concern (Order No. R3-2014-0050, Table M-13)

Constituents	Relevance/ Indicator Type	Type of Sample	Minimum Frequency of Analysis	Reporting Limit (µg/L)	Monitoring Locations [1]	
					Prior to RO	Following Treatment Prior to Well Injection
17β-estradiol	Health	Grab	Annually	0.001		X
Caffeine	Health & Performance	Grab	Annually	0.05	X	X
NDMA	Health & Performance	Grab	Quarterly	0.002	X	X
Triclosan	Health	Grab	Annually	0.05	X	X
DEET	Performance	Grab	Annually	0.05	X	X
Sucralose	Performance	Grab	Quarterly	0.1	X	X

[1] The January 22, 2013 Recycled Water Policy Attachment A makes a distinction between health-based and performance-based CEC indicators for purposes of monitoring locations. For subsurface applications, the health-based CECs are 17β-estradiol, caffeine, NDMA, and triclosan, with monitoring required for final recycled water only. The health-based and performance-based CECs are caffeine, NDMA, DEET, and sucralose, with monitoring required prior to Reverse Osmosis and post- treatment prior to release to the aquifer. Caffeine and NDMA serve both as health-based and performance based indicators

Table 18-12: Surrogates (Order No. R3-2014-0050, Table M-14)

Constituents	Type of Sample	Minimum Frequency of Analysis	Monitoring Locations	
			Prior to RO	Following Treatment Prior to Well Injection
Electrical Conductivity	Online	Continuous [1]		X
TOC	24-hour Composite	Weekly	X	X

[1] Since monitoring will be continuous using online analyzers, monthly averages for each monitoring location shall be reported in the quarterly compliance monitoring reports.

18.1.4 Groundwater Monitoring

Groundwater monitoring will be done to assess any impacts from the recharge of AWTP product water. The proposed groundwater monitoring program will be developed at a later date through discussions between the CCSD, the DDW, and the RWQCB. **Tables 18-13 through 18-15** includes a preliminary framework for groundwater monitoring.

If any of the monitoring results indicates that an MCL has been exceeded or that coliforms are present as a result of the AWTP water injected into the aquifer, the CCSD will notify the DDW within 72 hours of receiving the results and make note of any positive finding in the next monitoring report submitted to the RWQCB. Sampling of monitoring wells MIW-1 and SS-3 will only be conducted during weeks, months, or quarters when the facility is operational or within two months of when the facility was last operational.

The salinity of the groundwater extracted from Wells SS-1 and SS-2 will be monitored to determine the impacts of operating the AWTP and associated wells on the groundwater quality. If significant increases in salinity are observed (greater than 10 percent increase above historic levels), Well 9P7 pumping will be reduced.

Table 18-13: Groundwater Monitoring (Order No. R3-2014-0050, Table M-16)

Constituents/Parameters	Units	Type of Sample	Minimum Frequency of Analysis
Water level elevation [1]	feet	---	Quarterly
Chlorine residual	mg/L	Grab	Quarterly
Chloride	mg/L	Grab	Quarterly
Nitrate-N	mg/L	Grab	Quarterly
Nitrite-N	mg/L	Grab	Quarterly
Nitrate plus Nitrite	mg/L	Grab	Quarterly
pH	pH units	Grab	Quarterly
Sodium	mg/L	Grab	Quarterly
Sulfate	mg/L	Grab	Quarterly
TOC	mg/L	Grab	Quarterly
Total coliform	MPN/100ml	Grab	Quarterly
BOD_5 20 °C	mg/L	Grab	Semiannually
Oil and Grease	mg/L	Grab	Quarterly
Total Nitrogen	mg/L	Grab	Quarterly
Total Suspended Solids	mg/L	Grab	Semiannually
Turbidity	NTU	Grab	Quarterly
Inorganics with primary MCLs [2]	µg/L	Grab	Quarterly
Constituents/parameters with secondary MCLs [2]	---	Grab	Annually
Fluoride [2]	µg/L	Grab	Quarterly
Radioactivity [2]	pci/L	Grab	Semiannually
Regulated organics [2]	mg/L	Grab	Semiannually
Disinfection byproducts (DBPs) [2]	mg/L	Grab	Semiannually
General physical [3]	various	Grab	Monthly
General minerals [3]	µg/L	Grab	Monthly
Chemicals with NLs [2]	µg/L	Grab	Annually
N-Nitrosopyrrolidine [2]	µg/L	Grab	Annually
Remaining priority pollutants [2]	µg/L	Grab	Annually

[1] Water level elevations shall be measured to the nearest 0.01 feet, and referenced to mean sea level.
[2] For specific constituents to be monitored and their monitoring frequency, refer to Table 18-14 (Order No. R3-2014-0050, Table M-17).
[3] For specific constituents to be monitored and their monitoring frequency, refer to Table 18-15 (Order No. R3-2014-0050, Table M-18).

Table 18-14: Groundwater Monitoring Frequency (Order No. R3-2014-0050, Table M-17)

Constituents	Monitoring Frequency						
	RIW-1	MIW-1	SS1	SS2	SS3	9P7	16D1
Total Suspended Solids (TSS)	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly
Turbidity	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly
Radioactivity							
Gross Alpha Particle Activity (including Radium-226 but excluding radon and uranium)	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Gross Beta Particle Activity	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Radium-226	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Radium-226 & Radium-228 (Combined)	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Radium-228	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Strontium-90	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Tritium	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Uranium	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Organic Chemicals							
(a) Volatile Organic Chemicals							
1,1,1-Trichloroethane	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,1,2,2-Tetrachloroethane	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,1,2-Trichloro-1,2,2-Trifluoroethane	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,1,2-Trichloroethane	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,1-Dichloroethane	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,1-Dichloroethene (1,1 DCE)	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,2,4-Trichlorobenzene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,2-Dichlorobenzene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,2-Dichloroethane (1,2 DCA)	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,2-Dichloropropane	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,3-Dichloropropene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,4-Dichlorobenzene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Benzene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Carbon Tetrachloride (CTC)	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
cis-1,2-Dichloroethylene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Dichloromethane	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Ethylbenzene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Methyl-tert-butyl-ether (MTBE)	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Monochlorobenzene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Styrene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Tetrachloroethylene (PCE)	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Toluene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
trans-1,2-Dichloroethylene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Trichloroethylene (TCE)	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Trichlorofluoro-methane	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Vinyl Chloride	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Xylenes (m, p)	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly

Table 18-14: Groundwater Monitoring Frequency (Order No. R3-2014-0050, Table M-17)

Constituents	Monitoring Frequency						
	RIW-1	MIW-1	SS1	SS2	SS3	9P7	16D1
(b) non-volatile synthetic organic chemical							
1,2-Dibromo-3-Chloropropane (DBCP)	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
2,3,7,8-TCDD (Dioxin)	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
2,4,5-TP (Silvex)	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
2,4-Dichlorophenoxyacetic acid (2,4-D)	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Alachlor	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Atrazine	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Bentazon	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Benzo (a) pyrene	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Carbofuran	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Chlordane	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Dalapon	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Di (2-ethylhexyl) adipate	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Di (2-ethylhexyl) phthalate	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Annual
Dinoseb	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Diquat	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Endothal	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Endrin	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Ethylene Dibromide (EDB)	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Glyphosate	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Heptachlor	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Heptachlor Epoxide	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Hexachlorobenzene	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Hexachlorocyclo-pentadiene	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Lindane (Gamma BHC)	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual

Table 18-14: Groundwater Monitoring Frequency (Order No. R3-2014-0050, Table M-17)

Constituents	Monitoring Frequency						
	RIW-1	MIW-1	SS1	SS2	SS3	9P7	16D1
Methoxychlor	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Molinate	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Oxamyl	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
PCB 1016	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
PCB 1221	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
PCB 1232	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
PCB 1242	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
PCB 1248	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
PCB 1254	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
PCB 1260	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Pentachlorophenol	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Annual
Picloram	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Simazine	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Thiobencarb	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Toxaphene	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Disinfection Byproducts							
Bromate	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Bromodichloro-methane	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Bromoform	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Chlorite	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Chloroform	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Dibromoacetic Acid	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Dibromochloro-methane	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Dichloroacetic Acid	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Haloacetic Acid (Five) (HAA5)	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual

Table 18-14: Groundwater Monitoring Frequency (Order No. R3-2014-0050, Table M-17)

Constituents	Monitoring Frequency						
	RIW-1	MIW-1	SS1	SS2	SS3	9P7	16D1
Monobromoacetic Acid	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Monochloroacetic Acid	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Total Trihalomethanes	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Trichloroacetic Acid	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Chemicals with Notification Levels							
1,2,3-Trichloropropane (1,2,3 TCP)	Annual	Annual	Annual	Annual	Annual	Annual	Annual
1,2,4-Trimethylbenzene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
1,3,5-Trimethylbenzene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
1,4-Dioxane	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2-Chlorotoluene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2,4,6-Trinitrotoluene (TNT)	Annual	Annual	Annual	Annual	Annual	Annual	Annual
4-Chlorotoluene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Boron	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly
Carbon Disulfide	Annual	Annual	Annual	Annual	Annual	Semi Annual	Annual
Chlorate	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Diazinon	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Dichlorodifluoro-methane (Freon 12)	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Ethylene Glycol	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Formaldehyde	Annual	Annual	Annual	Annual	Annual	Annual	Annual
HMX	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Isopropylbenzene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Manganese	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Methyl-isobutyl-keytone (MIBK)	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Naphthalene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
n-Butylbenzene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
n-Nitrosodiethyl-amine (NDEA)	Annual	Annual	Annual	Annual	Annual	Annual	Annual
n-Nitrosodimethylamine (NDMA)	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly
n-Nitrosodi-n-propylamine (NDPA)	Annual	Annual	Annual	Annual	Annual	Annual	Annual
n-Propylbenzene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Propachlor	Annual	Annual	Annual	Annual	Annual	Annual	Annual
RDX	Annual	Annual	Annual	Annual	Annual	Annual	Annual
sec-Butlybenzene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
tert-Butylbenzene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Tertiary-butyl-alcohol (TBA)	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Vanadium	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Remaining Priority Pollutants							

Table 18-14: Groundwater Monitoring Frequency (Order No. R3-2014-0050, Table M-17)

Constituents	Monitoring Frequency						
	RIW-1	**MIW-1**	**SS1**	**SS2**	**SS3**	**9P7**	**16D1**
Pesticides							
4,4,4'-DDD	Annual	Annual	Annual	Annual	Annual	Annual	Annual
4,4,4'-DDE	Annual	Annual	Annual	Annual	Annual	Annual	Annual
4,4,4-DDT	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Aldrin	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Alpha BHC	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Alpha Endosulfan	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Beta BHC	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Beta Endosulfan	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Chromium III	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Chromium VI	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Delta BHC	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Dieldrin	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Endosulfan Sulfate	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Endrin Aldehyde	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Acid Extractables							
2,4,6-Trichlorophenol	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2,4-Dichlorophenol	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2,4-Dimethylphenol	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2,4-Dinitrophenol	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2-Chlorophenol	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2-Nitrophenol	Annual	Annual	Annual	Annual	Annual	Annual	Annual
4,6-Dinitro-o-Cresol (2-Methly-4,6-Dinitrophenol)	Annual	Annual	Annual	Annual	Annual	Annual	Annual
4-Nitrophenol	Annual	Annual	Annual	Annual	Annual	Annual	Annual
p-Chloro-m-Cresol (3-Methyl-4-Chlorophenol)	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Phenol	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Base/Neutral Extractables							
1,12-Benzoperylene ((Benzo(g,h,i)-perylene))	Annual	Annual	Annual	Annual	Annual	Annual	Annual
1,2,5,6-Dibenzanthracene ((Dibenzo(a,h) anthracene))	Annual	Annual	Annual	Annual	Annual	Annual	Annual
1,2-Diphenylhydrazine	Annual	Annual	Annual	Annual	Annual	Annual	Annual
1,3-Dichlorobenzene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2,4-Dinitrotoluene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2,6-Dinitrotoluene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2-Chloronaphthalene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
3,3'-Dichlorobenzidine	Annual	Annual	Annual	Annual	Annual	Annual	Annual
4-Bromophenyl phenyl ether	Annual	Annual	Annual	Annual	Annual	Annual	Annual
4-Chlorophenyl phenyl ether	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Acenaphthene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Acenaphthylene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Anthracene	Annual	Annual	Annual	Annual	Annual	Annual	Annual

Table 18-14: Groundwater Monitoring Frequency (Order No. R3-2014-0050, Table M-17)

Constituents	Monitoring Frequency						
	RIW-1	MIW-1	SS1	SS2	SS3	9P7	16D1
Benzidine	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Benzo(a)anthracene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Benzo(b)fluoranthene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Benzo(k)fluoranthene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Bis(2-chloroethoxyl)-methane	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Bis(2-chloroethyl)ether	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Bis(2-chloroisopropyl)ether	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Butyl benzyl phthalate	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Chrysene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Di(2-ethylhexyl) phthalate	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Dimethyl phthalate	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Di-n-butyl phthalate	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Di-n-octyl phthalate	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Fluoranthene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Fluorene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Hexachlorobutadiene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Hexachloroethane	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Indeno(1,2,3-cd) pyrene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Isophorone	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Nitrobenzene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
n-Nitrosodi-n-propylamine	Annual	Annual	Annual	Annual	Annual	Annual	Annual
n-Nitrosodiphenylamine	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Phenanthrene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Pyrene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Volatile Organics							
1,1-Dichloroethylene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
2-Chloroethyl vinyl ether	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Acrolein	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Acrylonitrile	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Chlorobenzene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Chloroethane	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Methyl bromide	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Methyl chloride	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly

Table 18-15: General Physical and General Minerals (Order No. R3-2014-0050, Table M-18)

Constituents		
Asbestos	Potassium	Foaming Agents
Calcium	Sodium	Odor
Chloride	Sulfate	Specific Conductance
Copper	Zinc	Total Dissolved Solids
Iron	Color	Total Hardness
Manganese	Corrosivity	

Type of Sample: Grab.

Monitoring Frequency: Monthly

18.1.5 Evaluation of Pathogenic Microorganism Removal

For the purposes of evaluating the performance of the following treatment facilities/units with regards to pathogenic microorganism removal, the CCSD will include the results of the monitoring specified below in its quarterly compliance monitoring reports:

- WWTP: For the purpose of demonstrating that the log reductions assumed in Section 5 are achieved at the WWTP, the CCSD will report the daily average and maximum turbidity, percent of time more than 5 NTU, and daily coliform results associated with the WWTP.
- MF: For each day of operation, PDT will be performed, and the daily "Pass" or "Fail" results will be reported. Daily average and maximum turbidity will be reported, along with the percent of time more than 0.2 NTU. In addition, the CCSD will report the daily average and maximum turbidity of the MF permeate, along with the percent of time more than 0.2 NTU.
- UV/peroxide: For each day of operation, the CCSD will report the calculated daily peroxide dose (based on the peroxide pump speed and bulk feed concentration) and the applied UV power. For UV, the CCSD will report the UV system dose (expressed as greater than a certain threshold such as 300 mJ/cm^2), UV transmittance (daily minimum, maximum, and average), and UV intensity (daily minimum, maximum, and average).
- Free Chlorine: For each day of operation, the CCSD will report average and minimum free chlorine residual leaving the AWTP, the average and maximum pH, the average and minimum temperature, the minimum travel time to the injection well, the minimum CT achieved, and the maximum CT required for 2-log inactivation of viruses.
- Based on the calculation of log reduction achieved each day by the entire treatment system, the CCSD will report "Yes" or "No" for each day as to whether the necessary log reductions (i.e. 10-logs for *Giardia*, 10-logs for *Cryptosporidium*, and 12-logs for virus) have been attained. An overall log reduction calculation will be provided only for those days when a portion of the treatment system does not achieve the proposed credits.
- The CCSD will immediately notify the DDW and the RWQCB if the AWTP tails to meet the pathogen reduction criteria longer than 4 consecutive hours, or more than a total of 8 hours during any 7-day period.
- If the effectiveness of a treatment train's ability to reduce enteric virus is less than 10-logs, or *Giardia* cyst or *Cryptosporidium* oocyst reduction is less than 8-logs, the CCSD will immediately notify the DDW and the RWQCB, and discontinue delivery of product water to RIW, unless directed otherwise by the DDW or the RWQCB.

18.1.6 Additional RO Monitoring

During initial plant start-up, the CCSD will sample for TDS and conductivity in the feed water, second stage concentrate, primary system permeate (combined first and second stage), and third stage permeate. These samples will be used to develop a correlation between TDS and conductivity for each sample location. During normal plant operation, the CCSD will report the calculated daily average and minimum TDS reduction across each of the primary RO systems and the third stage RO system. TDS reduction will be calculated using measured conductivity values (continuously monitored) and the previously identified correlation factor for each sample location.

During the first twenty weeks of operation, TOC will be measured by grab sample weekly in the combined RO permeate and sent to an outside laboratory for analysis. The CCSD will report the percent of time permeate TOC exceeds the laboratory practical quantitation limit of 0.3 mg/L.

18.1.7 MF Backwash Monitoring

Table 18-16 includes a preliminary framework for monitoring the water quality of MF backwash waste discharge to Percolation Ponds.

Table 18-16: MF Backwash Waste Monitoring (Order No. R3-2014-0050, Table M-3b)

Constituents/Parameters	Units	Type of Sample	Minimum Frequency of Analysis
Total flow	mgd	Metered	Continuous [1]
pH	pH units	Metered	Continuous [1]
Total coliform	MPN/100 ml	Grab	Daily
Ammonia-N	mg/L	grab	Weekly
BOD5	mg/L	24-hour composite	Weekly
Boron	mg/L	grab	Weekly
Chloride	mg/L	24-hour composite	Weekly
Nitrate-N	mg/L	grab	Weekly
Nitrite-N	mg/L	grab	Weekly
Nitrate plus Nitrite	mg/L	grab	Weekly
Sodium	mg/L	24-hour composite	Weekly
Sulfate	mg/L	grab	Weekly
Total Dissolve Solids	mg/L	24-hour composite	Weekly
Total Kjeldahl nitrogen-N	mg/L	grab	Weekly
Total nitrogen [2]	mg/L	grab	Weekly
TOC	mg/L	grab	Weekly
Total Suspended Solids	mg/L	24-hour composite	Weekly
Turbidity	NTU	24-hour composite	Weekly

[1] For those constituents that are continuously monitored, the CCSD shall report the monthly minimum and maximum, and daily average values.

[2] Total Nitrogen includes nitrate-N, nitrite-N, ammonia-N, and organic-N.

18.2 Lagoon Monitoring Plan

This section outlines the planned monitoring and response plan for the San Simeon Creek Lagoon mitigation water supply proposed as a component of the Emergency Water Supply Project. The San Simeon Creek Lagoon is located west of the Project site, at the downstream end of San Simeon Creek. It crosses under SR-1 and spreads onto San Simeon State Beach, providing valuable habitat for fish including federally endangered and state species of special concern tidewater goby, federally threatened and state species of special concern steelhead, and threespine stickleback. The Lagoon is designated as Critical Habitat for tidewater goby and steelhead.

The lagoon is bounded on the western edge by a seasonally closed sand bar along the coastline When closed, the sand bar restricts water from the shore resulting in a freshwater lagoon habitat. The sand bar generally opens in late fall and closes again by mid-spring; while the sand bar is open, oceanic salt water combines with the freshwater of San Simeon Creek to create an estuary. The opening and closing of the sandbar is influenced by rainfall event flows in San Simeon Creek and wave action along the coast. The creek is intermittent in its lower reaches and is generally inundated from late fall to late spring/early summer and dry the rest of the year.

The AWTP has the potential to affect water levels in the lagoon while it is being operated by utilizing groundwater from the aquifer that would otherwise contribute to water flows in San Simeon Creek in the area adjacent to and downstream of the CCSD percolation ponds, and support water levels in the lagoon in dry water years. The magnitude of this potential effect is detailed in the Cambria Emergency Water Supply Project San Simeon Creek Basin Groundwater Modeling Report (GMR) (CDM Smith, May 14, 2014).

Reductions in water levels in the lagoon while water is being pumped from Well 9P7 and treated at the AWTP is in operation could impact the lagoon's freshwater habitat and the fish species that depend on that habitat. To mitigate these potential effects, the EWSP has been designed with a lagoon mitigation water component that would divert 100 gpm of MF filtrate water or a blend of MF filtrate water and product water to the lagoon to maintain water levels at or slightly above baseline conditions. The monitoring and response plans described in this section outlines how the CCSD will implement an adaptive monitoring and response program to track the performance of the lagoon mitigation water supply. In addition to this monitoring and response program, CCSD is developing an Adaptive Management Plan as a part of the CEQA compliance process for the long term operation of the EWSP. It is anticipated that this adaptive management plan will include specific monitoring requirements for species in the lagoon, but the plan will be developed to not conflict with the monitoring or response requirements described in this plan.

18.2.1 Monitoring Plan

The CCSD will monitor the performance of the lagoon mitigation water supply utilizing both real time monitoring of discharge quality and regular in person observations of conditions in the lagoon. **Tables 18-17 and 18-18** include a preliminary framework for monitoring the water quality of lagoon protection water, along with water levels in the lagoon.

The MF filtrate discharge to the lagoon will be monitored consistent with the monitoring requirements presented in Table M-3a of the Monitoring and Reporting Program Order NO. R3-2014-0050 (See **Table 18-17**). Monitoring of the MF filtrate discharge water quality will be completed during start-up of the AWTP, prior to any discharge of the lagoon mitigation supply, to verify that constituent levels do not exceed provisions established for discharge by the Low Threat to Water Quality, National Pollutant Discharge Elimination System General Permit No. CAG993001, Waste Discharge Requirements Order No. R3-2011-0223 (Low Threat General Permit).

Table 18-17: Membrane Filtrate Discharge Monitoring (Order No. R3-2014-0050, Table M-3a)

Constituents/Parameters	Units	Type of Sample	Minimum Frequency of Analysis
Total Flow	mgd	Metered	Continuous [1]

Table 18-17: Membrane Filtrate Discharge Monitoring (Order No. R3-2014-0050, Table M-3a)

Constituents/Parameters	Units	Type of Sample	Minimum Frequency of Analysis
pH	pH units	Metered	Continuous [1]
Turbidity	NTU	Metered	Continuous [1]
Total Coliform	MPN/100 mL	Grab	Daily
Ammonia-N	mg/L	grab	Weekly
BOD5	mg/L	24-hour composite	Weekly
Boron	mg/L	grab	Weekly
Chloride	mg/L	24-hour composite	Weekly
Nitrate-N	mg/L	grab	Weekly
Nitrite-N	mg/L	grab	Weekly
Nitrate plus Nitrite	mg/L	grab	Weekly
Sodium	mg/L	24-hour composite	Weekly
Sulfate	mg/L	grab	Weekly
Total Dissolve Solids	mg/L	24-hour composite	Weekly
Total Kjeldahl Nitrogen-N	mg/L	grab	Weekly
Total Nitrogen [2]	mg/L	grab	Weekly
TOC	mg/L	grab	Weekly
Total Suspended Solids	mg/L	24-hour composite	Weekly

[1] For those constituents that are continuously monitored, the CCSD shall report the monthly minimum and maximum, and daily average values.

[2] Total Nitrogen includes nitrate-N, nitrite-N, ammonia-N, and organic-N.

Table 18-18: Lagoon Monitoring

Constituents/Parameters	Units	Type of Sample	Minimum Frequency of Analysis
Erosion at Discharge Site		Visual/Photo Observation	Weekly
Lagoon Water Levels	Ft (msl)	Visual/Photo Observation	Weekly
Groundwater Level Monitoring	Ft (bgs)	Hand probe	Weekly

Weekly water level monitoring will be completed at the lagoon by the CCSD staff during operation of the AWTP and for one month following shutdown of the plant for the first two seasons of operation in consultation with the RWQCB. It is assumed that following the first two seasons of operation this monitoring plan will be revisited with the RWQCB Staff to compare observed levels against projected levels and determine the need for any additional monitoring. Until a revised monitoring is approved by the RWQCB, lagoon level monitoring will continue as described above.

The lagoon water level monitoring will be completed by visual inspection of a staff gauge that will be installed on the San Simeon Creek Trail Bridge crossing San Simeon Creek to identify any changes in water levels in the lagoon not forecast in the groundwater and lagoon modeling completed during project design and included in the Title 22 Engineering Report. This visual inspection will be recorded in both monitoring logs and with photos that will be shared with the RWQCB upon request. In addition to the lagoon water level monitoring, groundwater levels adjacent to the lagoon will be monitored utilizing either Well 16D1 or a new monitoring well developed up gradient of the lagoon discharge point.

In addition to the weekly water level monitoring, the CCSD staff will inspect the lagoon mitigation supply discharge site for any evidence of scour or erosion into the lagoon.

18.2.2 Response Plan

The monitoring approach listed above will be used to identify any changes in the quality of the mitigation water and water levels in the lagoon during operation of the AWTP to identify any need for implementation of the response plan. The lagoon mitigation water system has been designed to allow for some flexibility in the both the volume of water and the level of treatment completed on the water delivered to the lagoon.

In response to changes in conductivity/TDS levels in the mitigation supply delivered to the lagoon measured continuously at the AWTP or any observed changes in the other constituents monitored as required under Tables M-2 and M-3a of the Monitoring and Reporting Program Order NO. R3-2014-0050, a portion of the 100 gpm of mitigation water can be shifted from the MF filtrate supply to include product water that has received full RO treatment. Water quality issues that cannot be addressed through blending of MF filtrate supply and RO product water will result in the shutoff of the lagoon mitigation discharge by AWTP operators. The RWQCB will be notified within 48 hours of any shutdown of this discharge during operation of the AWTP.

Water levels observed in the lagoon during the weekly sampling efforts that correspond with drops in groundwater levels observed in either Well 16D1 or a new monitoring well developed up gradient of the lagoon discharge point will trigger an evaluation of the performance of the lagoon mitigation supply in coordination with the RWQCB staff. If the evaluation indicates that pumping in support of the AWTP is resulting in lowered lagoon water levels, changes in groundwater pumping rates at well 9P7 or increases in flow rates in the lagoon mitigation supply will be implemented.

The mitigation supply system has been designed to allow for the delivery of up to 150 gpm to the lagoon or alternately depending on groundwater level conditions on site pumping rates from well 9P7 could be reduced. The decision on how best to address changes in lagoon water levels observed utilizing this monitoring protocol that are different from the conditions forecast during design of the Emergency Water Supply Project will be made by the AWTP operators.

Any erosion or scour observed by the CCSD staff during the weekly visual inspection of the discharge site will be addressed by either adjustment to or placement of additional rip rap below the discharge pipe.

18.3 Reporting

The CCSD will submit the required reports outlined in the following paragraphs to the SWRCB's Geotracker database (in Electronic Data Format[1]) and to the Division of Drinking Water (DDW), Drinking Water Field Operations, by the dates indicated.

All reports to the SWRCB's Geotracker will reference the Order No. R3-2014-0050. Compliance monitoring reports will be submitted separately from other technical reports.

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[1] For help with EDF go to http://www.waterboards.ca.gov/ust/electronic_submittal/

All reports will be submitted as a pdf file and uploaded electronically to the SWRCB's Geotracker and provided via email to the DDW (if the file exceeds 10 MB, either a CD containing the file will be mailed to DDW, or a link for downloading an electronic copy of the file will be provided). Upon request the data will be provided in excel format.

By the reporting due dates specified in Table 18-1 (Order No. R3-2014-0050, Table M-1), groundwater data will be uploaded electronically to the SWRCB's Geotracker in an electronic deliverable format specified by the SWRCB[2]. Upon request the data will be provided in excel format.

18.3.1 Startup 30 day report

The Discharger must evaluate and field validate the operating assumptions for the AWTP (quality of: water supply, membrane filter backwash discharge, membrane filtrate discharge, reverse osmosis product water re-injection, and lagoon condition) and compare the pre-project assumptions to documented operating data. The Discharger must submit a report detailing differences between documented operating values and assumed concentrations/conditions. The report must be submitted within 10 days following the first 30 days of AWTP operation.

18.3.2 Monthly Reports

Consistent with section III. REPORTING REQUIREMENTS, monthly reports for monitoring and reporting requirements included in the Operations Maintenance and Monitoring Plan will be submitted by the 15th day of each month following the first monthly monitoring period.

18.3.3 Quarterly Monitoring

Quarterly Monitoring Reports will be submitted by the 15th day of the second month following the end of each quarterly monitoring period according to **Table 18-19** (Order No. R3-2014-0050, Table M-1).

Table 18-19: Quarterly Report Periods and Due Dates (Order No. R3-2014-0050, Table M-1)

Reporting Period	Report Due
January – March	May 15
April – June	August 15
July – September	November 15
October - December	February 15

The contents of the Geotracker Quarterly Monitoring Report will include a one-page summary of operational concerns that addresses changes in reporting conditions, including influent, recycled water, and groundwater monitoring results, since the last report.

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[2] http://www.waterboards.ca.gov/ust/electronic_submittal/

18.3.4 Annual Summary

The Annual Summary Report will be submitted by April 15 of each year. This Annual Summary Report will contain a discussion of the previous calendar year's analytical results, as well as graphical and tabular summaries of the monitoring analytical data.

Public water systems and owners of small water systems and other active production wells having downgradient sources potentially affected by the CCSD groundwater injection project or within 10 years groundwater travel time from the CCSD groundwater injection project will be notified by direct mail and/or electronic mail of the availability of the annual report.

18.3.5 Operation Plan Revisions

After six months of operation of the Plant, the OMMP will be updated as necessary and submitted to the RWQCB and the DDW for review and approval.

During the first year of operation of the Cambria AWTP, all treatment processes will be operated in a manner to provide optimal reduction of microbial, regulated and nonregulated contaminants. Based on this experience and anytime operational changes are made, the OMMP will be updated.

Significant changes in the operation of any of the treatment processes will be reported to the DDW and the RWQCB. Significant changes in the approved OMMP must be approved by the DDW and the RWQCB prior to instituting changes. The CCSD is responsible for ensuring that the OMMP is, at all times, representative of the current operations, maintenance, and monitoring of the Cambria AWTP.

18.3.6 Five-Year Engineering Report

The CCSD will update the 2013 Title 22 Engineering Report and submit the updated report to the SWRCB's Geotracker and the DDW five years after the startup of the Cambria AWTP, and every five years thereafter.

Appendix E – Adaptive Management Plan

CAMBRIA EMERGENCY WATER SUPPLY PROJECT

San Luis Obispo County, California

Adaptive Management Plan

Prepared For:
Cambria Community Services District
1316 Tamson Drive, Suite 201
Cambria, California 93428
Contact: Robert C. Gresens, P.E.
805.927.6623

Prepared By:
RBF Consulting
14725 Alton Parkway
Irvine, California 92618
Contact: Thomas J. McGill, Ph.D.
909.947.4907

Michael Baker
INTERNATIONAL

March 2015
JN: 141290

CAMBRIA EMERGENCY WATER SUPPLY PROJECT

COMMUNITY OF CAMBRIA, SAN LUIS OBISPO COUNTY, CALIFORNIA

Adaptive Management Plan

The undersigned certify that the statements furnished in this report and exhibits present data and information required for this biological evaluation, and the facts, statements, and information presented is a complete and accurate account of the findings and conclusions to the best of our knowledge and beliefs.

Ryan

Ryan Winkleman
Biologist
Natural Resources

Thomas J McGill

Thomas J. McGill, Ph.D.
Vice President
Natural Resources

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EXHIBITS

TABLES

LIST OF ACRONYMS

AMP	Adaptive Management Plan
AWTP	Advanced Water Treatment Plant
BM	Biological Monitor
C	Celsius
CCSD	Cambria Community Services District
CDFW	California Department of Fish and Wildlife
CRAM	California Rapid Assessment Method
DO	Dissolved Oxygen
F	Fahrenheit
gpm	Gallons Per Minute
PHABSIM	Physical Habitat Simulation
ppm	Parts Per Million
ppt	Parts Per Thousand
RBF	RBF Consulting
RIW	Recharge Injection Well
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WUA	Weighted Usable Area

Section 1 Background and Objectives

The Cambria Community Services District (CCSD or the District) proposes to install and operate the Cambria Emergency Water Supply Project to help alleviate an emergency water shortage in the Community of Cambria, San Luis Obispo County, California (Project). The Project would be located on previously-disturbed areas within CCSD's existing San Simeon well field and percolation pond system property. The Project proposes to both utilize existing, as well as construct and operate, the following water facilities: one extraction well (existing Well 9P7); an Advanced Water Treatment Plant (AWTP); a Recharge Injection Well (RIW); an evaporation pond (rehabilitate/modify an existing storage pond); lagoon surface discharge, proposed as mitigation to protect the San Simeon Creek and Lagoon; four monitoring wells; and four pipelines.

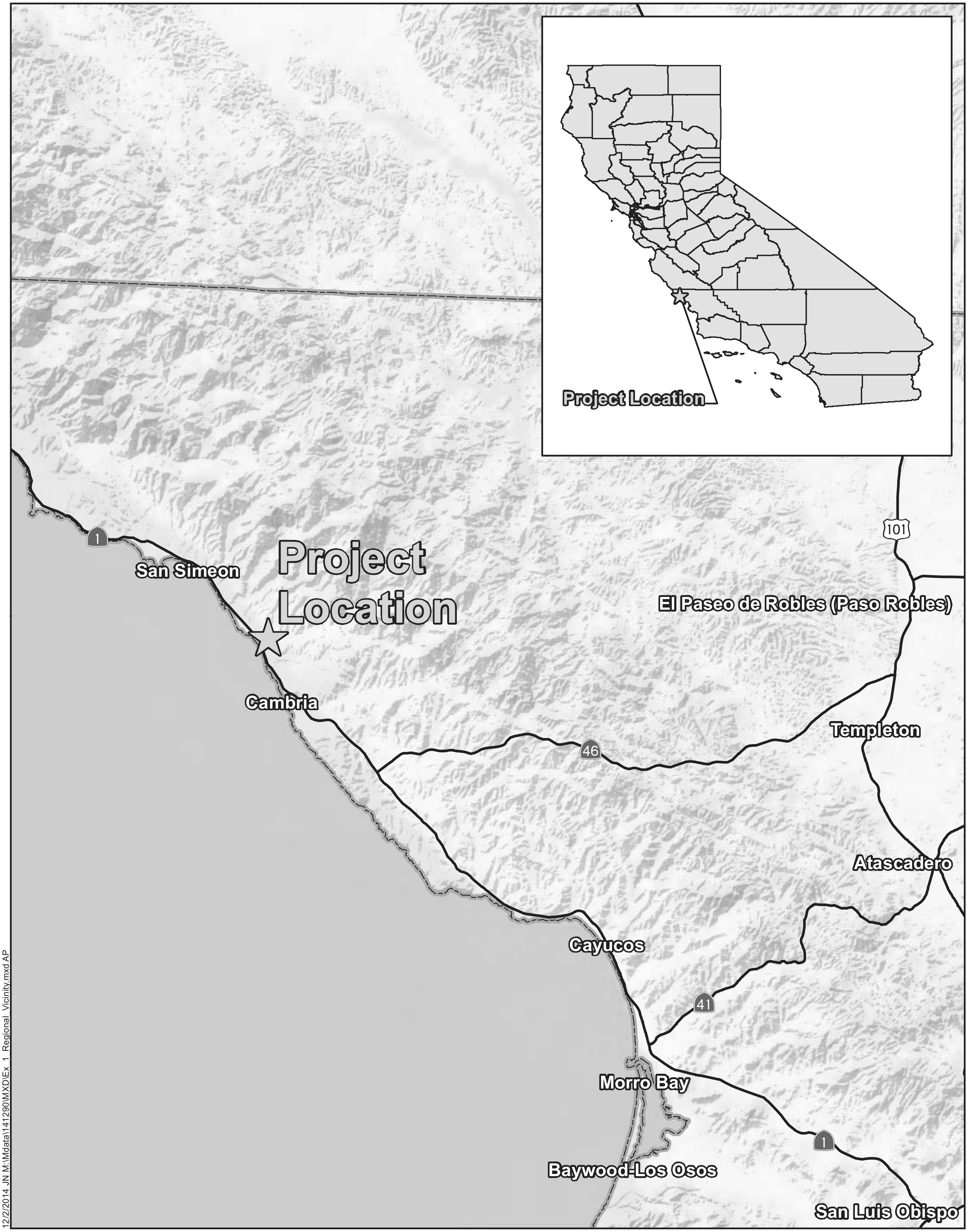
1.1 EMERGENCY WATER SUPPLY PROJECT

1.1.1 Project Location

The Project site is generally located east of State Route 1 (SR 1), south of the Community of San Simeon, and north of the Community of Cambria in unincorporated San Luis Obispo County, California (Exhibit 1, *Regional Vicinity Map*). The Project site is located in Sections 9, 16, and 17 of Township 27 South, Range 8 East of the Cambria quadrangle of the United States Geological Survey (USGS) 7.5-minute topographic map series (Exhibit 2, *Local Vicinity Map*). Specifically, the site is east of Van Gordon Creek Road, north of San Simeon Creek, and south of San Simeon-Monterey Creek Road. It is located adjacent to but not within Hearst San Simeon State Park (Exhibit 3, *Project Site Map*).

1.1.2 Project Background

All of Cambria's potable water is supplied by groundwater wells in the San Simeon and Santa Rosa Creek aquifers. The San Simeon and Santa Rosa Creek aquifers are relatively shallow and porous, with the groundwater levels typically recharged every year during the rainy season. Groundwater levels generally exhibit a consistent pattern of high levels during the wet season, steady decline during the dry season, and rapid rise when the wet season resumes. To minimize loss or contamination of potable groundwater at the aquifer and ocean interface, treated wastewater effluent is percolated into the San Simeon Creek aquifer downstream from its production wells. This practice also helps prevent saltwater intrusion into the freshwater water aquifer. If the groundwater level drops too far, treated effluent and seawater could migrate toward the water supply wells, deteriorating the water quality and potentially rendering the freshwater non-potable. The percolation of treated wastewater



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CAMBRIA EMERGENCY WATER SUPPLY PROJECT
ADAPTIVE MANAGEMENT PLAN

Regional Vicinity Map

Exhibit 1

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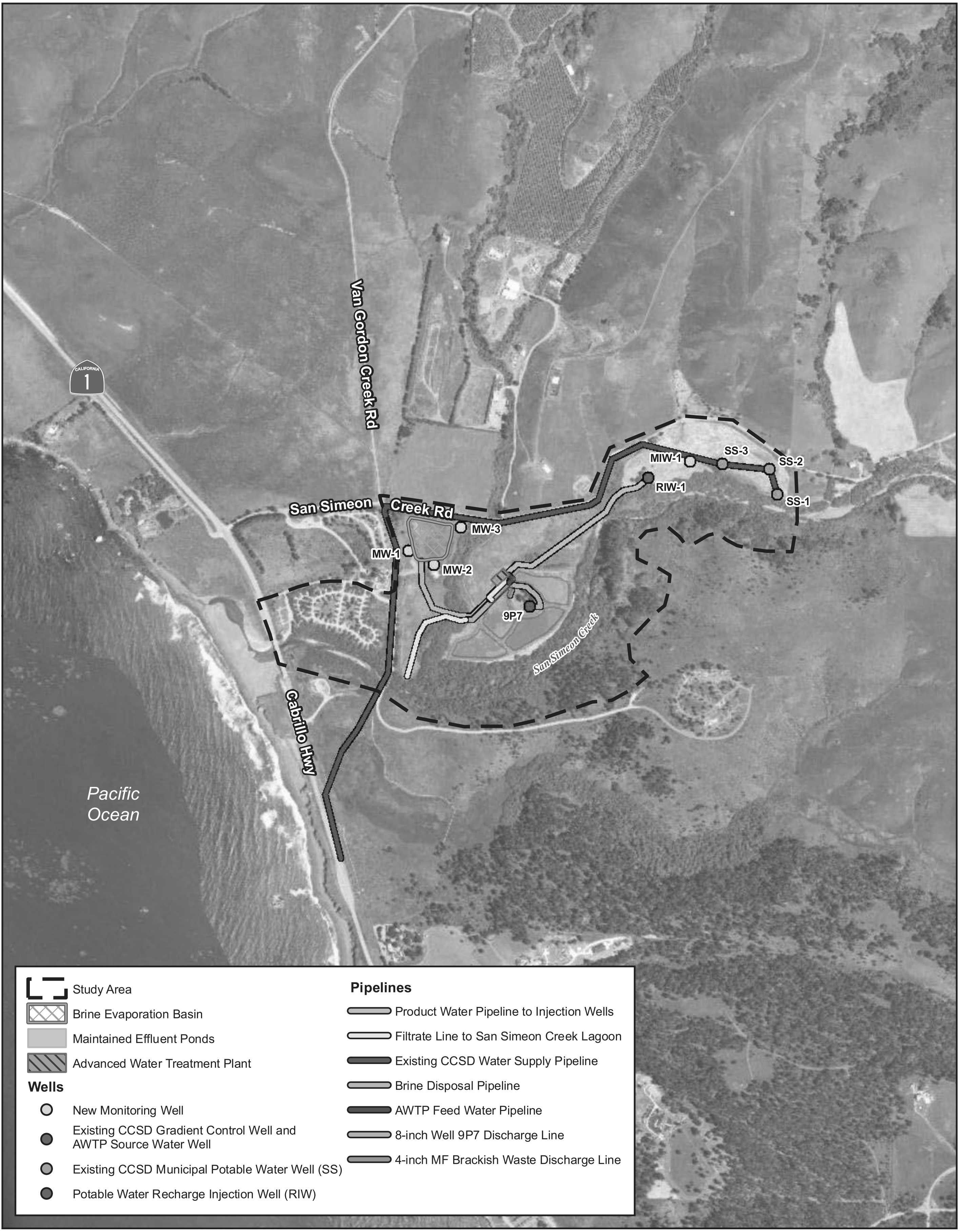
0 2.5 5 10
Miles

Source: ESRI Relief Map, National Highway Planning Network



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CAMBRIA EMERGENCY WATER SUPPLY PROJECT
ADAPTIVE MANAGEMENT PLAN

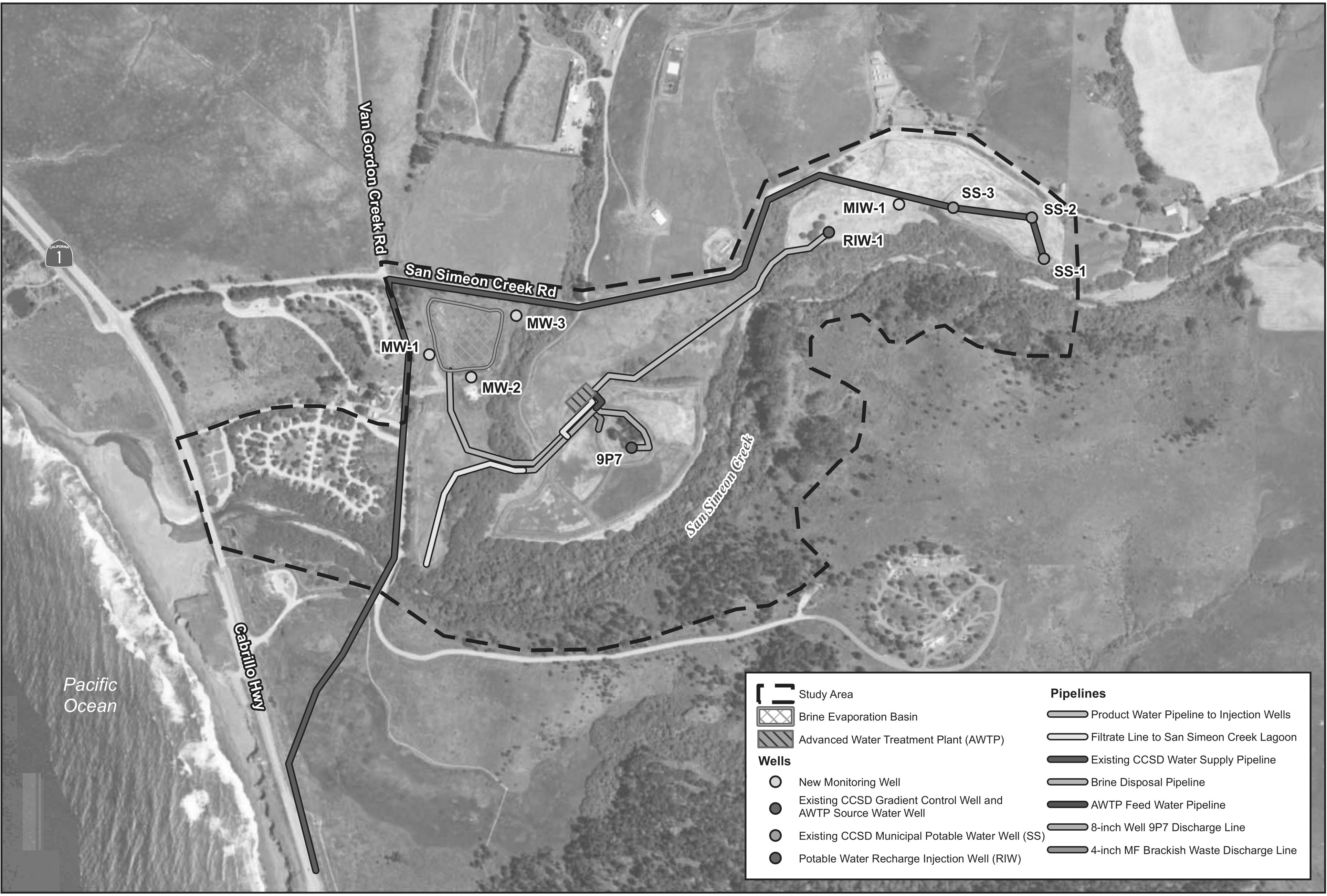
Local Vicinity Map

Michael Baker
INTERNATIONAL

0 0.25 0.5
Miles

Source: CDM Smith, ESRI World Topographic Map

Exhibit 2



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CAMBRIA EMERGENCY WATER SUPPLY PROJECT
ADAPTIVE MANAGEMENT PLAN

Project Site Map

Michael Baker INTERNATIONAL

0 400 800 1,600 Feet

Source: National Hydrography Dataset, CDM Smith, ESRI World Imagery Basemap

Exhibit 3

effluent develops groundwater mounding below the percolation basins, which forms a positive differential between the percolation pond area and the ocean that results in subsurface discharge of fresh water to the ocean. CCSD operations also monitor the groundwater mound throughout the year to maintain a positive differential from CCSD's up-gradient production wells and the down-gradient percolation ponds area. During the summer dry season, and depending upon the prior year's precipitation, the Cambria Community Services District may periodically pump groundwater from its percolation fields in order to maintain this differential. When this occurs, water is lost to the ocean as subsurface underflow and the volume of up-gradient freshwater storage is diminished.

In January 2014, the CCSD declared a Stage 3 water shortage emergency, the most stringent of three levels. In response to this emergency status, the CCSD is constructing the Cambria Emergency Water Supply Project.

1.1.3 Project Description

The Project's source water is the San Simeon Creek aquifer from existing Well 9P7, which is located in the south end of a flat park-like area in the middle of the existing percolation ponds (Refer to Exhibit 3). The extracted groundwater is transferred to an Advanced Water Treatment Plant (AWTP) that treats brackish water to produce potable water. The AWTP consists of multiple unit processes including ultrafiltration membranes, reverse osmosis membrane, advance oxidation, and post-treatment and disinfection facilities. A feed water pipeline transports the brackish water between existing Well 9P7 and the AWTP. To meet California Department of Public Health and Regional Water Quality Control Board regulations, the treated AWTP product water is re-introduced/pumped for injection into the groundwater basin so that it is available in the existing San Simeon well field. To inject the product water into the basin, a new potable water recharge injection well (RIW) is located at the existing potable water well-field, approximately 1,000 feet east of existing potable water Well SS-3. A Project water pipeline transports the product water between the AWTP and RIW well. A separate pipeline from the AWTP to the head of the San Simeon Creek lagoon area provides mitigation water.

The Project's mitigation water flows in a pipeline from the AWTP to an area on CCSD property, which is just upstream from the head of the fresh water lagoon, approximately 1,500 feet southwest of existing Well 9P7. The AWTP generated waste stream (reverse osmosis concentrate) is pumped in a pipeline from the AWTP to an existing holding basin, which has been modified to meet State Title 27 criteria. Both natural and mechanically assisted evaporation of the waste stream occurs within the modified holding basin, which serves as the Project's evaporation pond.

The AWTP is capable of producing an average of 452 gpm of treated water for injection at the District's well field. During facility operations, a maximum of approximately 385 gpm could be extracted for use from CCSD's existing potable wells SS-1 or SS-2. The 452 gpm injection flow may be lower depending upon how much product water is required for blending with the 100 gpm of mitigation water being provided for the San Simeon Creek fresh water lagoon area to meet RWQCB quality criteria. For example, if a 50% blend is required, the 452 gpm would be reduced by 50 gpm. The amount of blending to occur with the mitigation water will be determined as part of the AWTP's commissioning and start-up testing.

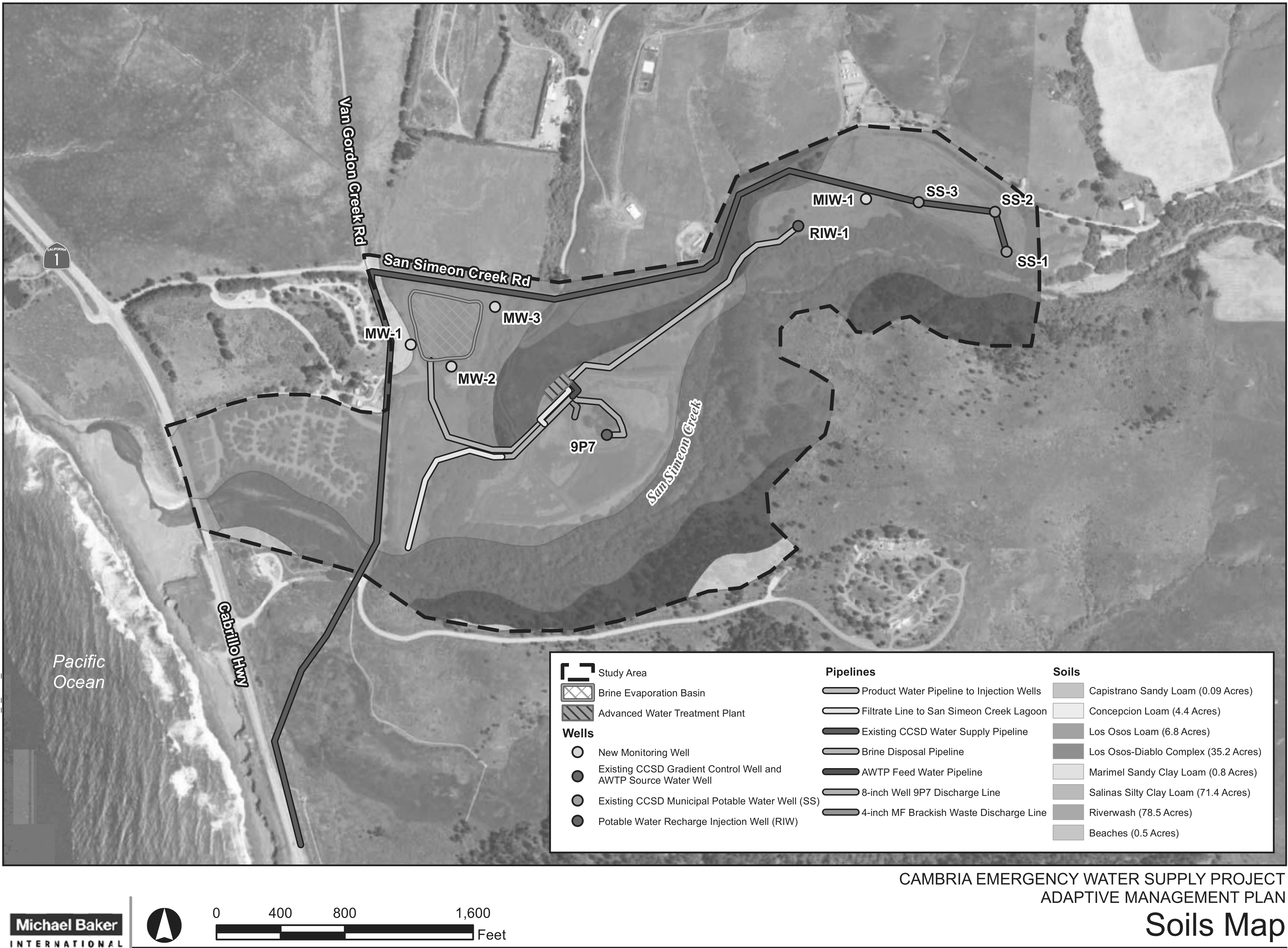
1.2 ENVIRONMENTAL SETTING

1.2.1 Soils

Based on the U.S. Department of Agriculture Soil Survey, the Project site and survey area are underlain by the following soil units (Exhibit 4, *Soils Map*): Beaches, Capistrano sandy loam (rolling), Concepcion loam (5 to 9 percent slopes), Lodo clay loam (5 to 15 percent slopes), Los Osos loam (5 to 9 percent slopes), Los Osos loam (30 to 50 percent slopes), Los Osos-Diablo complex (15 to 30 percent slopes), Marimel sandy-clay loam (occasionally flooded), Riverwash, and Salinas silty clay loam (0 to 2 percent slopes).

1.2.2 Vegetation

Eight (8) plant communities were identified within the survey area during the initial habitat assessment (Exhibit 5, *Vegetation Map*): Central Coast Arroyo Willow Riparian Forest, Monterey Pine Stand/Monterey Pine Forest, Coyote Brush Scrub, California Bulrush Marsh, Annual Grassland, Wild Oats Scrub, Upland Mustards, and Eucalyptus Stand. In addition, areas were identified that would be classified as Landscaped Campground, Percolation Pond, Lagoon/Estuary, Disturbed, and Developed. Table 1 provides the acreage of each plant community or noted feature within the survey area, as well as the percentage that each encompasses within the total survey area. The plant communities are described in further detail below.



Source: NRCS Soils ca-664, CDM Smith, ESRI World Imagery Basemap

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CAMBRIA EMERGENCY WATER SUPPLY PROJECT
ADAPTIVE MANAGEMENT PLAN

Soils Map

Exhibit 4

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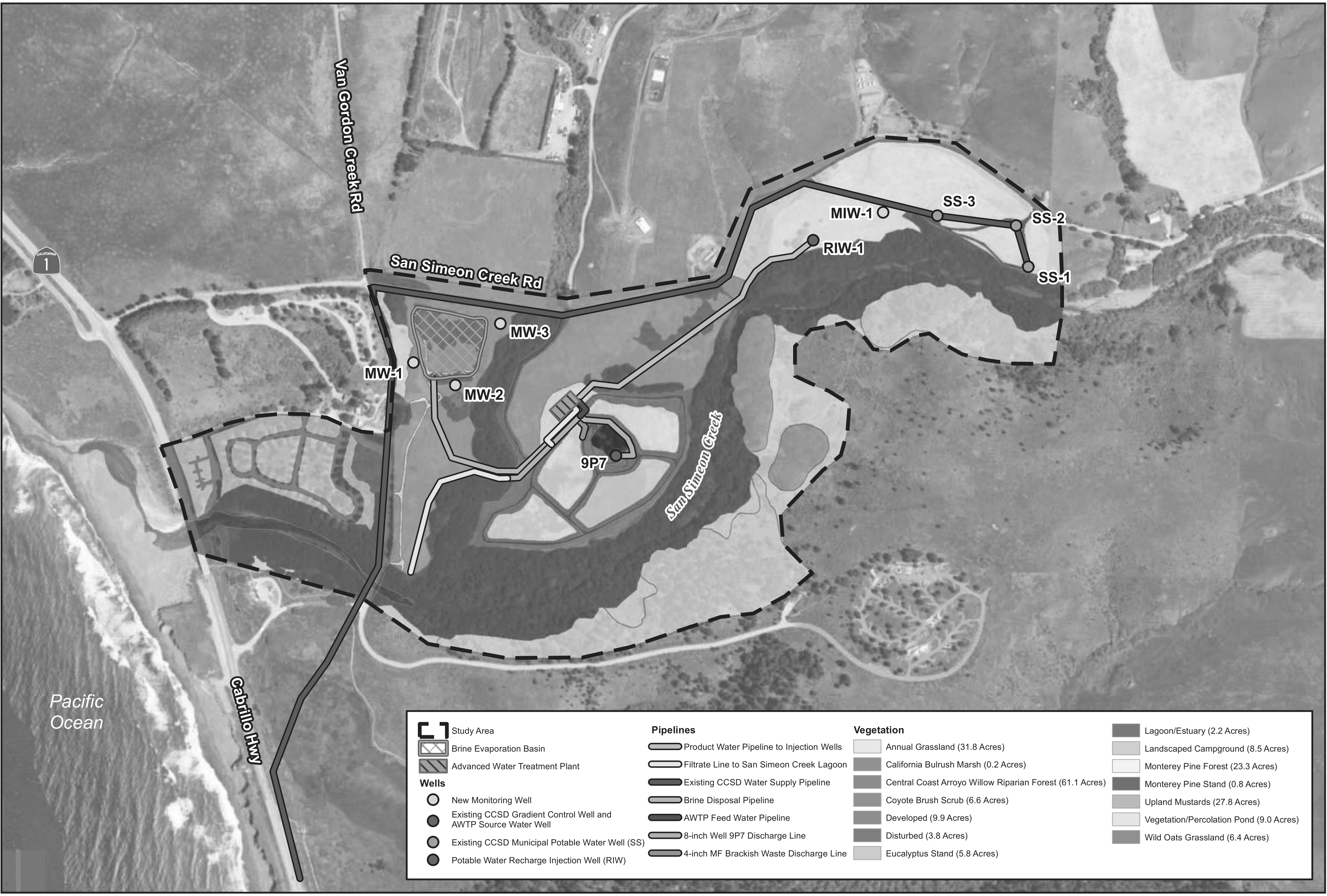

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Michael Baker INTERNATIONAL

Source: CDM Smith, ESRI World Imagery Basemap

CAMBRIA EMERGENCY WATER SUPPLY PROJECT
ADAPTIVE MANAGEMENT PLAN

Vegetation Map

Exhibit 5

Table 1: Plant Communities

Plant Community	Acreage	Percentage
Central Coast Arroyo Willow Riparian Forest	61.1	31.0%
Monterey Pine Stand	0.8	0.4%
Monterey Pine Forest	23.3	11.8%
Coyote Brush Scrub	6.6	3.3%
California Bulrush Marsh	0.2	0.1%
Annual Grassland	31.8	16.1%
Wild Oats Grassland	6.5	3.3%
Upland Mustards	27.9	14.1%
Eucalyptus Stand	5.9	3.0%
Landscaped Campground	8.5	4.3%
Percolation Pond	9.0	4.6%
Lagoon/Estuary	2.2	1.1%
Disturbed	3.8	1.9%
Developed	9.9	5.0%
Total	**197.6**	**100%**

Central Coast Arroyo Willow Riparian Forest

The Central Coast Arroyo Willow Riparian Forest is characterized by a dense, low, closed-canopy forest dominated by arroyo willow (*Salix lasiolepis*). It typically occurs in low gradient stream reaches in areas that are moist to saturated sandy or gravelly soil, especially in areas within the coastal fog incursion zone. Other common species along the edge of San Simeon Creek include western sycamore (*Platanus racemosa*), eucalyptus (*Eucalyptus* sp.), and cape ivy (*Delairea odorata*).

Monterey Pine Stand/Monterey Pine Forest

There is one small stand of Monterey pine (*Pinus radiata*) located within the Project site. It is located in the center of the percolation ponds, with Well 9P7 located underneath the trees. The canopy cover in this area is composed entirely of Monterey pines, with the understory composed mostly of ripgut brome (*Bromus diandrus*) and wild oats (*Avena fatua*). In addition, a Monterey pine forest is located on the south side of San Simeon Creek.

Coyote Brush Scrub

Coyote brush scrub is scattered throughout the Project site, but is concentrated in patches primarily south of the vicinity of the intersection of Van Gordon Creek Road with San Simeon-Monterey Creek Road around the brine evaporation pond. It is also present north of the percolation ponds, to the east of the San Simeon Creek Campground within Hearst San Simeon State Park, and on the south side of San Simeon Creek Lagoon east of SR 1. It is dominated by coyote brush (*Baccharis pilularis*) and is intermixed with black mustard (*Brassica nigra*) and non-native grasses.

California Bulrush Marsh

California bulrush marsh is located on the western edge of the Project site, immediately east of the SR 1 crossing and on the south side of San Simeon Creek Lagoon. It consists of a narrow channel dominated by dense California bulrush (*Schoenoplectus californicus*). The upland slopes are covered in coyote brush scrub. This channel is a tributary to San Simeon Creek Lagoon.

Annual Grassland

Annual grasslands are located in the northeastern portion of the Project site between San Simeon-Monterey Creek Road and San Simeon Creek, as well as south of San Simeon Creek. This community is dominated largely by canary grass (*Phalaris aquatica*), wild oat, ripgut brome, dandelions (*Taraxacum officinale*), coyote brush, and other herbaceous vegetation.

Wild Oats Grassland

Wild oats grassland is primarily located along the upper edges of and between the percolation ponds. It is dominated almost exclusively by thick stands of wild oats, but is intermixed with light coverage of ripgut brome, shortpodded mustard (*Hirschfeldia incana*), and canary grass.

Upland Mustards

Upland mustard communities are located primarily in the center of the Project site, both east and west of Van Gordon Creek and north of the percolation ponds. This community intermixes with coyote brush scrub. It is dominated by thick, tall stands of black mustard with low-growing grasses (canary grass and bromes), milk thistle (*Silybum marianum*), dandelion, poison hemlock (*Conium maculatum*), and giant horse tail (*Equisetum telmateia* ssp. *braunii*).

Eucalyptus Stand

Some small eucalyptus stands are located on the eastern side of the Project site on the south/eastern shore of San Simeon Creek. These are predominantly characterized by tall eucalyptus trees that are bordered and surrounded by the Central Coast Arroyo Willow Riparian Forest.

Landscaped Campground

The landscaped campground (San Simeon Creek Campground) is located on the western side of the Project site, west of Van Gordon Creek Road and north of San Simeon Creek Lagoon. It is underlain by non-native ornamental grasses and contains larger trees and shrubs including cypress (*Cupressus* sp.), western sycamore, and toyon (*Heteromeles arbutifolia*).

Percolation Pond

There are four (4) percolation ponds located in the center of the Project site, northeast of the confluence of Van Gordon and San Simeon Creeks. While the upland edges of these are dominated by wild oats grasslands, the bottoms get periodically flooded for water treatment purposes and therefore undergo dynamic changes, sometimes holding dense vegetation, sometimes being bare and dry, and sometimes being inundated with water depending on the current flooding schedule.

Lagoon/Estuary

San Simeon Creek Lagoon/Estuary is located from just east of Van Gordon Creek Road to just west of SR 1. It is surrounded by the Central Coast arroyo willow riparian forest. When the sandbar is closed (typically late spring through fall or winter) this habitat is characterized as a lagoon. When it is open (typically fall or winter through early spring) it is characterized as an estuary where saltwater and freshwater merge. In some years the sandbar may not open at all, resulting in only a lagoon habitat, and in others the sandbar may be artificially breached by an excess of water, resulting in premature or untimely estuary habitat.

Disturbed

Disturbed areas within the survey area can be described as unpaved dirt roads, particularly those surrounding the percolation ponds and those passing through the eastern well field. These areas are not vegetated. It is also noted that the brine evaporation pond was previously disturbed when originally constructed to serve as a holding basin.

Developed

Developed areas within the survey area include existing wells and buildings, as well as the main access road to Well 9P7. These areas are not vegetated.

1.2.1 Wildlife

Plant communities provide food sources, along with foraging, nesting and denning sites, cover, and protection from adverse weather or predation. This section provides a discussion of those wildlife species observed, expected or not expected to occur on-site. The discussion is to be used as a general reference and is limited by the season, time of day, and weather condition in which the survey was conducted. Wildlife observations were based on calls, songs, scat, tracks, burrows and actual sightings of animals.

Amphibians

Much of the Project site and its immediate surrounding area would constitute suitable habitat for amphibians. Two amphibians were detected on-site, the common species Sierran chorus frog (*Pseudacris sierrae*) and the federally threatened California red-legged frog (*Rana draytonii*). Other common amphibian species that could occur in San Simeon Creek or during heavy rainfall and subsequent ponding of water in the percolation ponds include western toad (*Anaxyrus boreas*), American bullfrog (*Lithobates catesbeianus*), ensatina (*Ensatina eschscholtzii*), and various species of slender salamander (*Batrachoseps* sp.). The Project site and surrounding area have the potential to support multiple special-status amphibians, including foothill yellow-legged frog (*Rana boylii*) and Coast Range newt (*Taricha torosa*).

Reptiles

The Project site has the potential to support both terrestrial and aquatic reptiles. Three reptile species were observed during surveys conducted by RBF Consulting (RBF), the common species western fence lizard (*Sceloporus occidentalis*) and coast garter snake (*Thamnophis elegans terrestris*), and the California species of special concern western pond turtle (*Emys marmorata*). The immediate Project site is primarily composed of disturbed, altered areas that are presently overgrown with vegetation. Two creeks, Van Gordon Creek and San Simeon Creek, traverse portions of the Project site. The general Project vicinity has the potential to support a number of reptilian species including gopher snakes (*Pituophis catenifer*), garter snakes (*Thamnophis* ssp.), California kingsnake *(Lampropeltis getula californiae*), northern Pacific rattlesnake (*Crotalus oreganus oreganus*), alligator lizard (*Elgaria multicarinata*), and side-blotched lizard (*Uta stansburiana*). The Project site and surrounding area also have the potential to support two-striped garter snake (*Thamnophis hammondii*).

Avian

The Project site and adjacent area support a high variety of avian species. Because of the high number of species observed, only the most numerous are mentioned here. Those that were observed in the greatest quantities included mallard (*Anas platyrhynchos*), turkey vulture (*Cathartes aura*), California gull (*Larus californicus*), Pacific-slope flycatcher (*Empidonax difficilis*), chestnut-backed chickadee (*Poecile rufescens*), bushtit (*Psaltriparus minimus*), cedar waxwing (*Bombycilla cedrorum*), song sparrow (*Melospiza melodia*), red-winged blackbird (*Agelaius phoeniceus*), and house finch (*Haemorhous mexicanus*). The Project site and surrounding area have the potential to support special-status raptors such as ferruginous hawk (*Buteo regalis*) and prairie falcon (*Falco mexicanus*).

Mammals

The plant communities within the Project site are anticipated to provide suitable habitat for a number of mammalian species acclimated to heavy disturbance. However, most mammal species are nocturnal and are difficult to observe during a diurnal field visit. Mammals observed during RBF's surveys include mule deer (*Odocoileus hemionus*), striped skunk (*Mephitis mephitis*), and feral pig (*Sus scrofa*), with additional sign from coyote (*Canis* *latrans*) and woodrat (*Neotoma* sp.). Common mammalian species expected to occur on the Project site include California ground squirrel (*Otospermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), California vole (*Microtis californicus*), deer mouse (*Peromyscus maniculatus*), raccoon (*Procyon lotor*), cottontail rabbits (*Sylvilagus audubonii*), and opossum (*Didelphis virginiana*). The Project site and surrounding area have the potential to support special-status mammals, including fringed myotis (*Myotis thysanodes*) and Yuma myotis (*Myotis yumanensis*).

Fish

When wetted, San Simeon Creek, Van Gordon Creek, the San Simeon Creek Lagoon, and their tributaries would provide suitable habitat for fish. Threespine stickleback (*Gasterosteus aculeatus*) and the federally endangered tidewater goby (TWG, *Eucyclogobius newberryi*) were observed during the habitat assessment in San Simeon Creek and San Simeon Creek Lagoon. In addition to tidewater goby, the aforementioned waterways have the potential to support another special-status fish species, South-Central California Coast steelhead trout (*Oncorhynchus mykiss irideus*).

1.2.2 Wildlife Movement Corridors

The eastern portion of the Project site abuts the foothills of the Santa Lucia Mountains. This mountain range provides a natural corridor to the north and south along the Coast Ranges. However, while the Project vicinity is considered to be a north-south migratory linkage along the mountains, no formal east-west linkage has been recognized along San Simeon Creek or the other waterways by connectivity assessments such as Missing Linkages (Penrod et al. 2001) or the California Essential Habitat Connectivity Project (Spencer et al. 2010). Regardless, San Simeon Creek and the other waterways are likely to provide valuable migration habitat for birds and fish. San Simeon Creek is recognized by the California Coastal Commission and by the California Department of Fish and Wildlife (CDFW) as an essential creek for steelhead migration, and the lagoon that forms at the mouth of San Simeon Creek can host both juvenile steelhead and tidewater goby (CCC 1998). While California red-legged frog can migrate or move to upland areas during the nonbreeding season, this is decided by individual frogs and is not necessarily a feature of every frog in a population. Nevertheless, frogs that may be present in San Simeon Creek or other waterways in the Project vicinity may migrate up and down the waterways or leave the water and head to upland grasslands during seasonal migrations.

1.2.3 Surface Waters

1.2.4 Groundwater

1.3 REGULATORY REQUIREMENTS

1.3.1 California Environmental Quality Act

The California Environmental Quality Act (CEQA) provides for the protection of the environment within the State of California. If a Project is determined to be subject to CEQA, the lead agency will be required to conduct an Initial Study (IS); if the IS determines that the Project may have significant impacts on the environment, the lead agency will subsequently be required to write an Environmental Impact Report (EIR). A finding of non-significant effects will require either a Negative Declaration or a Mitigated Negative Declaration instead of an EIR. However, in certain conditions a project may be entirely exempt from the CEQA process.

In January 2014, California Governor Edmund G. "Jerry" Brown issued an emergency drought declaration and proclamation. In this emergency declaration, the Governor stated that the Department of Water Resources and the Water Board may take actions to make water immediately available, and that CEQA and all regulations adopted pursuant to CEQA "are suspended on the basis that strict compliance with them will prevent, hinder, or delay the mitigation of the effects of the emergency." The Governor's subsequent Proclamation of a Continued State of Emergency, issued on April 25, 2014, suspended the California Environmental Quality Act (Public Resources Code 21000 and following) for all actions taken by local agencies that were identified by the California Department of Public Health as vulnerable to acute drinking water shortages and that were necessary to implement solutions to such shortages if the Office of Planning and Research "concurs that local action is required." (Proclamation No. 4-25-2014, #12 & #19). On September 12, 2014, the Governor's Office of Planning and Research concurred that the Cambria Emergency Water Supply Project was subject to the Governor's April 2014 executive orders that suspended CEQA.

To abide by the conditions of the Emergency Coastal Development Pemit issued by San Lius Obispo County and support the District's Regular Coastal Development Permit application with the County, the District has commissioned the completion of an EIR, which is following construction of the Emergency Water Supply Project. This atypical completion process was necessitated by the area's extreme drought conditions and allowed for in the Governor's April 2014 Executive Orders.

1.3.2 California Coastal Act §30000 et seq.

Chapter 3 of the California Coastal Act contains policies to protect water quality and the biological productivity of coastal waters (PRC Section 30231); avoid and minimize dredging, diking, and filling sediments (PRC Section 30233); and mitigate wetland impacts (PRC Section 30607.1).

In addition, under the California Coastal Act "environmentally sensitive area means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments" (PRC Section 30107.5).

The California Coastal Act requires that jurisdictions protect Environmentally Sensitive Habitat Areas (ESHA). Specifically, PRC Section 30240 states that:

a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.
b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.

The Coastal Act generally protects ESHAs where they exist and also protects "against any significant disruption of habitat values." Section 30007.5 of the Coastal Act states that where there is a conflict between policies that it:

> *…be resolved in a manner, which on balance is the most protective of significant coastal resources. In this context, the Legislature declares that broader policies which, for example, serve to concentrate development in close proximity to urban and employment centers may be more protective, overall, than specific wildlife habitat and other similar resource policies.*

The Project is located within the jurisdiction of the Coastal Zone, is adjacent to San Simeon Creek and and San Simeon Creek Lagoon, both ESHAs, and is adjacent to Hearst San Simeon State Park.

1.3.3 Local Policies

Local Coastal Program

Under Section 30500 of the California Coastal Act, each local government within the California Coastal Zone must prepare or have the Coastal Commission prepare for it a Local Coastal Program (LCP). The San Luis Obispo County LCP is a comprehensive four-part management program that is intended to assist with the management and protection of the Coastal Zone and to ensure compliance with the California Coastal Act; it was certified by the California Coastal Commission in 1987. This LCP is composed of four separate documents: *Framework for Planning*, *Coastal Plan Policies* (CPP), Area Plans, and *Coastal Zone Land Use Ordinance* (CZLUO).

a) *Framework for Planning*: San Luis Obispo County is split into 13 separate land use categories. The Framework for Planning document (SLO County 1988a) describes each of those categories in detail, including purposes and definitions ("characters"). In addition, the Framework for Planning contains Coastal Table "O," a table which lists approved uses within each land use category.

b) *Coastal Plan Policies*: The San Luis Obispo County CPP (SLO County 1988b) are intended to help the county carry out the preservation policies of the Coastal Act of 1976. As such, this document recommends policies and standards to be implemented for development within the Coastal Zone and to remain in compliance with the Coastal Zone Land Use Ordinance. Among many others, the CPP includes provisions for development that may affect riparian vegetation, terrestrial habitats, wetlands, or that may require habitat restoration. Much of the CPP works in tandem with and is implemented pursuant to the CZLUO.

c) *North Coast Area Plan*: San Luis Obispo County is divided into eight separate planning areas, four of which fall within the Coastal Zone; the Project is located within the North Coast Planning Area. The North Coast Planning Area extends from the northern San Luis Obispo County border south to Point Estero and east to the main ridge of the Santa Lucia Range, encompassing the communities of San Simeon and Cambria. The North Coast Area Plan (NCAP) (SLO County 1980) allocates land use within this planning area through the use of land use categories. Through these land use categories, the NCAP designates residential, commercial, and recreational development standards within the planning area to best protect and conserve natural resources and the overall land use plan. In addition to land use categories, there are "Combining Designations" (CDs). As defined by the NCAP, "Combining Designations are special overlay land use categories applied in areas of the county with potentially hazardous conditions or significant natural resources. In these areas more detailed project review is needed to avoid or minimize adverse environmental impacts, or effects of hazardous conditions on proposed projects." A 1998 update to the NCAP (CCC 1998) more specifically defined ESHAs and other protected areas within the planning area.

d) *Coastal Zone Land Use Ordinance*: The CZLUO (SLO County 1986) is enacted as Title 23 of the San Luis Obispo County Code. It is the implementation portion of the LCP and regulates development and land use within the unincorporated areas of the California Coastal Zone. Chapter 7 of the CZLUO deals with CD standards, and Sections 23.07.160 to 23.07.178 pertain specifically to environmentally sensitive areas, including Sensitive Resource Areas (SRAs), ESHAs, wetlands, streams and riparian vegetation, terrestrial habitat, and marine habitat. This document works in tandem with the CPP and provides in many cases more detailed instructions and requirements for development in or adjacent to environmentally sensitive areas.

1.4 POTENTIAL IMPACTS TO SENSITIVE SPECIES

Based on habitat requirements for specific species, availability and quality of habitats needed by sensitive species, and known distribution in and around the Project site, it was determined that the following species occur or have a high potential to occur in the surrounding aquatic habitat. These species could be affected by Project implementation.

Amphibian and Reptile Species

Based on historical survey results and the results of RBF's surveys, it was determined that the habitat in and around the Project site supports or is likely to support the following sensitive amphibian and reptile species.

Western Pond Turtle

The western pond turtle is designated by the CDFW as a California species of special concern. It typically inhabits slow-moving streams, ponds, and marshes with exposed banks, logs, and other suitable locations for basking. Pond turtles mate and lay eggs in spring and summer in upland grassland habitat, and in most of their range will overwinter between October and April.

Western pond turtle has been previously documented in San Simeon Creek and San Simeon Creek Lagoon. Suitable habitat is located within these two areas, particularly in the downstream reaches of San Simeon Creek where the creek substrate gives way from rocks to sandy or muddy bottoms, which are often utilized by pond turtles for hiding during evasive movements. This species was observed by RBF biologists in San Simeon Creek Lagoon.

California Red-legged Frog

The California red-legged frog is federally listed as threatened and is designated by the CDFW as a California species of special concern. It is a year-round resident in the Project vicinity. The life cycle of this species entails breeding between winter and early spring, followed by tadpole development and metamorphosis in summer. The California red-legged frog typically breeds between February and April in permanent or ephemeral water sources including lakes, ponds, reservoirs, slow streams, marshes, bogs, and swamps. During the non-breeding season, individuals of this species may leave and migrate elsewhere, but California red-legged frogs generally stay in one place year-round if the habitat is inundated. The California red-legged frog is primarily found near ponds in humid forests, woodlands, grasslands, coastal scrub, and streamsides with plant cover and is most common in lowlands or foothills.

In September and October 2014, RBF biologists conducted a California red-legged frog population count in San Simeon Creek Lagoon and lower San Simeon Creek consisting of two nocturnal mark-recapture surveys. No upland surveys were conducted. Surveys were spaced one week apart and an attempt was made to capture every frog. Using the Lincoln-Petersen population index and the mark-recapture data, the population of California red-legged frogs in San Simeon Creek Lagoon at the time of the surveys was estimated to be 54 frogs constituting a mixture of adults and juveniles. Overwintering tadpoles were not observed. The entire Project site is located within California red-legged frog Critical Habitat Unit SLO-2. Observed wetted habitat within San Simeon Creek during the habitat assessment was highly suitable for this species. This species was observed by RBF biologists in San Simeon Creek Lagoon.

Two-striped Garter Snake

The two-striped garter snake is designated by the CDFW as a California species of special concern. It is primarily an aquatic species and is typically found in or near permanent or semi-permanent water including creeks, pools, stockponds, and other areas. Surrounding vegetation is typically made up of chaparral, forest, woodland, and grassland, and may vary according to the season. This species is primarily active between spring and fall, and in many cases will retreat into a burrow for the winter. Breeding occurs in the spring after the snakes emerge into the active season again.

There is suitable habitat for this species in San Simeon Creek. While it is more likely to be found in the downstream sections where there is more water, it could occur throughout the creek. This species was not observed during RBF's surveys, but has been recorded in this area in the past and has a high potential to occur in San Simeon Creek, San Simeon Creek Lagoon, and Van Gordon Creek.

Fish Species

Tidewater Goby

The tidewater goby is federally listed as endangered and is designated by the CDFW as a California species of special concern. Tidewater goby is a year-round resident of San Simeon Creek Lagoon, generally only living for one year. It occurs primarily in coastal lagoons and estuaries and has only been captured in marine environments in very few instances. In their habitat, tidewater gobies are generally present in the upper estuary where the freshwater and saltwater mix, and will range upstream into pure freshwater and downstream into areas of majority salt water (up to about 75%). Though they can be present in water where salinity ranges up to 28 parts per thousand, they are predominantly found in areas where salinity is less than 12 parts per thousand, i.e. on the upper edges of tidal bays and in coastal lagoons. Tidewater gobies reproduce throughout the year but peak reproduction occurs in spring and late summer while the lagoon sandbar is closed.

There is occupied habitat for this species downstream of the Project site in San Simeon Creek Lagoon. This species was observed by RBF biologists in San Simeon Creek Lagoon, which is also tidewater goby designated Critical Habitat Unit SLO-5, during RBF's habitat assessment. A tidewater goby population estimate was also conducted in October 2014 by D.W. Alley and Associates under contract to RBF. The tidewater goby population estimate effort consisted of one survey in San Simeon Creek Lagoon using seine nets. A total of 1,002 tidewater goby were captured in San Simeon Creek Lagoon during this survey effort.

Steelhead (South/Central California Coast DPS)

Steelhead is federally listed as threatened and is designated by the CDFW as a California species of special concern. The population in the Project vicinity ranges from Santa Cruz County south to, but not including, the Santa Maria River. Typical freshwater steelhead habitat consists of gravel-bottomed, fast-flowing, well-oxygenated rivers and streams. Dissolved oxygen levels should be at least seven parts per million, and streams should have deep, low-velocity pools for wintering. The life cycle of this species is such that adult steelhead return to San Simeon Creek from the ocean in winter and early spring to spawn upstream. As the dry season returns and the creek begins to dry into isolated pools, young steelhead fry will either move into deep pools upstream or move downstream into the lagoon to mature while the sandbar is closed. When the sandbar opens again, steelhead smolt that have been summering in the lagoon will either move out to sea or remain in the lagoon and continue to grow for another year or more. Juveniles will typically spend between one and three years maturing in a freshwater or estuarine environment before migrating out to sea. After a typical span of one to four years of maturation in the ocean, the fish will return to their natal waters to spawn again.

There is suitable habitat for this species in San Simeon Creek. This species has been historically recorded over many years to occur within the creek, both in the creek and downstream in the lagoon. San Simeon Creek and Van Gordon Creek are part of the steelhead designated Critical Habitat unit that is located within the Estero Bay Hydrologic Unit. Based on local accounts, the sandbar across the mouth of the lagoon has not opened for the last couple years, preventing returning adult steelhead from spawning in San Simeon Creek and likely leading to the death of steelhead smolt that may have been maturing in the lagoon. At the time of the surveys in October 2014, no steelhead are believed to have been present in San Simeon Creek Lagoon or the lower reaches of San Simeon Creek. However, this species is expected to have a high potential for occurrence and should be assumed to be present in these water bodies under a normal rainfall year (i.e. not under drought conditions).It is noted that historically, both San Simeon Creek and Santa Rosa Creek were stocked with steelhead by the CDFW and local ranchers.

Section 2 Monitoring Program

Concern has been expressed regarding the Project's potential to lower groundwater levels and create a cone of depression that would impact surface flows in San Simeon Creek as well as riparian vegetation along the banks of San Simeon Creek.[1] This concern is also related to the potential lowering of general groundwater levels and the potential to impact up-gradient phreatophytes as the groundwater level drops. Groundwater modeling conducted by CDM Smith determined that by providing the 100 gpm of mitigation water as a design feature, the Project's proposed pumping and reinjection program would not adversely affect surface water levels in the San Simeon Creek Lagoon and that this action would have no impact upon tidewater goby, steelhead trout, or California red-legged frog. The mitigation water is intended to replenish lagoon water that is lost by seepage to the lowered groundwater table. During times when the Project is operating, there is not significant flow, since the beach berm generally isolates the system from a direct surface connection to the ocean. Due to the complexity of the San Simeon Creek system and to verify that no impact to habitat would occur, one of the mitigation measures recommended for this Project is the development and implementation of an Adaptive Management Plan (AMP) to monitor in-stream and riparian habitat associated with San Simeon Creek, San Simeon Creek Lagoon, and Van Gordon Creek. This AMP was developed to verify that the Project would not significantly adversely impact the in-stream habitat or the surrounding riparian habitat and the species that depend upon them.

This AMP has been prepared as a contingency to define available management actions by the CCSD to address unforeseeable significant adverse impacts, as well as to contribute to the long-term sustainability of the in-stream and riparian habitats in lower San Simeon Creek, San Simeon Creek Lagoon, and Van Gordon Creek. Annual reports will be prepared and will include recommendations for ongoing monitoring and any adaptive management actions required to mitigate any measured loss or prospective loss of riparian habitat that may be attributable to the Project's implementation. Using the baselines and thresholds as described in this AMP, significant adverse impacts to riparian habitat that are attributable to the Cambria Emergency Water Supply Project will be identified early and mitigated before significant adverse impacts occur.

All monitoring duties will be conducted by a biological monitor (BM) or a team of monitors. The BM(s) will be expected to participate in each of the following monitoring and reporting

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[1] Concerns were expressed at an interagency meeting held on August 27, 2014 at the Santa Cruz, CA office of the California Coastal Commission. Participants included representatives from CCSD, RBF, CDM Smith, CDFW, USFWS, CA Department of Parks and Recreation, the Regional Water Quality Control Board, U.S. Army Corps of Engineers, and the California Coastal Commission.

activities, as described below. The BM(s) must be capable of correlating quantitative hydrologic modeling with stream conditions, taking stream measurements with standard electronic meters, and comparing habitat requirements of sensitive species against the on-site conditions to identify changes and determine if the noted changes have the potential to result in significant future adverse impacts. To evaluate riparian health, the BM(s) or other biological contractor(s) must be familiar with and possess demonstrable experience conducting evaluations using the California Rapid Assessment Method (CRAM). To conduct capture surveys for listed species, at least one of the BM(s) or other biological contractor(s) conducting the survey must possess current and valid Endangered Species Act Section 10(a)(1)(A) recovery permits for tidewater goby, steelhead trout, and California red-legged frog as applicable, as well as a California Department of Fish and Wildlife Scientific Collecting Permit allowing take of any or all of these species.

Confirm Baseline Assumptions

During the first year of monitoring, the focus will be to gather sufficient data at the monitoring stations to define the interaction between groundwater and surface water and how it has maintained the in-stream habitat as well as the surrounding riparian habitat. Data collection (and analysis) will include groundwater and surface water data, habitat data, and species distribution data. This information will be combined with historical data recorded by CCSD as part of its regular operations and by biological monitoring and surveys. An analysis of the combined set of data will be used to set the threshold for adverse impacts.

Collect Baseline Data

Baseline data for groundwater and surface water gathered during the first year will be collected on a monthly basis. Surface water and groundwater data will include collecting available data from existing surface water monitoring stations, as well as measuring all indications of ponding or surface discharge within a 50-foot radius of the designated groundwater wells. Depth and duration of ponding will be recorded. The water budget for CCSD operations in the San Simeon aquifer will be compiled for correlation with the monitoring program. These data will include monthly averages for:

- Pumping from wells SS1, SS2, SS3 and 9P7
- Inflow to the AWTP
- Injection into RIW-1
- Discharge of treated effluent from the Cambria POTW to the percolation ponds
- Filter backwash discharge from the AWTP to the percolation ponds
- Discharge of RO concentrate to the evaporation pond

Data loggers will be used to record diurnal variations in water levels from wells that are adjacent to riparian areas. This data will be recorded each month and correlated with the groundwater data and surface water data. As noted, it is believed, based on the existing information, that the soil moisture is maintained by a combination of groundwater and surface water. However, data collection (current and historic) and analysis will be needed to confirm this assumption.

Establishment of Thresholds

At the end of the first year, baseline conditions will be established and the interaction of groundwater levels, lagoon levels and surface flows will be better understood. This information will be used to determine specific thresholds that "trigger" additional investigation and adaptive management measures.

2.1 MONITORING GROUNDWATER LEVELS

A groundwater monitoring and management program was recommended for San Simeon Creek by the National Marine Fisheries Service in the 2013 South-Central California Coast Steelhead Recovery Plan (NMFS 2013). Monitoring stations will be established within the adjacent riparian corridor that will allow for monitoring of groundwater levels. Wherever possible, the use of existing monitoring well data, including data routinely collected by the District, will be incorporated. During the initial monitoring year, groundwater data gathered from the CDM Smith 2014 hydro-geological modeling efforts coupled with current data from a monitoring well or system of wells, will be used to establish baseline conditions against which future conditions can be compared. This information will be combined with historical groundwater data as recorded by CCSD. CCSD currently has 20 wells monitoring water levels for San Simeon Creek, 15 of which are within one mile of the proposed water extraction point (Well 9P7) vicinity. If not already present, it is recommended that each of the monitoring wells that will be used as part of the AMP be fitted with pressure transducers that record water levels once every 15 minutes. Although CCSD will continue to take regular groundwater level measurements twice per month to include on comparison charts, having groundwater data available in 15-minute increments will allow retrieval of up-to-date information as needed. Groundwater level data will be supplied to the BM on a monthly basis for evaluation and recommendations as necessary.

The average groundwater levels in San Simeon Creek production wells between 1988 and 2014, as measured bimonthly, indicate that groundwater has been at approximately 20 feet above sea level from February to May, gradually dropping each year in the late spring and summer to reach an average of only eight (8) feet above sea level by October before gradually rising again (CCSD 2014). For purposes of this AMP and during operation of the Project facilities, fluctuations in groundwater levels will be monitored monthly at all available monitoring wells. A drop in groundwater levels outside of historical ranges will be analyzed with the District's hydrologist to determine if the drop in level is within the expected range or if further investigation is required.

2.2 MONITORING SURFACE WATER FLOW

Surface water flow is an integral component of providing suitable habitat for aquatic species. While tidewater goby and California red-legged frog require still water or minimal water flow to survive, steelhead trout requires water flow during most of its life stages, including adult migration, spawning, juvenile growth, overwintering, and juvenile migration (Smith undated). Surface water flow can be seriously depleted by water withdrawals, and as such it will be necessary to simultaneously monitor surface water levels in San Simeon Creek. It is recommended for ease, efficiency, and accuracy that stream flow be measured electronically with a flow meter, such as the Marsh McBirney Flo-Mate 2000. However, the facility may only be operated when the adjacent reaches of San Simeon and Van Gordon Creeks are already dry, as these reaches only flow seasonally and are not perennial streams. Therefore, such monitoring may be more closely related to monitoring the San Simeon Creek Lagoon area during the dry season. It is noted, little if any flow will be observed during the dry portion of the year, if the beach berm is not open. Monitoring of stage in the lagoon and the stage relative to groundwater will be assessed.

In the absence of an electronic flow meter, an alternative but less accurate method of calculating stream flow is to calculate the amount of time that it takes for a floatable object (e.g. pine cone, orange) to float down a fixed stream segment. With this method, flow can be calculated by solving the following equation:

$$\text{Flow} = ALC / T$$

Where:

- A = The average cross-sectional area of the stream (stream width multiplied by average water depth);
- L = The length of the stream reach that is being measured (typically this is 20 feet);
- C = A coefficient or correction factor (0.8 for rocky-bottom streams or 0.9 for muddy-bottom streams); and
- T = The time in seconds for the float to travel the length L.

Surface water flow should be measured at least twice each month at two-week intervals for the first year at the same time and in the same general location that the surface water level is measured (Section 2.3). It is noted, there will be tidal influences on the flow in the system, if the beach berm is open. Measurement periods would be required to specify the point in the tidal cycle when spot measurements are taken. Measurements will be taken in Van Gordon Creek, San Simeon Creek, and San Simeon Creek Lagoon, as applicable. The information obtained during this measurement will be used to help determine habitat suitability for fish species, as described in Section 2.5. Typical flow rates will be determined over the course of the first year of monitoring in order to determine baseline flow rates for future benchmarking. Following the first year, measurements shall be taken on a quarterly basis.

2.3 MONITORING SURFACE WATER LEVELS

San Simeon Creek originates in the Santa Lucia Range and runs for approximately 8.5 miles before draining into San Simeon Creek Lagoon. Upstream of the confluence with Steiner Creek it is perennial.[2] As such, it receives significant surface flow each year, much of which dries up in the late spring and summer. Historical biological survey reports for lower San Simeon Creek and San Simeon Creek Lagoon will be used to help characterize the annual water cycles (temporally) and inundation patterns (geographically) in these water bodies. In addition, CCSD will coordinate with applicable agencies and organizations to identify key surface water monitoring stations for collection of historical data and active monitoring data.

CCSD staff gages are present in San Simeon Creek. However the San Luis Obispo County Flood Control District maintains a former USGS gaging station, which is located between the San Simeon well field and the proposed AWTP. The County data for this station is also available online via their website. Manual staff gages are used for quick visual recording of the height of surface water in water bodies. Where appropriate and as part of this AMP, and in consultation with the BM and a hydrologist, the CCSD will install additional staff gages in Van Gordon Creek, San Simeon Creek, and San Simeon Creek Lagoon for the future measurement of surface water levels. Gages will be placed at easily accessible locations to facilitate efficient and cost-effective gage checks. It is recommended that they be placed in areas where it is convenient to simultaneously measure water levels and stream flow. Surface water levels will be measured twice per month at two-week intervals for the first year of AMP implementation. Historical data will be used to establish baseline surface water levels for future monitoring. Following the first year, measurements shall be taken on a quarterly basis.

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[2] Based on the USGS report of monitoring of the Palmer Flats gage, which is near the confluence, the stream is dry for about half the year.

2.4 MONITORING IN-STREAM AND RIPARIAN HABITAT EXTENT AND HEALTH

A crucial element of the long-term monitoring process will be to monitor the extent and health of the in-stream and riparian habitat associated with Van Gordon Creek, San Simeon Creek, and San Simeon Creek Lagoon. This includes the measurement of wetted width, wetted depth, water flow, and soil moisture levels in the riparian habitat. These measurements will in turn evaluate the suitability of the habitat to support listed species known to occur in the Project vicinity.

The riparian forest within the immediate vicinity of groundwater and surface water monitoring stations will be directly monitored to detect changes in soil moisture levels as well as vegetative composition. For areas that exhibit groundwater at or near the surface, groundwater is the primary source of water for the riparian vegetation at that location. Similarly, for areas with consistent surface discharge, but with lower groundwater elevations, vegetation depends mostly on surface water. Undoubtedly, some areas obtain water from both sources, and this is likely to vary within a single year and also from year to year depending on a variety of factors, making the determination of definitive baseline conditions difficult. Based on RBF's current understanding of the interaction of groundwater levels and surface flows, a combination of severe and rapid groundwater drawdown in excess of several feet, coupled with a corresponding loss of surface flows, would be required before soil moisture within the rooting zone of the riparian habitat would decrease enough to cause adverse impacts to the riparian plants and ultimately a reduction in riparian forest.

The proposal to collect groundwater, surface water, and soil moisture data will provide important information on vegetative response to changing conditions. In addition to collecting these data, it is recommended that three separate CRAM surveys be conducted of Van Gordon Creek, lower San Simeon Creek, and San Simeon Creek Lagoon. CRAM is a rapid assessment method used to monitor California's wetlands by assessing the ambient conditions within watersheds and assigning numerical scores based on physical and biotic features. CRAM surveys have previously been conducted in upper San Simeon Creek Lagoon (upstream of Van Gordon Creek Road) in 2005 and 2007. By conducting new or updated CRAM surveys of Van Gordon Creek, lower San Simeon Creek, and San Simeon Creek Lagoon, baseline physical conditions can be obtained to compare against in the future. CRAM surveys shall be conducted annually to provide long-term pictures of the potentially changing conditions within this watershed.

2.5 MONITORING AVAILABLE IN-STREAM AND FISH HABITAT

A major component of monitoring the available fish habitat in San Simeon Creek and San Simeon Creek Lagoon is establishing the connection between stream flow and habitat. The

Physical Habitat Simulation System (PHABSIM) software is used to simulate the relationship between stream flow and physical in-stream habitat for different life stages of designated fish species (Milhous and Waddle 2012). PHABSIM relies upon hydraulic simulation using defined hydraulic parameters and habitat simulation using defined habitat suitability criteria. Hydraulic simulation looks at particular stream segments that may have different combinations of depth, velocity, and channel index (e.g. substrate, cover). This information is subsequently used to calculate a habitat measure called Weighted Usable Area (WUA) for the subject stream segment from species suitability information.

By inputting tidewater goby and steelhead trout habitat requirement parameters into the PHABSIM model, it is possible to calculate the WUA for each of these species. This information will be calculated at least twice a month at two-week intervals following each period of measurements in order to determine if the simulated suitable habitat for these species has increased, decreased, or is remaining constant during Project implementation.

Available fish habitat can also be determined on a relative scale using quantitative measurements such as temperature and available dissolved oxygen. These water characteristics can be measured with oxygen and salinity meters. According to annual studies commissioned by the CCSD between 1991 and 2005, tidewater goby has been observed to be generally more tolerant of adverse ambient conditions. Tidewater goby can spawn at salinities ranging from 5 to 10 parts per thousand (ppt) and can survive in temperatures ranging from 18 up to 27° Celsius (C) and only 1 part per million (ppm) of dissolved oxygen (DO).

However, steelhead trout require more restrictive aquatic conditions in order to survive. Based on years of annual steelhead surveys funded by CCSD on San Simeon Creek, optimal conditions for steelhead trout in San Simeon Creek are believed to be salinity of less than 10 ppt, water temperatures below 22°C, and dissolved oxygen of greater than 5 ppm. While steelhead can survive at DO concentrations as low as 1-2 ppm, this is generally only for a very short period of time and typically only in the morning when temperature is low and DO is at its lowest due to overnight algal respiration. Algae conduct photosynthesis during the day when the sun is out, consuming carbon dioxide and producing high amounts of oxygen. At night the opposite trend occurs with photorespiration: algae consume and can nearly deplete oxygen while simultaneously producing high levels of carbon dioxide, thus leading to substantially lower DO levels overnight and into early morning. Steelhead ecology is such that these temporary nightly drops in DO are tolerable because the temperature is generally cooler and metabolic rate is reduced; as water temperature increases over the course of the day, fish metabolic rates increase (generally doubling with each 10°C increase in water temperature) and they require more oxygen. It is estimated that steelhead would be able to survive for only 15-30 minutes with 1-2 ppm DO and at a water temperature of 18-20°C. Thus, steelhead cannot persist for extended periods of time with low DO and high temperatures.

Available habitat for California red-legged frog and other aquatic herpetofauna can also be determined the same way. California red-legged frog lays eggs in water that is usually less than 16°C, with a maximum salinity tolerance of 9 ppt for adults and 6 ppt for embryos (Cook 1997). Western pond turtle occurs in brackish estuaries or freshwater (Lovich undated), preferring temperatures between 15°C and 39-40°C and generally not occurring in water that is outside of this range (Jennings and Hayes 1994). By measuring the appropriate aquatic data, as described above, general suitability for monitored species can be determined.

The above habitat measurements will be measured and evaluated twice a month for the first year at two-week intervals along with all other measurements. Following the first year, habitat will be evaluated on an annual basis.

2.6 MONITORING PRESENCE OF LISTED SPECIES

Tidewater goby, steelhead trout, and California red-legged frog have been known to occur in lower San Simeon Creek and/or San Simeon Creek Lagoon since at least the early 1990s, and much earlier for steelhead due to artificial fish stocking. From 1992 to 2006, the CCSD commissioned in-house surveys for tidewater goby and steelhead in lower San Simeon Creek and San Simeon Creek Lagoon. Tidewater goby was surveyed semiannually, while steelhead was surveyed annually. CCSD has not regularly commissioned California red-legged frog surveys, but this species has instead been surveyed for on an as-needed basis for research and management requirements, particularly by biologists representing and funded by the USGS Piedras Blancas Research Station.

Historically, tidewater goby surveys have been conducted in San Simeon Creek Lagoon in early summer and early fall to measure the species' status immediately after sandbar closure and immediately before the sandbar opens again. Steelhead has been surveyed for in lower San Simeon Creek in the summer after young steelhead had hatched. To monitor the presence or absence of listed species, it is necessary to continue conducting surveys for them following Project implementation. Surveys for these two species shall continue to be conducted during these same time periods in order to capture consistent data with what has historically been evaluated and to continue building a database of fish presence in these water bodies.

As part of this AMP, visual surveys for California red-legged frog shall be conducted on a regular basis in February/March and again in August/September. It is recommended that the first surveys be conducted in early February; if breeding (e.g. observation of amplexus, aural detection of mating calls, presence of egg masses, or presence of tadpoles) is not documented during these surveys, a second round of surveys shall be conducted three (3) weeks later.

Historically, tidewater goby surveys have been conducted in San Simeon Creek Lagoon in early summer and early fall to measure the species' status immediately after sandbar closure and immediately before the sandbar opens again. Steelhead trout have been surveyed for in lower San Simeon Creek in the summer after young steelhead had hatched. Surveys for these two species shall continue to be conducted during these same time periods, in order to capture consistent data with what has historically been evaluated and to continue building a database of fish presence in these water bodies. Two (2) rounds of visual surveys for tidewater goby and a single visual survey for steelhead trout shall be conducted.

2.7 MONITORING WATER QUALITY

CCSD's wastewater department currently monitors and analyzes water quality semiannually at Wells SS3, SS4, 9P7, 16D1, and a separate USGS well. Measurements are taken of depth to groundwater and groundwater elevation, nitrate/nitrogen, total dissolved solids, sodium, chloride, sulfate, boron, and water pH. The recent enrollment of the Project's mitigation water into the RWQCB's General NPDES permit for low threat discharges will also have additional monitoring and water quality requirements. This information will be provided to the BM for analysis and comparison with previous measurements. In addition, water quality will be evaluated based on its ability to provide suitable habitat for fish and other aquatic species.

2.8 GROUNDWATER MODEL DEVELOPMENT

Data obtained during the aforementioned monitoring actions, particularly those described in Sections 2.1 – 2.4, will be used to develop and calibrate the groundwater model that will assist in tracking condition changes in San Simeon Creek, San Simeon Creek Lagoon, and Van Gordon Creek. Baseline data obtained during the first monitoring year will be combined with historical data to determine regular and expected habitat measurements at all times of the year. These data will be used to determine thresholds at which management changes will be required while the facility is in operation.

In order to determine the point at which creek outflow may be adjusted or other management actions may be implemented to avoid impacts to listed species, it is necessary to determine the thresholds at which the potential for an adverse impact would need to be evaluated. Unless otherwise attributable to natural causes, or anthropogenic activities by riparian users upstream and apart from the CCSD-controlled property within the watershed (e.g., an agricultural accident leading to a chemical spill), should any of the following conditions be documented during regular surveys or otherwise during creek monitoring, management actions shall be required:

- Unexplained deaths or die-offs of tidewater goby, steelhead trout, and/or California red-legged frog;
- Early closure of the San Simeon Creek Lagoon sandbar due to dropping water levels;
- Failure of California red-legged frog egg masses due to desiccation;
- Unexplained changes in population levels of these species;
- Project-related drop in groundwater levels below previous historic minimum levels causing impacts to riparian habitat;[3]
- Decrease in lagoon surface water levels below historic minimums.[4]

As part of the Project, 100 gpm of treated groundwater would be released via pipeline into San Simeon Creek Lagoon as mitigation to avoid potential adverse impacts. Using the monitoring methods provided within this AMP, if it is found that riparian vegetation, creek or lagoon water levels, and/or species population numbers surpass the thresholds established in this document or those established based on the first year of monitoring, the CCSD may increase the treated water mitigation being provided, adjust facility operations, or suspend facility operations until conditions are once again deemed acceptable.

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[3] Water levels are anticipated to drop every year regardless of Project operations. Therefore, should the lowering of groundwater levels result in riparian habitat impacts, management actions may include, but not be limited to: artificially increasing the soil moisture content around riparian plants; periodically alternating which percolation basin is in operation; reducing extractions; increasing the mitigation water flow; or, some combination of these approaches (also see Section 5).

[4] It is noted, surface water flows will need to be correlated to rainfall. No flow is anticipated during the dry season.

Section 3 Reporting

This adaptive management plan is a surface water, groundwater, and biological monitoring program designed to provide adaptive management to the Cambria Emergency Water Supply Project to ensure that it will not result in significant adverse impacts to the riparian habitat in San Simeon Creek, San Simeon Creek Lagoon, and Van Gordon Creek. Integral to the effectiveness of an adaptive management program is the preparation of monthly, quarterly, and annual reports to monitor in-stream and riparian conditions within the subject area.

For the first year of monitoring, the BM will prepare and submit to the CCSD a monthly report that will discuss any notable changes in conditions. If any conditions show adverse changes, the report will suggest remedial actions to take. If the site conditions are all shown to be within an acceptable range of variation, the report will note this as such. The report will be equivalent to a memo report or a short letter report for quick analysis of monthly conditions. Following the first year, the report will be compiled on a quarterly basis.

For the first year and all subsequent years, the BM will prepare an annual report for submittal to CCSD, the CDFW, and the U.S. Fish and Wildlife Service (USFWS). The annual report will identify:

- Periods of operation of the new facility;
- Specific parameters that were monitored during the year;
- Any noted changes in the quality or extent of riparian habitat in Van Gordon Creek, San Simeon Creek, or San Simeon Creek Lagoon;
- Additional factors that could affect the long-term sustainability of surrounding riparian habitat and that should be included in the monitoring program; and
- Specific management measures that should be considered to minimize potential effects of the Cambria Emergency Water Supply Project.

Monitoring each year will occur from October 1 through September 31 of the following year. The collected monitoring data will be analyzed during the month of November and presented to an oversight committee each December for review, including preliminary interpretation of data, recommendations for hydrologic and biological monitoring in the coming year and, if necessary, adaptive management measures to correct potential adverse conditions. The annual report shall provide results of the data collection, an interpretation of results, and recommendations for changes to the monitoring program. Recommended changes to monitoring procedures and/or other adaptive management actions will be approved or denied by January 15. Table 1 provides an outline for the required elements of the annual report.

Table 1:
Annual Report Outline for the Cambria Emergency Water Supply Project Adaptive Management Plan

Annual Report Format
Introduction Briefly mention the monitoring programs conducted that year, the type of data, and the intended use of these data.
Methods Describe the methodology for each monitoring program conducted that year in sufficient detail to ensure repeatability. Describe the analyses used to generate the results from each set of data.
Results The results section presents the collected data in consistent format (tabular and/or graphic). Note changes in surface flows and groundwater levels and any changes in riparian habitat at each of the monitoring sites.
Discussion Provide an analysis of the collected data and discuss whether any observed changes and/or trends are within natural variation or indicative of unexpected and adverse effects from the loss of surface water or changes in groundwater levels. If changes in surface water and/or groundwater are determined to be outside natural variation, assess whether they are related to changes in the riparian forest in surrounding riparian habitat.
Conclusions The conclusion should be a succinct summary of the results, interpretation of the data analysis including noted changes or identified trends, recommendations for modifications to the monitoring program, and recommendations for adaptive management actions.
References Appendix A Groundwater Monitoring Data Appendix B Surface Water Flow Monitoring Data Appendix C Surface Water Level Monitoring Data Appendix D Riparian Vegetation Monitoring Data Appendix E In-stream and Fish Habitat Monitoring Data Appendix F Species Survey Data

Section 4 Process to Revise the AMP

The unique challenge associated with monitoring arises from the need to identify potential adverse effects in a timely manner, so that remedial measures can be implemented before significant adverse impacts (e.g., die off of areas of riparian habitat or of listed species) occur. As described in Section 2, the goal of this Plan is to determine, through monitoring of appropriate early indicators (groundwater levels, surface water flows, riparian habitat condition), that actions related to the Cambria Emergency Water Supply Project are not on a trajectory to cause harm to in-stream and riparian resources in lower San Simeon Creek, San Simeon Creek Lagoon, or Van Gordon Creek.

The annual collection of data will provide a picture of the seasonal trends and, after a number of years, longer-term trends in groundwater and surface water levels in these water bodies, as well as the associated health of the in-stream and riparian habitats based on visual observations of the extent and overall health of the in-stream habitat and riparian vegetation using aerial photographs and photo documentation. Section 2 above describes each indicator to be monitored, the expected range of measurements during the course of a single annual monitoring period, and levels of deviation from the previous monitoring period that would be considered outside natural variation, thus triggering the need for a more detailed assessment of in-stream habitat and riparian vegetation (in-stream measurements, CRAM surveys, detailed examination of aerial photographs, and ground level photo documentation).

All of the above data will be included in the annual report, including any noted change in monitoring levels. This report will also assess whether the noted change can be attributed to other causes independent of the Project, or if the change is thought to represent an adverse response to the Project’s ongoing groundwater extraction activities. If a change is determined to be an adverse response to the ongoing groundwater pumping, recommendations for correcting the deviation will be included in the annual report and submitted to CCSD for their review and evaluation as part of the monitoring and annual reporting process under this AMP.

Recommendations for revisions to the monitoring and the adaptive management program, including groundwater, surface water, and biological monitoring, as well as suggested corrective measures to Project-related activities, will be evaluated and considered by CCSD during their reviews of the annual report. Linking recommendations for budgeting to the reporting process will facilitate funding of any needed changes to the monitoring program and adaptive management process.

All monitoring results, suggested revisions to the monitoring program, recommendations for corrective actions related to the groundwater extraction (adaptive management measures), and comments will be presented to the District in the annual report for future monitoring and management decisions. Following District review, suggested revisions or corrective measures will be made and noted in the AMP, including changes to the monitoring program. A final annual report will be prepared and made available to CDFW and USFWS.

Section 5 Potential Mitigation Measures

The development and implementation of this AMP will ensure that the Cambria Emergency Water Supply Project operations do not significantly adversely impact the riparian habitat of the lagoon and adjacent reaches of San Simeon Creek and Van Gordon Creek . The following potential mitigation measures are suggested for evaluation in the event that significant and adverse deviations and/or trends are noted in San Simeon Creek, San Simeon Creek Lagoon, and/or Van Gordon Creek as part of the annual monitoring program:

- **Limit operations to dry season periods when there is no surface water flow in San Simeon Creek and Van Gordon Creek.** As proposed, the facility is intended to augment water supplies during the dry season. The adjacent lower creek reaches are not perennial and typically dry up by mid-summer of each year. Under such dry conditions, steelhead and related species of concern would likely be limited to the San Simeon Creek lagoon area. The Project's mitigation water design feature is intended to protect the lagoon area during such dry season operations.

- **Adjustments to New Facility Operations.** The amount of groundwater being removed by the new facility may need to be temporarily reduced or suspended should monitoring determine potentially adverse riparian impacts were projected to occur. This measure should be considered if groundwater and/or surface water levels substantially drop to levels outside of historical ranges and significantly impact habitat. If conditions begin to improve and once again fall within the acceptable range, the amount of groundwater being pumped by the new facility at that time should be considered for subsequent pumping regime levels to avoid repetitive occurrences.

- **Changes in the quantity of treated water that is returned to San Simeon Creek Lagoon.** As proposed, CCSD will return 100 gpm of treated water to San Simeon Creek Lagoon. It may be necessary to increase the amount of water that is returned into the lagoon by increasing the mitigation water flow or adjusting operation of the new facility to pump less. This measure should be considered if surface water levels or riparian health decrease below what is considered acceptable due to operation of the new facilities. If conditions begin to improve and once again fall within the acceptable range given annual site conditions, the amount of treated water being returned to San Simeon Creek Lagoon at that time should be adjusted to avoid repetitive occurrences.

- **Increase soil moisture content for riparian plants**. Should plants along the riparian corridor exhibit stress due to a lowering of groundwater levels, irrigation to increase soil moisture content may be deployed. This adaptive measure may include the use of a water truck or above ground irrigation piping to increase soil moisture content. Additionally, the CCSD may periodically alternate which percolation basin they are using in order to place percolated water closest to plant areas showing signs of stress. The CCSD has historically needed to operate only one of its four existing percolation basins at any given time. Therefore, it has some operating flexibility on which percolation basin it places into operation.

- **Design and implementation of additional biological monitoring measures.** In the event that negative trends are not reversible with the above measures, additional monitoring measures may be required to reverse such negative trends. Such measures would be identified and described in the annual monitoring report.

Section 6 References

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Appendix D

Section 18 – Proposed Monitoring and Reporting Program of the Operations, Maintenance, and Monitoring Program for the Cambria Emergency Water Supply Program

Appendix E – Adaptive Management Plan

USGS
science for a changing world

Rec'd
10/7/98

Hydrogeology, Water Quality, Water Budgets, and Simulated Responses to Hydrologic Changes in Santa Rosa and San Simeon Creek Ground-Water Basins, San Luis Obispo County, California

U.S. GEOLOGICAL SURVEY
Water-Resources Investigations
Report 98-4061

Prepared in cooperation with the
SAN LUIS OBISPO COUNTY FLOOD
CONTROL AND WATER CONSERVATION DISTRICT

Yates and Van Konyenburg—HYDROGEOLOGY, WATER QUALITY, AND WATER BUDGETS, SAN LUIS OBISPO COUNTY, CALIFORNIA—USGS WRIR 98–4061

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U.S. GEOLOGICAL SURVEY

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WATER CONSERVATION DISTRICT

U.S. DEPARTMENT OF THE INTERIOR
MARCH 3, 1849

Sacramento, California
1998

U.S. DEPARTMENT OF THE INTERIOR
BRUCE BABBITT, Secretary

U.S. GEOLOGICAL SURVEY
Thomas J. Casadevall, Acting Director

For additional information write to:

District Chief
U.S. Geological Survey
Placer Hall, Suite 2012
6000 J Street
Sacramento, CA 95819-6129

Copies of this report can be purchased from:

U.S. Geological Survey
Information Services
Box 25286
Federal Center
Denver, CO 80225

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CONVERSION FACTORS, VERTICAL DATUM, ABBREVIATIONS, AND WELL- AND SPRING-NUMBERING SYSTEM

Multiply	By	To obtain
acre	0.4047	hectare
acre-foot (acre-ft)	1,223	cubic meter
acre-foot per month (acre-ft/mo)	1,223	cubic meter per month
acre-foot per year (acre-ft/yr)	1,223	cubic meter per year
cubic foot per second (ft^3/s)	0.02832	cubic meter per second
foot (ft)	0.3048	meter
foot per day (ft/d)	0.3048	meter per day
foot per foot (ft/ft)	1.000	meter per meter
foot per month (ft/mo)	0.3048	meter per month
foot per year (ft/yr)	0.3048	meter per year
foot squared per day (ft^2/d)	0.0929	meter squared per day
gallon per day (gal/d)	0.06308	liter per day
gallon per minute (gal/min)	0.06308	liter per minute
inch (in.)	25.4	millimeter
inch per year (in/yr)	25.4	millimeters per year
kilowatt-hour per acre-foot (kWh/acre-ft)	0.002919	joule per cubic meter
mile (mi)	1.609	kilometer
square mile (mi^2)	2.590	square kilometer
pound per square inch (lb/in^2)	703.1	kilogram per square meter

Temperature is given in degrees Celsius (°C), which can be converted to degrees Fahrenheit (°F) by the following equation:

$$°F=1.8(°C)+32.$$

Vertical Datum

Sea level: In this report "sea Level" refers to the National Geodetic Vertical Datum of 1929—a geodetic datum derived from a general adjustment of the first-order level nets of the United States and Canada, formerly called Sea Level Datum of 1929.

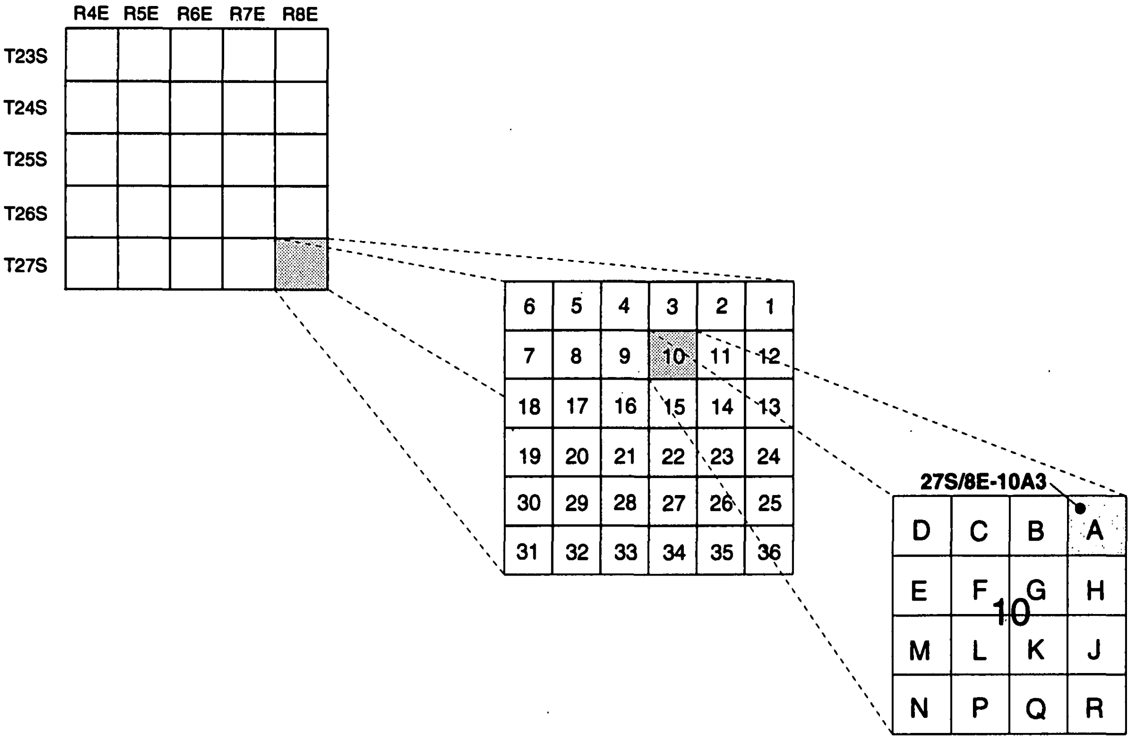
Abbreviations

mg/L	milligram per liter
µS/cm	microsiemen per centimeter at 25 degrees Celsius
AET	actual evapotranspiration
ET_0	reference evapotranspiration
CCSD	Cambria Community Services District
CIMIS	California Irrigation Management Information System

Water year: A water year is a 12-month period, October through September, designated by the calendar year in which it ends. In this report, years are water years unless otherwise noted.

Well- and Spring-Numbering System

Wells and springs are identified and numbered according to their location in the rectangular system for the subdivision of public lands. Identification consists of the township number, north or south; the range number, east or west; and the section number. Each section is divided into sixteen 40-acre tracts lettered consecutively (except I and O), beginning with "A" in the northeast corner of the section and progressing in a sinusoidal manner to "R" in the southeast corner. Within the 40-acre tract, wells are sequentially numbered in the order they are inventoried. The letter "S" inserted before the sequence number indicates a spring. The final letter refers to the base line and meridian. In California, there are three base lines and meridians; Humbolt (H), Mount Diablo (M), and San Bernardino (S). All wells and springs in the study area are referenced to the Mount Diablo base line and meridian (M). Numbers consist of 15 characters and follow the format 027S008E10A003M. In this report, well numbers are abbreviated and written 27S/8E-10A3. Wells in the same township and range are referred to only by their section designation, 10A3. The following diagram shows how the number for well 27S/8E-10A3 is derived.



Hydrogeology, Water Quality, Water Budgets, and Simulated Responses to Hydrologic Changes in Santa Rosa and San Simeon Creek Ground-Water Basins, San Luis Obispo County, California

By Eugene B. Yates *and* Kathryn M. Van Konynenburg

ABSTRACT

Santa Rosa and San Simeon Creeks are underlain by thin, narrow ground-water basins that supply nearly all water used for local agricultural and municipal purposes. The creeks discharge to the Pacific Ocean near the northwestern corner of San Luis Obispo County, California. The basins contain heterogeneous, unconsolidated alluvial deposits and are underlain by relatively impermeable bedrock. Both creeks usually stop flowing during the summer dry season, and most of the pumpage during that time is derived from ground-water storage. Annual pumpage increased substantially during 1956–88 and is now a large fraction of basin storage capacity. Consequently, dry-season water levels are lower and the water supply is more vulnerable to drought.

The creeks are the largest source of ground-water recharge, and complete basin recharge can occur within the first few weeks of winter streamflow. Agricultural and municipal pumpages are the largest outflows and cause dry-season water-level declines throughout the San Simeon Basin. Pumping effects are more localized in the Santa Rosa Basin because of subsurface flow obstructions. Even without pumpage, a large quantity of water naturally drains out of storage at the upper ends of the basins during the dry season.

Ground water is more saline in areas close to the coast than in inland areas. Although seawater intrusion has occurred in the past, it probably was not the cause of high salinity in 1988–89. Ground water is very hard, and concentrations of dissolved solids, chloride, iron, and manganese exceed drinking-water standards in some locations.

Probability distributions of streamflow were estimated indirectly from a 120-year rainfall record because the periods of record for local stream-gaging stations were wetter than average. Dry-season durations with recurrence intervals between 5 and 43 years are likely to dry up some wells but not cause seawater intrusion. A winter with no streamflow is likely to occur about every 32 years and to result in numerous dry wells, seawater intrusion, and subsidence.

Digital ground-water-flow models were used to estimate several items in the ground-water budgets and to investigate the effects of pumpage and drought. The models also were used to investigate the hydrologic effects of selected water-resources management alternatives. Selection of alternatives was not constrained by issues related to water rights, which were under dispute during the study. Increases in the area and intensity of irrigation could increase agricultural water demand by 26 to 35 percent, an increase that would lower water levels by as much as 10 feet and possibly cause subsidence in the lower Santa Rosa Basin. An additional municipal well in the lower Santa Rosa Basin could withdraw 100 acre-feet per year without causing seawater intrusion, but subsidence might occur. Transferring 270 acre-feet per year of treated wastewater from a percolation area near the coast to an area about 0.5 mile upstream of the

municipal well field in the San Simeon Basin could raise upstream water levels by as much as 12 feet without causing significant water-table mounding or seawater intrusion. Decreases in agricultural pumping after a winter without streamflow could prevent seawater intrusion while allowing municipal pumping to continue at normal rates.

INTRODUCTION

Agricultural and municipal water users along Santa Rosa and San Simeon Creeks rely almost entirely on a limited ground-water resource. Ground water occurs in the alluvial deposits beneath the creeks, which drain the western flanks of the Santa Lucia Range in San Luis Obispo County and empty into the Pacific Ocean (fig. 1). The alluvial deposits form flat valley floors, which are used for irrigated agriculture. The town of Cambria is in the Santa Rosa Creek valley about 1 mi from the coast. Municipal water is supplied by the Cambria Community Services District (CCSD), which operates wells in the Santa Rosa and the San Simeon Creek valleys.

The quantity of fresh ground water stored in the thin alluvial deposits is small relative to the overall water demand. During an average winter rainy season, ground-water recharge from streamflow is more than sufficient to meet demand and maintain high ground-water levels. The creeks usually stop flowing during the dry summer season, and users rely on the quantity of ground water in storage until the following winter.

Rapid population growth in Cambria resulted in a fourfold increase in municipal pumpage between 1960 and 1988. In the early 1980's, agricultural pumping increased abruptly as many farmers switched to vegetable crops. These increases in pumping resulted in larger seasonal water-level declines during summer. Rural landowners in the valleys became concerned about the effects of the declines and the potentially devastating consequences of droughts. On several occasions in the mid-1980's, they protested Cambria Community Services District's appropriative water-rights permits before the California State Water Resources Control Board. The quantity of ground water pumped by the District is limited by detailed terms and conditions in their permits.

Purpose and Scope

The purpose of this report is to document the results of a 3-year study of ground-water resources in the Santa Rosa and the San Simeon Creek ground-water basins. During the study, the hydrogeology and water quality of the basins were investigated, quantitative water budgets were developed, and selected water-resources management alternatives

EXPLANATION

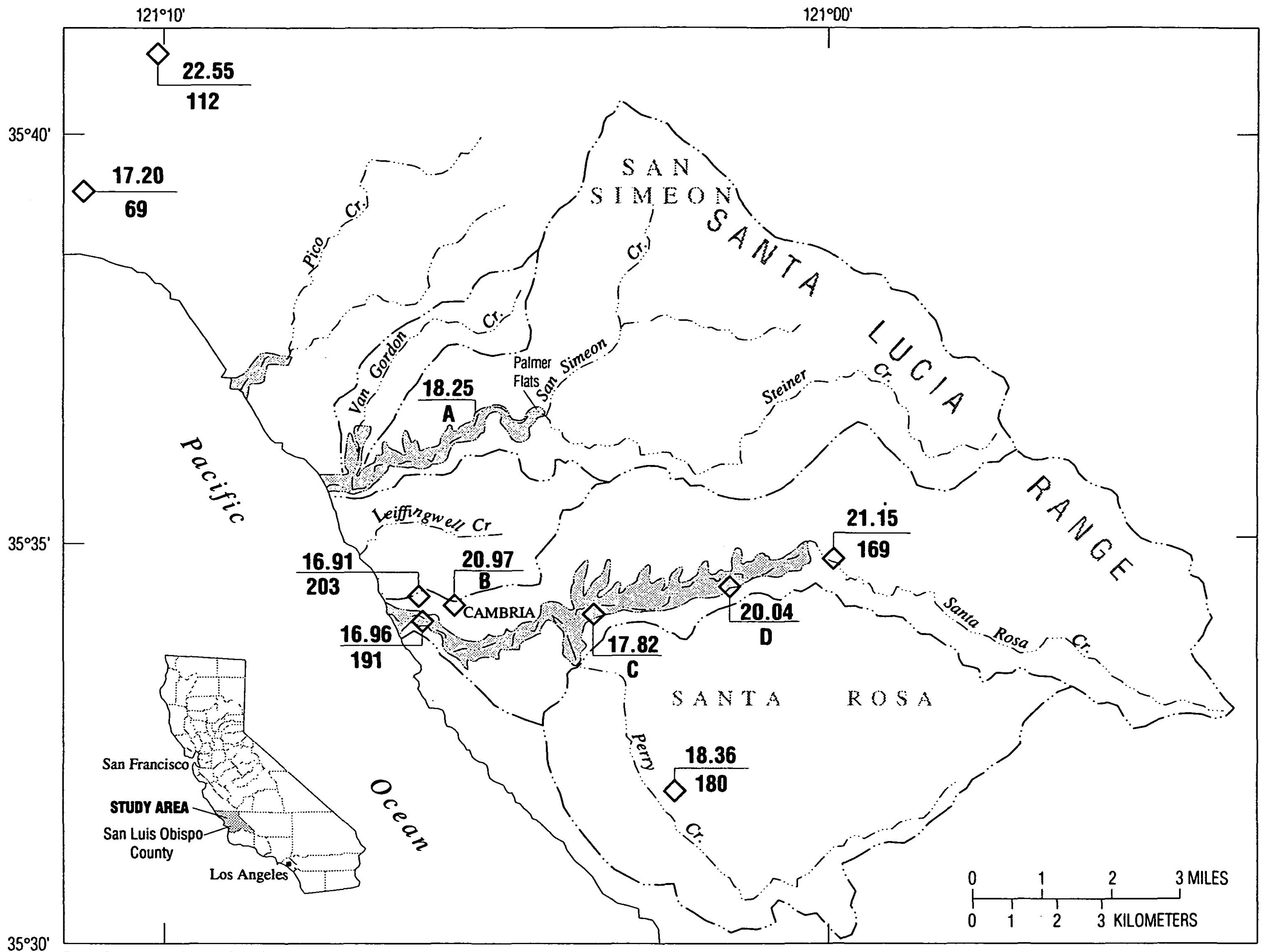
▨ **GROUND-WATER BASIN**

—··— **BOUNDARY OF DRAINAGE BASIN**

21.15
169 ◇ **RAINFALL STATION** - Location of daily rainfall measurement. Upper number is annual rainfall, in inches, during water year 1988. Lower number is station identifier. Numerical identifiers are station numbers of permanent gages operated by San Luis Obispo County. Alphabetical identifiers indicate temporary gages used for this study

69	San Simeon (Hearst Ranch)
112	Hearst Castle (fire station)
169	Santa Rosa Creek (Soto Ranch)
180	Cambria (CalTrans)
191	Cambria (wastewater plant)
203	Cambria (Division of Forestry)
A	Jon Pedotti
B	John Olson
C	James Fiscalini
D	Scooter Rhoades

Figure 1. Locations of creeks, drainage-area boundaries, ground-water basins, and rainfall stations in the Cambria area, San Luis Obispo County, California.



Base from U.S. Geological Survey
Adelaide 1:62,500, 1961, and San
Simeon 1:62,500, 1959

Figure 1. Locations of creeks, drainage-area boundaries, ground-water basins, and rainfall stations in the Cambria area, San Luis Obispo County, California—Continued.

were evaluated. The study was a cooperative effort between the U.S. Geological Survey and the San Luis Obispo County Flood Control and Water Conservation District.

Field activities undertaken for the study included measurement of rainfall, streamflow, temperature, reference evapotranspiration, land use, well efficiency, electricity use at wells, ground-water levels, aquifer characteristics, and surface- and ground-water quality. Observation wells were installed at several locations. Data analysis included preparation of maps, sections, and graphs showing geology, rainfall, water levels, and water quality. Analytical and numerical models were used to simulate ground-water flow, and patterns of rainfall and streamflow were statistically analyzed. The study focused on Santa Rosa and San Simeon Creeks, although some consideration also was given to ground-water conditions along Pico Creek.

Description of Study Area

The study area includes the drainage areas of Santa Rosa and San Simeon Creeks, including major tributaries such as Perry, Steiner, and Van Gordon Creeks (fig. 1). Pico Creek, about 2 mi north of San Simeon Creek, was included in the analysis of water quality. Near the headwaters, the creek valleys form steep, narrow canyons. Along the final 3 to 5 mi before reaching the ocean, the valleys widen and have relatively flat bottoms a few thousand feet wide. These flat-bottomed areas are underlain by ground-water basins and are flanked by steep hillslopes that rise 200 to 800 ft above the valley floor.

Figure 2 shows cultural features, wells, springs, and streamflow and climate measurement stations used in this study. The town of Cambria is adjacent to the lower end of Santa Rosa Creek and had a population of about 5,300 people in 1990. The commercial district of Cambria is along Main Street between the Main Street bridge and the coast. Residential areas are on the hillsides above the commercial district and on the slopes facing the ocean south of the outlet of Santa Rosa Creek.

The water supply for Cambria is obtained from three wells in the CCSD well field on San Simeon Creek about 1 mi from the coast and from two wells near the Burton Avenue bridge over Santa Rosa Creek. Municipal wastewater receives a secondary level of treatment and is discharged to a sprayfield in the San Simeon Creek valley about 0.5 mi downstream of the CCSD well field.

The remaining parts of the valley floors are occupied by agricultural fields and a few rural residences. Native vegetation consists of trees, grass, and shrubs that grow along the creeks and field borders. Grassy hillslopes along the sides of the valleys are used for grazing. Other land uses include a State park campground at the mouth of San Simeon Creek and an in-stream gravel mining operation and processing plant along San Simeon Creek near well 27S/8E-10G2.

EXPLANATION

——··—— BOUNDARY OF GROUND-WATER BASIN

WELL OR TEST HOLE

● Private domestic

◌ Irrigation

○ Municipal

∘ Unused

⦶ Test hole

⚲ Spring used for domestic water supply

⚲ Spring used for stock water supply

\ Indicates observation well

R2 Last letter and digit of well number

▲ STREAM-GAGING STATION

Continuous-record gaging station and identifier

- A Santa Rosa Creek near Cambria (11142200)
- B Santa Rosa Creek at State Highway 1
- D Perry Creek at Cambria (11142240)
- E San Simeon Creek at Palmer Flats
- F San Simeon Creek near Cambria (11142300)

△ Site of occasional discharge measurement

CLIMATE MEASUREMENT STATION

◆ Evapotranspiration measurement station

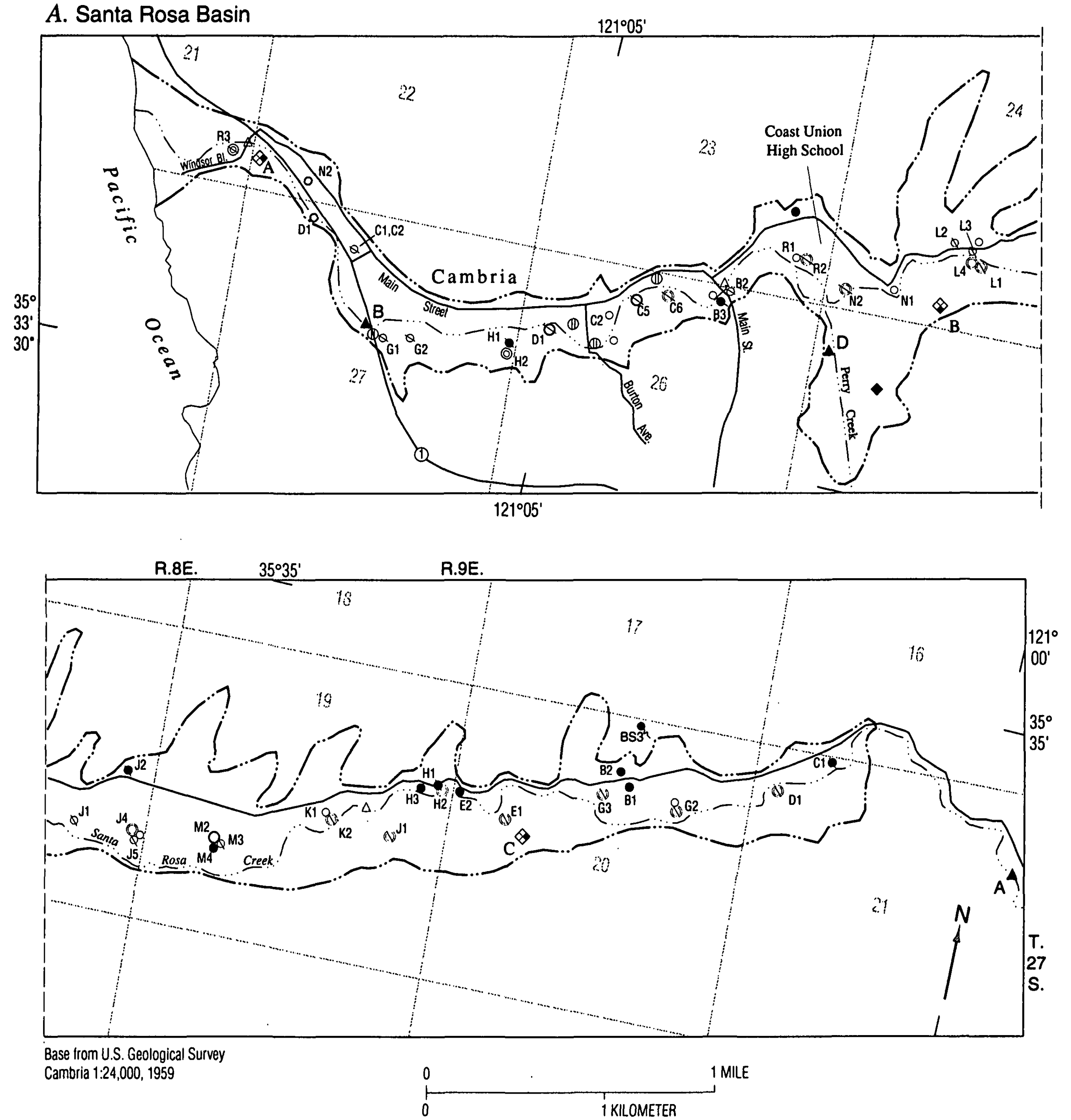
◈ Temperature measurement station and identifer

- A Cambria Community Services District plant
- B James Fiscalini
- C Scooter Rhoades

Figure 2. Locations of cultural features, wells, springs, and streamflow and climate measurement stations in (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, San Luis Obispo County, California.

Acknowledgments

The Cambria Community Services District provided logistical support for well drilling, measured water levels at numerous wells, and freely offered access to their library and historical water-level and water-quality records. Dennis Kunkel of Pacific Gas and Electric Company did more than 20 well-efficiency tests and provided records of monthly agricultural electricity consumption. Numerous farmers and residents voluntarily contributed to the study by recording temperature and rainfall, providing crop and land-use information, allowing access to electric meters, wells, and fields, adjusting irrigation schedules to accommodate well-efficiency and aquifer tests, and providing information and insight. They include the following:



A. Santa Rosa Basin

Figure 2. Locations of cultural features, wells, springs, and streamflow and climate measurement stations in (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, San Luis Obispo County, California—Continued.

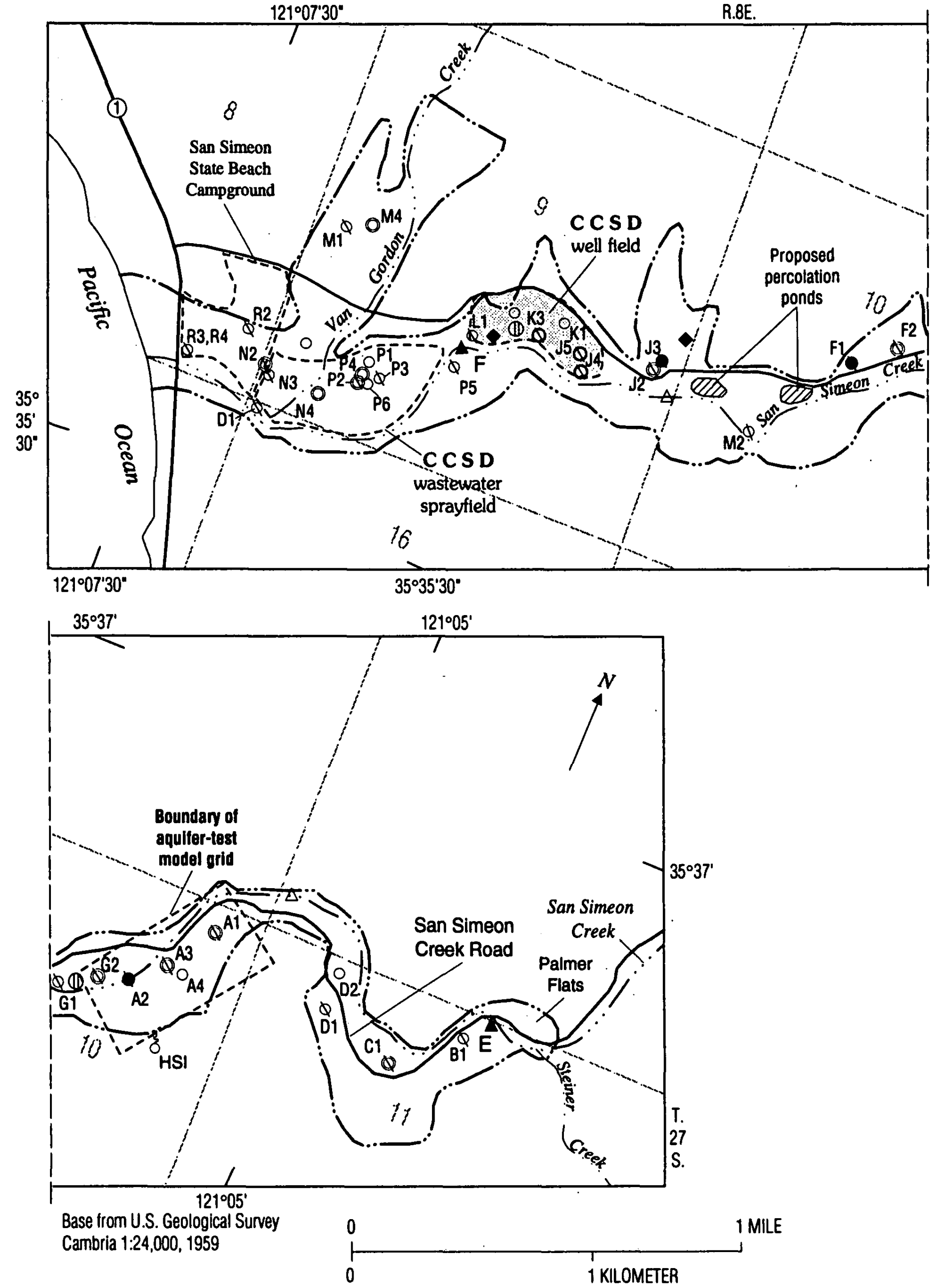
William Bianchi, Alfred Fiscalini, James Fiscalini, Larry Fiscalini, Louis Fiscalini, Olympio Fiscalini, William Hanna, Lloyd Junge, Edward Kalin, Peter Manuele, Lawrence Molinari, John Olson, Alvaro Pantoja, Jon Pedotti, Rosalie and Sterling Rhoades, Scooter Rhoades, Gary Silveira, Leslie Taylor, Jerry Veith, Clyde Warren, and Walter Warren.

HYDROGEOLOGY

Regional Geology and Geologic History

The Santa Rosa and the San Simeon Creek ground-water basins lie just to the west of the southern end of the Santa Lucia Range (fig. 1). The geology of the area is similar to that of other parts of the California Coast Ranges in that Cenozoic and uppermost

B. San Simeon Basin



Base from U.S. Geological Survey Cambria 1:24,000, 1959

Figure 2. Locations of cultural features, wells, springs, and streamflow and climate measurement stations in (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, San Luis Obispo County, California—Continued.

Mesozoic marine sedimentary rocks unconformably overlie the Mesozoic eugeosynclinal rocks of the Franciscan Complex. In this area, the marine sediments were thrust over the Franciscan Complex.

Surficial geology along Santa Rosa and San Simeon Creeks near Cambria is shown in figure 3. Geologic sections along the axes of the two creek valleys are shown in figure 4. Most of the area is underlain at depth by bedrock of the Franciscan Complex, an aggregation of rocks that were tectonically fragmented and mixed during the Late Cretaceous period. The Franciscan Complex is exposed on hillsides near Cambria and throughout the mountainous terrain to the east.

Numerous northwest-trending normal faults (Hall and others, 1979) cross the basins. These old faults resulted in widespread shearing and fracturing of the Franciscan rocks but do not appear to affect Quaternary deposits in the creek valleys. The Hosgri fault zone parallels the coastline about 2 mi west of the ground-water basins. The Hosgri fault zone is seismically active and could generate an earthquake of magnitude 7.0 along the segment closest to Cambria (Pacific Gas and Electric Company, 1988). An earthquake of this magnitude could cause a slight decrease in basin storage or an increase in stream base flow. Such changes were observed following the 1989 Loma Prieta earthquake about 110 mi northwest of Cambria; the terrain in these areas is similar (Wendell Ayers and Scott Hamlin, U.S. Geological Survey, oral commun., 1991).

Although the marine sedimentary rocks near the coast are nearly the same age as the rocks of the Franciscan Complex, the unnamed sandstones and shales have not undergone the tectonic disruption evident in the Franciscan Complex (Hsü, 1969).

EXPLANATION

Quaternary	Holocene	Qal	**ALLUVIAL DEPOSITES**
	Holocene and Plesistocene	Qt	**STREAM-TERRACE DEPOSITS**
		Qtu	**UNDIFFERENTIATED TERRACE DEPOSITS** - Slightly consolidated. Marine and nonmarine
Tertiary		Tu	**UNDIFFERENTIATED CONSOLIDATED ROCKS** - Crystalline felsite and marine sediments
Cretaceous	Upper Cretaceous	Ks	**SANDSTONE** - Marine, with interbedded shale
Cretaceous and Jurassic		KJf	**FRANCISCAN COMPLEX** - Consolidated rocks including melange (m) and metavolcanics (mv)

—?– – **CONTACT** - Dashed where approximately located. Queried where inferred

—?—··· **FAULT** - Dashed where approximately located. Dotted where concealed. Queried where approximately located

▲▲ **THRUST FAULT** - Sawteeth on upper plate

A A' **LINE OF GEOLOGIC SECTION**

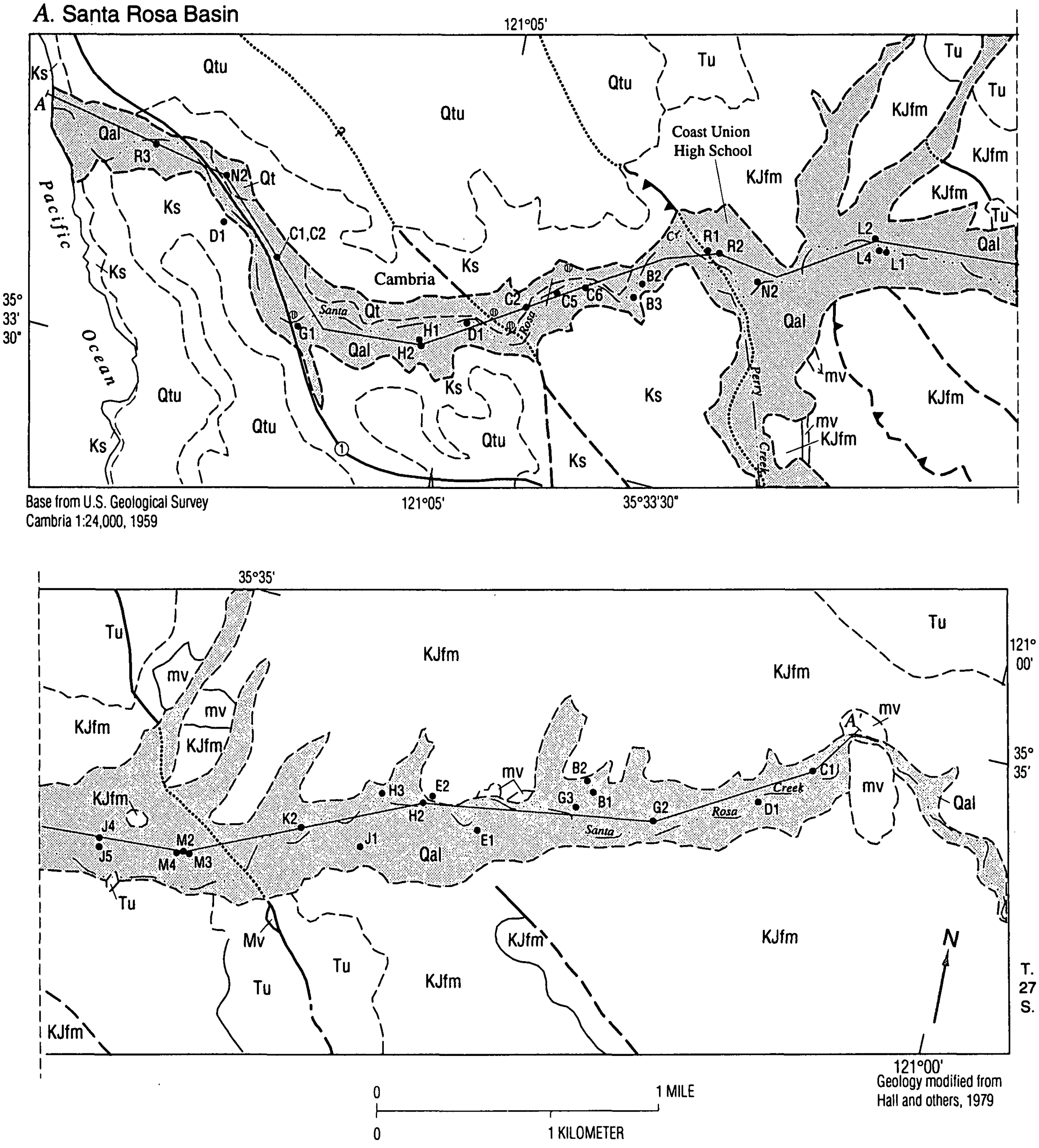
K3● **WELL AND NUMBER**

◍ **TEST HOLE**

Figure 3. Surficial geology of (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, San Luis Obispo County, California. (See figure 4 for location of sections.)

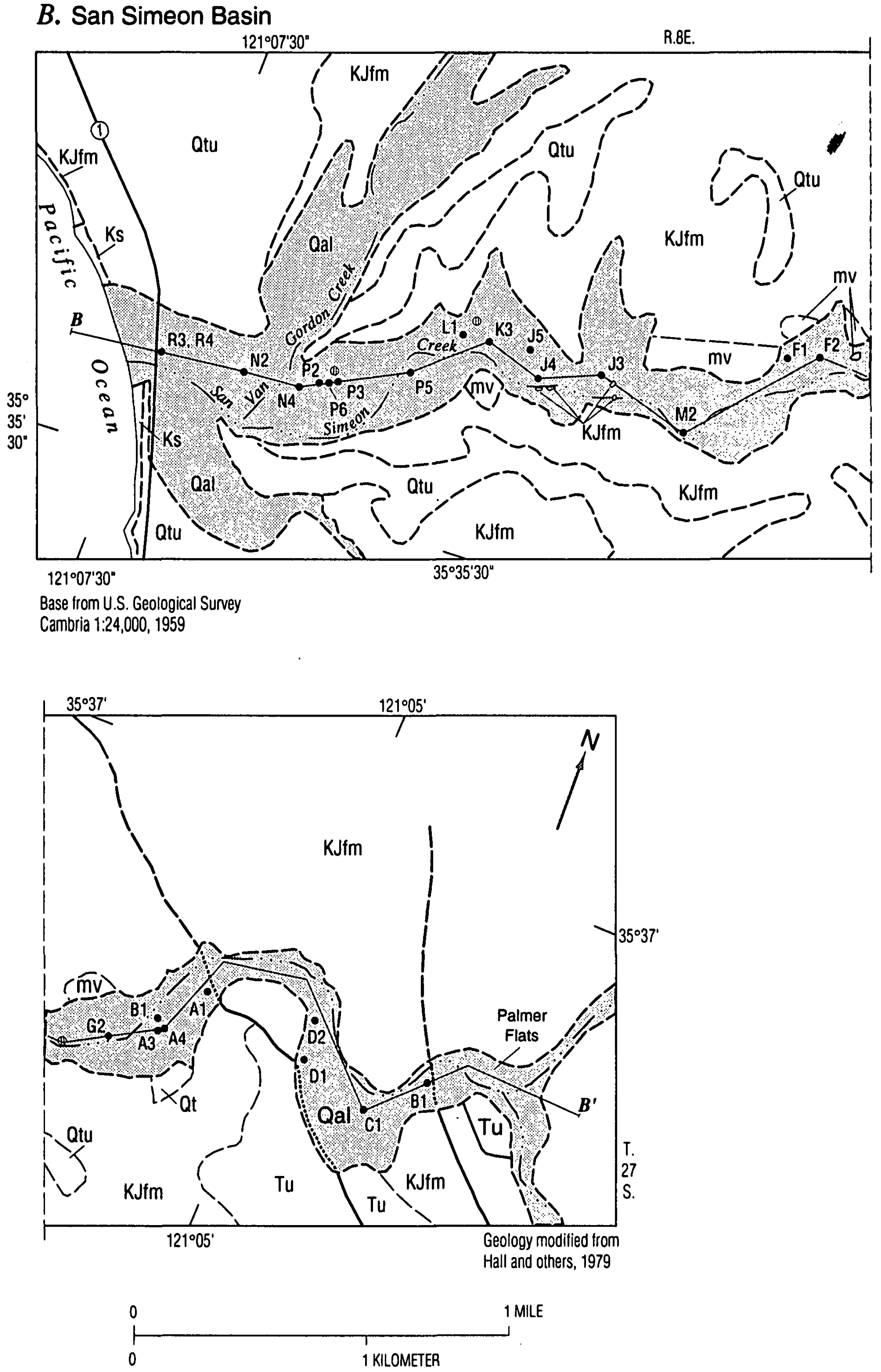
Howell and others (1977) refer to the marine sedimentary rocks as the Cambria slab. The slab is relatively intact because it moved *en bloc* during a later episode of deformation in the Late Cretaceous period, after the episode of overthrusting and gravity sliding that deformed the Franciscan Complex.

Stream-terrace deposits, primarily of marine origin, accumulated during a high stand of sea level in the middle to late Pleistocene. These slightly consolidated deposits (unit Qtu in fig. 3) now cover much of the unnamed marine sedimentary rocks in the study area near the coast. More recent unconsolidated



A. Santa Rosa Basin

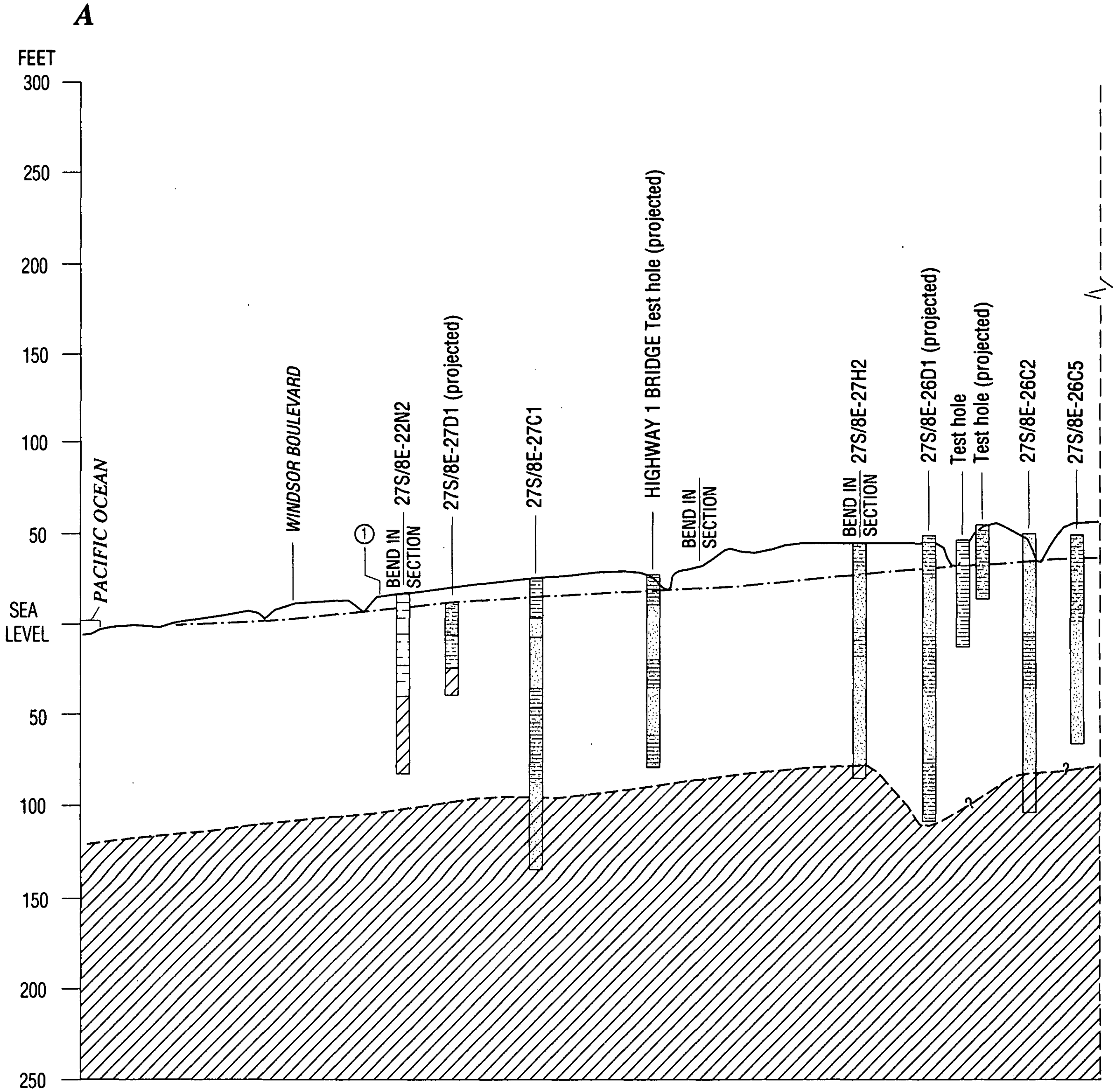
Figure 3. Surficial geology of (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, San Luis Obispo County, California. (See figure 4 for location of sections.)—Continued.



Base from U.S. Geological Survey
Cambria 1:24,000, 1959

Geology modified from
Hall and others, 1979

Figure 3. Surficial geology of (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, San Luis Obispo County, California. (See figure 4 for location of sections.)—Continued.



A. Santa Rosa Basin

Figure 4. Geologic sections *A–A′* and *B–B′* along (*A*) the Santa Rosa and (*B*) the San Simeon Creek valleys, San Luis Obispo, California. (Location of sections are shown in figure 3.)

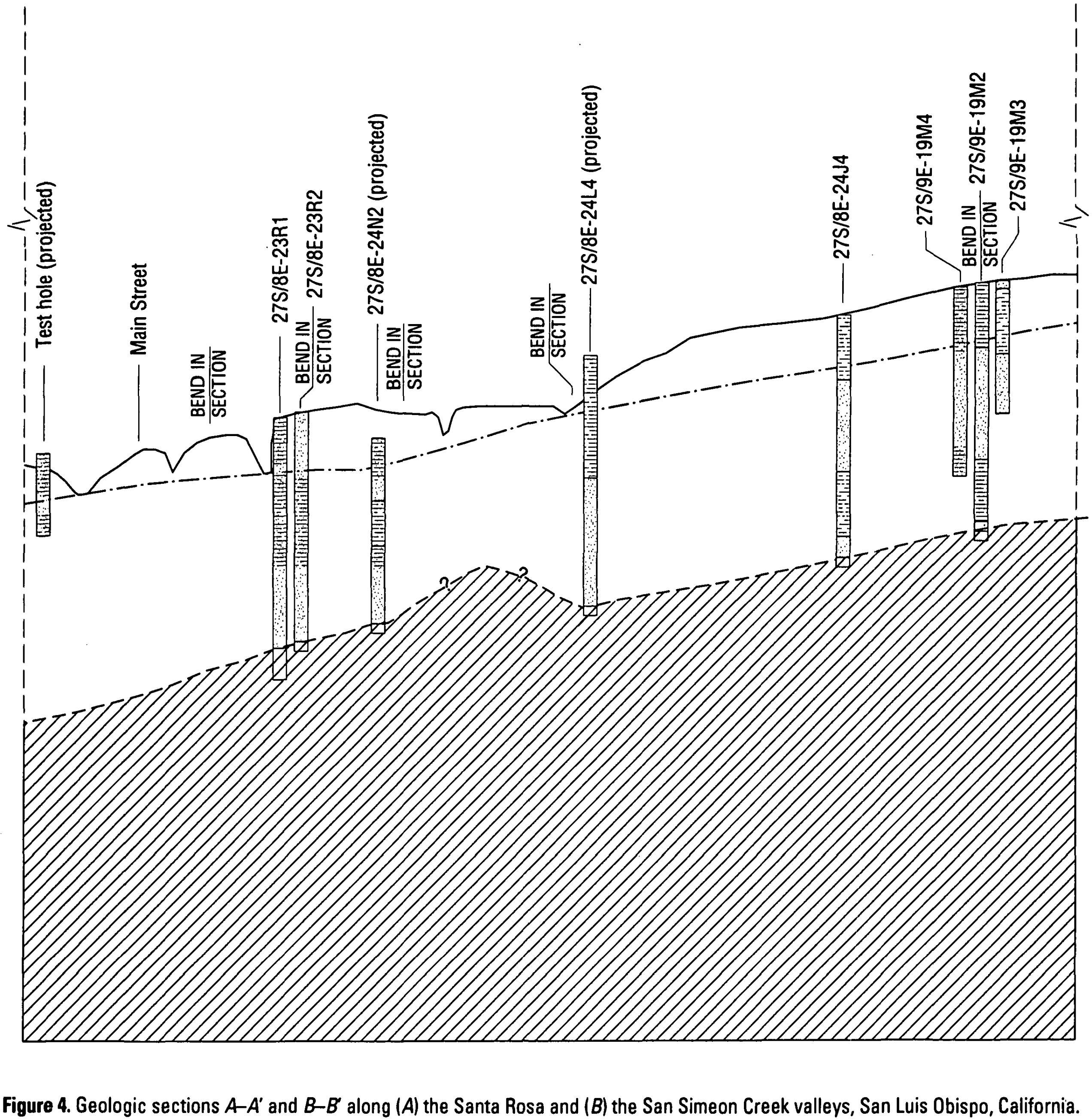


Figure 4. Geologic sections *A–A′* and *B–B′* along (*A*) the Santa Rosa and (*B*) the San Simeon Creek valleys, San Luis Obispo, California. (Location of sections are shown in figure 3.)—Continued.

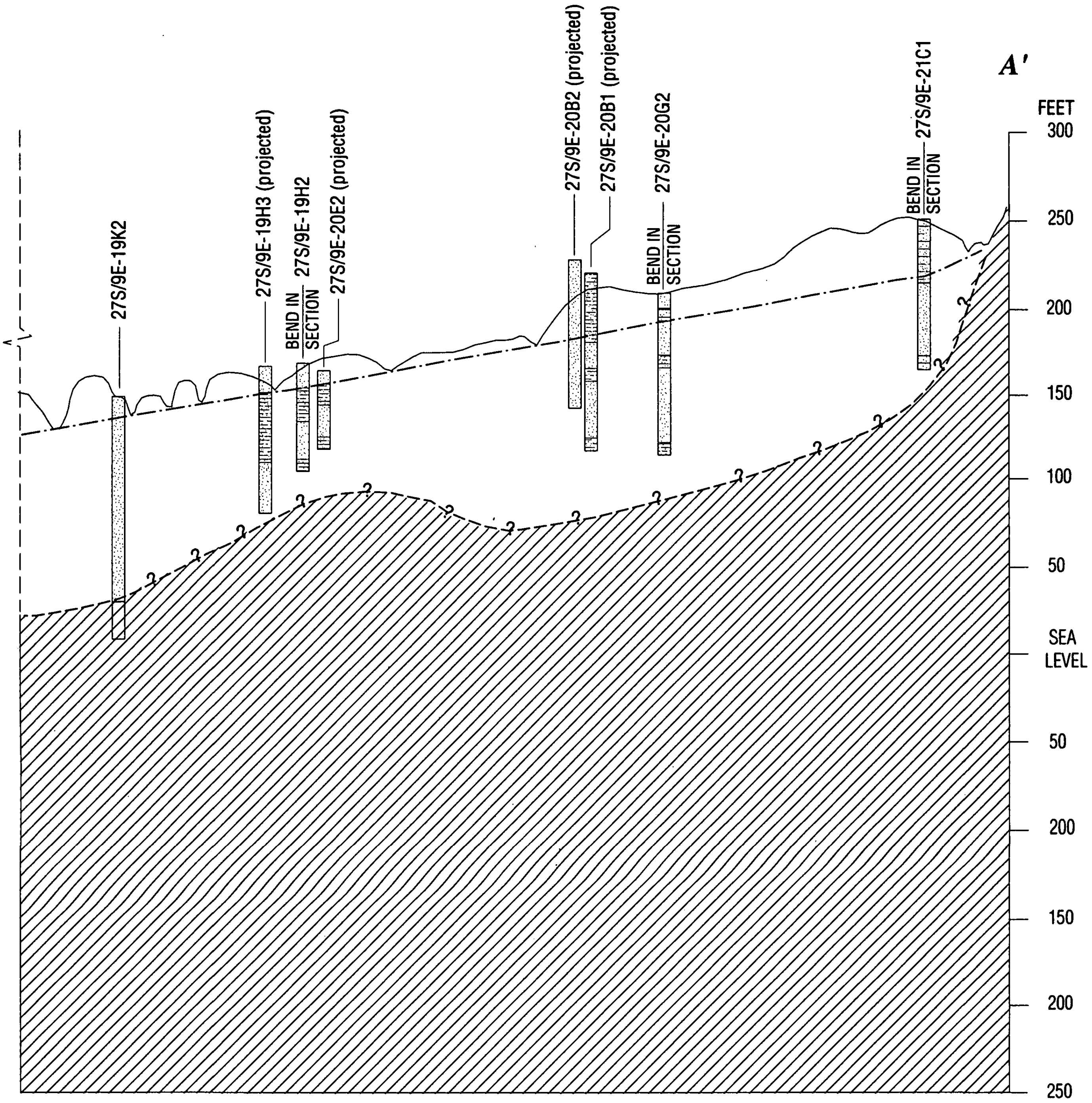
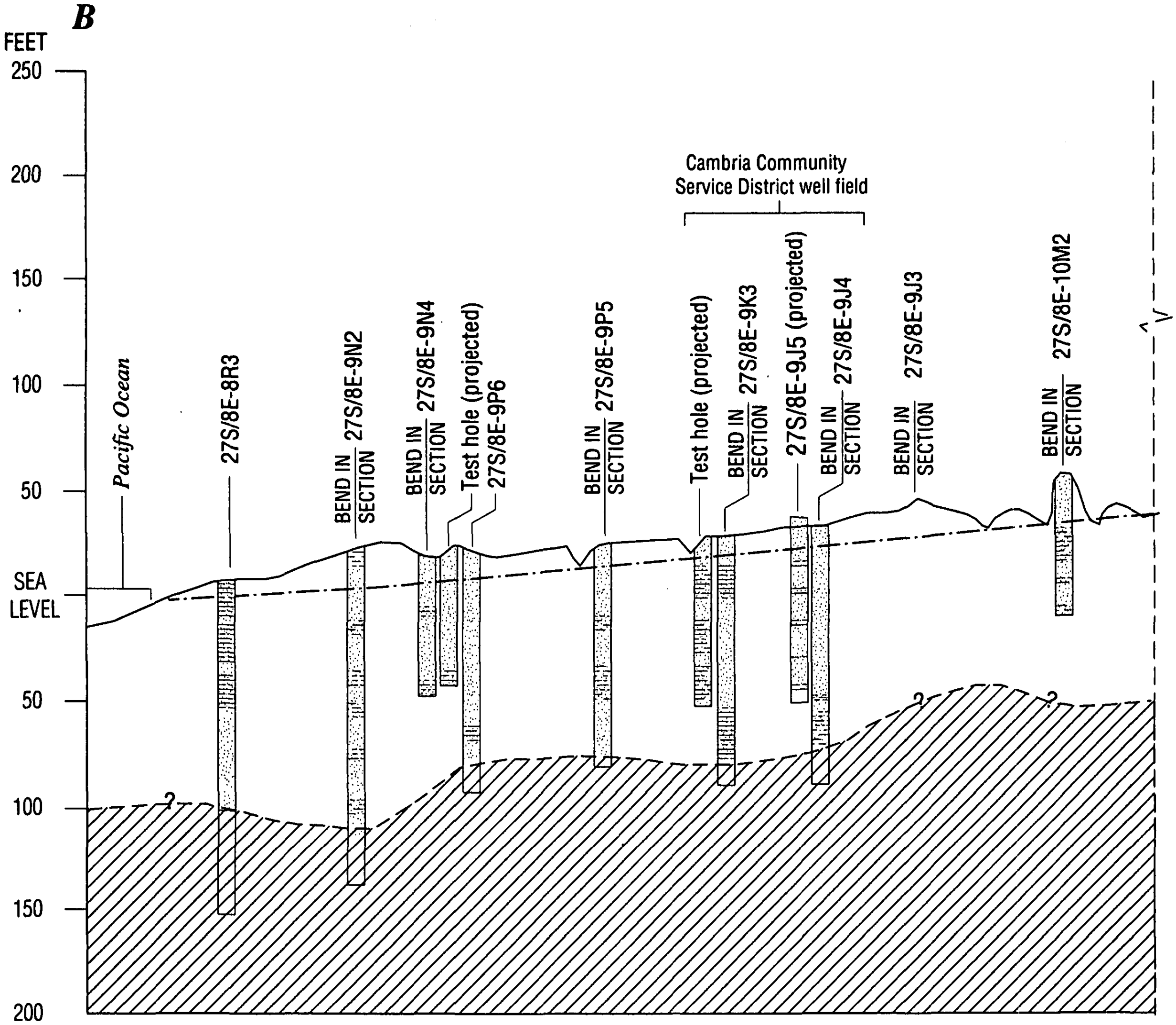
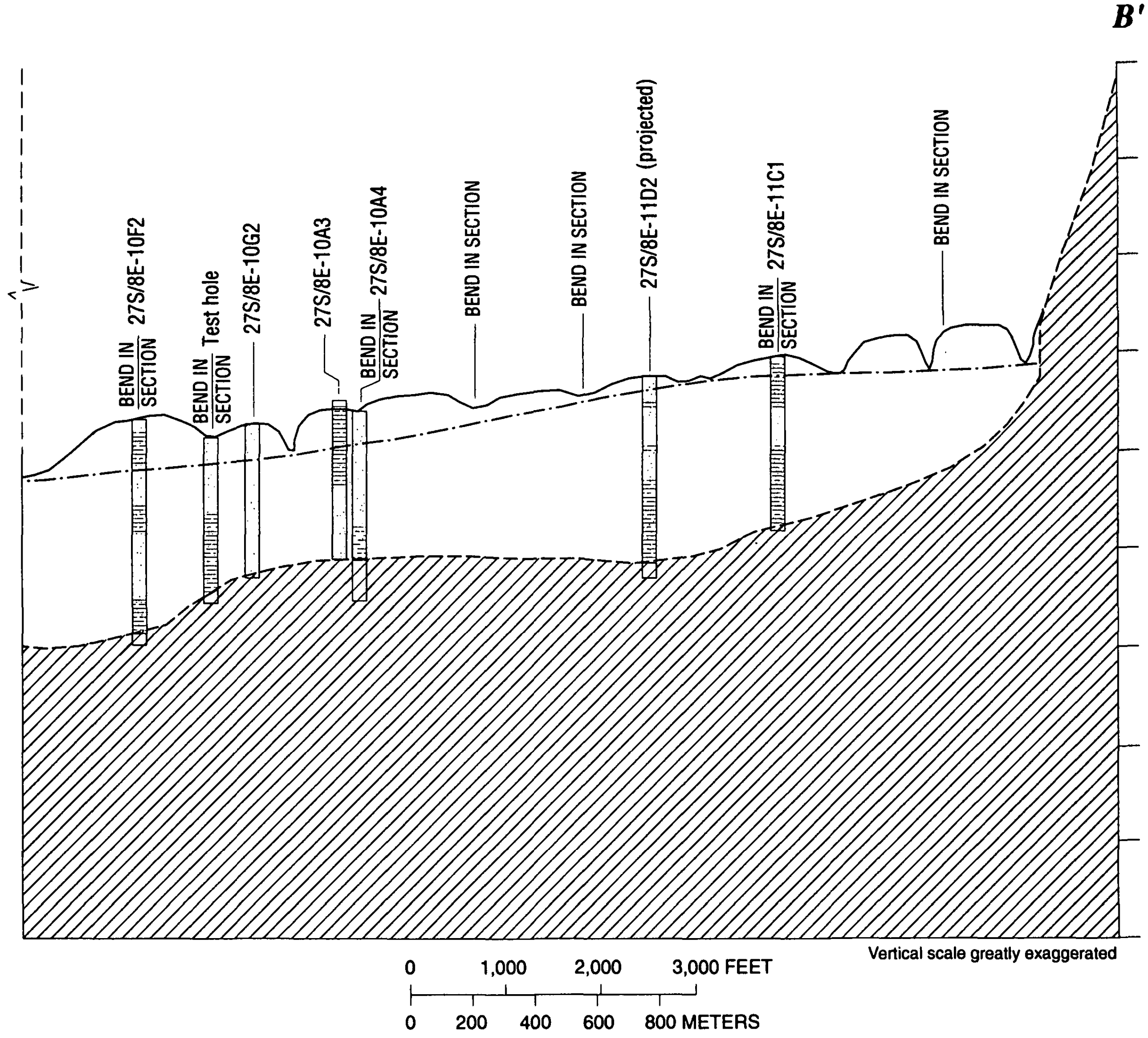


Figure 4. Geologic sections *A–A′* and *B–B′* along (*A*) the Santa Rosa and (*B*) the San Simeon Creek valleys, San Luis Obispo, California. (Location of sections are shown in figure 3.)—Continued.



B. San Simeon Basin

Figure 4. Geologic sections *A–A′* and *B–B′* along (*A*) the Santa Rosa and (*B*) the San Simeon Creek valleys, San Luis Obispo, California. (Location of sections are shown in figure 3.)—Continued.



EXPLANATION

░ **SAND AND GRAVEL**

▤ **CLAY AND SILT**

▨ **BEDROCK** - Bedrock surface is approximate profile along deepest part of basin

---?-- **CONTACT** - Dashed where approximately located. Queried where uncertain

—·—·— **CREEK THALWEG**

▯ — 27S/8E-10M2 **TEST HOLE AND GEOLOGIC LOG**

Figure 4. Geologic sections *A–A'* and *B–B'* along (*A*) the Santa Rosa and (*B*) the San Simeon Creek valleys, San Luis Obispo, California. (Location of sections are shown in figure 3.)—Continued.

alluvial and stream-terrace deposits (units Qal and Qt in fig. 3) are along the valley floors.

Ground-Water Basins

The unconsolidated alluvial and stream-terrace deposits in the Santa Rosa and the San Simeon Creek valleys form ground-water basins extending 3 to 5 mi inland from the coast. Pores between the grains of these deposits can store water. Because the pores are interconnected, this water can flow slowly from one location to another. The bottom and sides of the basins are bounded by relatively impermeable bedrock. Two principal ground-water basins underlie the Cambria area, one underlying Santa Rosa Creek downstream of well 27S/9E-21C1 and one underlying San Simeon Creek downstream of the confluence with Steiner Creek (fig. 2). A similar but much smaller basin exists beneath the final mile of Pico Creek (fig. 1) before it enters the ocean. All the basins extend an unknown distance offshore. In this report, Santa Rosa Creek, San Simeon Creek, and Pico Creek ground-water basins will be referred to as Santa Rosa Basin, San Simeon Basin, and Pico Basin, respectively.

The onshore boundaries of the basins as defined for this study are shown in figure 2. They generally follow the contact between basin fill and bedrock (fig. 3). The upper parts of several small side valleys are excluded because the basin fill is thin and does not significantly affect ground-water storage or flow in the main valleys. The basin boundaries occasionally deviate slightly into the bedrock areas in order to include most agricultural fields entirely within the basin. Contours of the bedrock surface that form the base of the ground-water basins are shown in figure 5. The total volume of unconsolidated sediments in the onshore part of the Santa Rosa Creek Basin is 66,000 acre-ft, of which 55,000 acre-ft is above sea level. The total volume of unconsolidated sediments in the onshore part of the San Simeon Creek Basin is 30,000 acre-ft, of which 16,700 acre-ft is above sea level.

Geologic Units

The geologic units of the Santa Rosa and the San Simeon Basins can be divided into two broad categories: relatively impermeable, consolidated bedrock and poorly consolidated to unconsolidated alluvial deposits. Bedrock is considered relatively impermeable because it stores and transmits much smaller quantities of water than do the more porous and permeable basin-fill deposits.

Bedrock

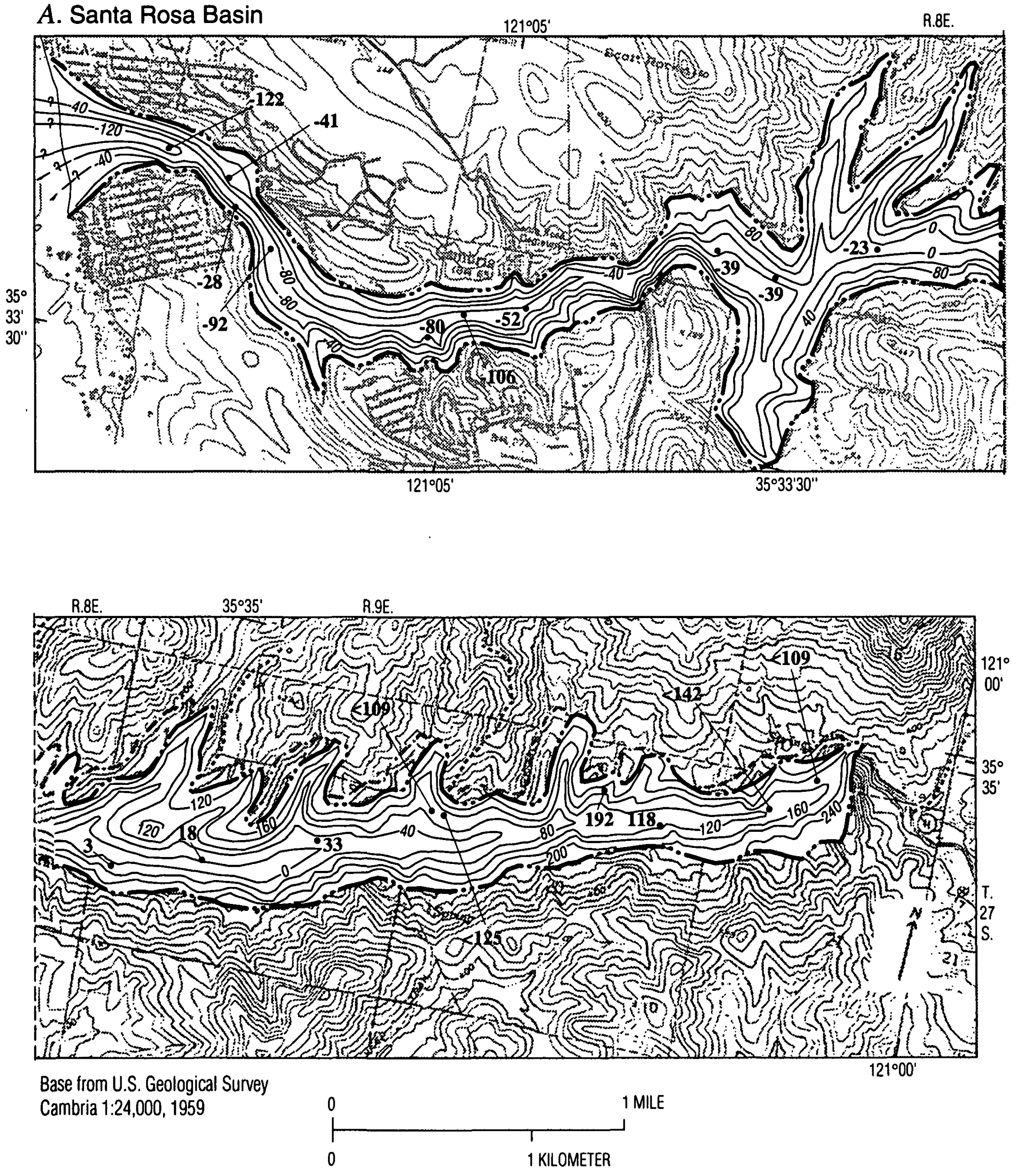
Bedrock in the study area consists primarily of Jurassic and Cretaceous sedimentary and low-grade metamorphic rocks of the Franciscan Complex. West of Coast Union High School in the Santa Rosa Basin, bedrock consists of an unnamed sequence of Upper Cretaceous marine sandstones and shales (fig. 3*A*). Some sedimentary and partly metamorphosed volcanic rocks of Tertiary age also are exposed but are less often in contact with the basin-fill deposits. The slightly consolidated undifferentiated terrace deposits form a relatively thin surficial layer over the Franciscan Complex and marine sediments adjacent to the basins. For this study, these also were grouped as bedrock.

The Franciscan Complex in the Cambria area generally consists of a melange of torn and sheared lenticular masses composed of graywacke, greenstone, diabase, gabbro, serpentine, chert, shale, tuff, blue schist, and other metamorphic rocks. This melange varies spatially, allowing tectono-stratigraphic units, known as the melange units, to be established (Hsü, 1969).

The predominant melange unit in the study area is composed of various size blocks and slabs of chert, greenstone, and graywacke, with the smaller blocks surrounded by a ductily deformed matrix. Larger slabs, as much as 5,000 ft in their maximum dimension, usually exhibit brittle deformation (Hsü, 1969).

In addition to the melange units, the Franciscan Complex contains large outcrops of metavolcanic rocks. These rocks commonly are associated with red chert, locally are dark red, and often are extensively sheared. Outcrops of these metavolcanic rocks form prominent hills at the eastern end of the Santa Rosa Basin and east of the confluence of Santa Rosa and Perry Creeks. Along the San Simeon Basin, metavolcanic rocks are exposed east of Palmer Flats and on the northern side between wells 27S/8E-10G2 and 9P5 (fig. 3*B*). These rocks usually are brittle and highly fractured and therefore are able to transmit some ground water. Evidence of this is confirmed by the numerous springs in the Franciscan Complex; some springs discharge enough water to meet the domestic needs of a single household.

The unnamed Upper Cretaceous sandstone is not highly deformed, and the original strata usually are preserved. Occasionally, graded bedding and laminations are disrupted by extensional shears as observed along the beach at the mouth of Leffingwell Creek (fig. 1) (Hsü, 1969). The interbedded shales in this sequence are partly fractured and show less ductile deformation than the matrix of the Franciscan melange units. These shale interbeds and their associated fractures probably are the conduits for the springs in this sequence. Overall, spring discharge in the unnamed sandstone probably is less than spring discharge in the Franciscan Complex because the unnamed sandstone is less fractured and deformed.



Base from U.S. Geological Survey
Cambria 1:24,000, 1959

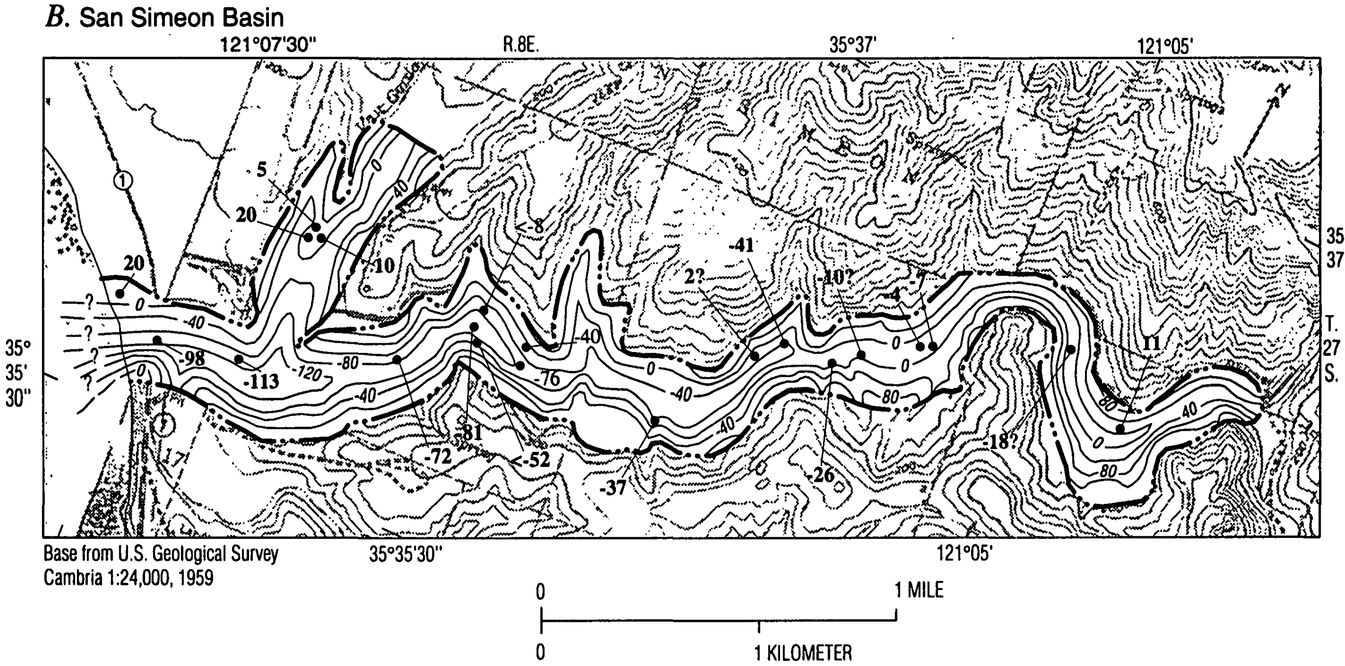
Figure 5. Altitude of the bedrock surface beneath (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, San Luis Obispo County, California.

Basin Fill

Basin fill in the Santa Rosa and the San Simeon Basins consists of unconsolidated alluvial and stream-terrace deposits. Additional Quaternary sediments, primarily of marine origin, come in contact with the basin boundaries near the coast.

The alluvial and stream-terrace deposits are similar in that each consists of cobble- and pebble-size gravel, sand, silt, and clay. The stream-terrace deposits, however, are slightly older than the alluvial deposits and generally are less than 10 ft thick. The only extensive stream-terrace deposit in the study area is on the northern side of Santa Rosa Creek between wells 27S/8E-23R2 and 27C1 (fig. 3*A*). The more common alluvial deposits are often about 100 ft thick near the center of the valleys and more than 120 ft thick at the coast.

Geologic logs of wells drilled in the alluvial deposits show alternating layers of coarse- and fine-grained sediments, indicative of cyclic fluvial deposition. Layering of the basin fill is evident in the geologic sections shown in figure 4. Typically, fine-grained sediments are deposited on the flood-plain



EXPLANATION

—-80— **BEDROCK CONTOUR**-Shows estimated altitude of bedrock surface beneath the ground-water basin. Queried where uncertain. Contour interval 40 feet. Datum is sea level

—··—— **BOUNDARY OF GROUND-WATER BASIN**

-72● **WELL OR TEST HOLE**-Number indicates altitude of bedrock, in feet above or below (-) sea level estimated from well log. <, indicates well did not reach bedrock. Queried where uncertain

Topographic contour not shown inside ground-water basin boundaries

Figure 5. Altitude of the bedrock surface beneath (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, San Luis Obispo County, California—Continued.

surfaces adjacent to the creek channel and coarse-grained sediments are deposited within the channel. Over geologic time, the channel meanders across the flood plain and produces interfingered coarse- and fine-grained deposits of varying thicknesses.

Continuity of individual layers in the basin fill greatly affects ground-water movement. Continuous coarse-grained channel deposits can allow rapid downvalley ground-water flow, and continuous fine-grained deposits can greatly impede lateral and vertical ground-water flow. Geologic logs of wells and test holes generally indicate that individual layers are variable and discontinuous. For example, logs of well 27S/8E-27H2 and two test holes in the Santa Rosa Creek valley drilled about 100 ft upstream and downstream of the well indicate that only one, upper gravel layer can be correlated among the three holes with any certainty. At depths greater than 40 to 50 ft, the layers differ remarkably (Robert Miller, driller, oral commun., Nov. 6, 1987).

Similarly, a cluster of three wells farther up the Santa Rosa Creek valley (27S/9E-19M2, 19M3, and 19M4) has a large degree of spatial variability (fig. 4*A*). The wells are within 25 ft of each other, but well logs indicate that the top 30 to 40 ft in each well varies from clay to an interbedded mixture of clays, sand, and gravel. The logs indicate there is a continuous gravel layer at greater depths, but it changes in thickness from 60 to 40 ft over a distance of less than 20 ft. In the San Simeon Basin, a similar pattern is observed. Wells 27S/8E-10A3 and 10A4 are separated by a distance of only 95 ft along a line perpendicular to the valley axis, yet only about one-half of the geologic strata seem to be correlated. For example, well 27S/8E-10A3 penetrates 27 ft of clay and gravel between the depths of 10 and 40 ft, whereas well 27S/8E-10A4 encountered no clay at this depth.

Continuity of individual layers is evident in some locations and seems to be greater in the direction parallel to the valley axis. This is the result of deposition by the creeks, which generally flow in this direction. For example, wells 27S/9E-19H3, 19H2, and 20E2 in the Santa Rosa Basin are within 450 ft of each other (fig. 4*A*), and all but one clay layer can be correlated among their respective driller's logs. In the San Simeon Basin, wells 27S/8E-9K3 and 9J4 are 630 ft apart along a line parallel to the valley axis. Their logs are much more similar than the logs for wells 27S/8E-9J4 and 9J5; these wells are only 250 ft apart, but along a line nearly perpendicular to the valley axis.

An exception to this pattern can be seen in drillers' logs of wells near Coast Union High School in the Santa Rosa Basin. Two wells at the high school (27S/8E-23R1 and 23R2) are about 150 ft apart along a line nearly parallel to the valley axis, yet only a 35-foot basal gravel layer can be correlated between them. The upper 90 ft of sediments in well 27S/8E-23R1 consists almost entirely of clays with only small amounts of sand. In contrast, the upper 90 ft of sediments in well 27S/8E-23R2 consists of alternating layers of sand and gravel, sandy clay, and sand with only 35 ft of sandy clay. Perhaps the sediments deposited by Perry Creek disrupt the normal patterns of continuity in this area.

An extensive, continuous clay layer might be present near the high school. Previous investigations by Envicom Corporation (1981) indicated an apparent correlation of geologic logs for wells 27S/8E-23R1 and 24J1. However, logs for newer wells in the same area (27S/8E-23R2 and 24N2) contain significantly higher percentages of coarse-grained deposits. When the additional logs are incorporated into the geologic section (fig. 4*A*), the clay layer is not as continuous or extensive as previously thought. However, the 30- to 35-foot-thick basal gravel seems to be continuous between the wells and downstream as far as well 27S/8E-27H2.

In the San Simeon Basin, drillers' logs do not show any obviously continuous clay layers. At the upper end of the basin, alluvial deposits at depths greater than about 50 ft are finer grained than shallow deposits. The pattern is similar near the CCSD well field, where several well logs show fine-grained deposits near the bottom of the basin. Fine-grained deposits appear at various depths between the well field and the coast and cannot be correlated with certainty between wells.

Water Levels

Seasonal water-level fluctuations can be used to infer the location and relative magnitude of inflows and outflows to and from the ground-water basins. Seasonal fluctuations are evident in monthly water-level data collected since 1978 by the Cambria Community Services District at about 36 wells, most of which are in the San Simeon Basin. For this study, water levels were measured monthly between March 1988 and April 1989 at an additional 26 wells, most of which are in the Santa Rosa Basin. Water levels at 31 wells were measured as often as daily during and shortly after a major storm on December 23–26, 1988. Measuring-point altitudes were surveyed from local bench marks.

Water-level hydrographs for eight wells in the Santa Rosa Basin and eight wells in the San Simeon Basin for January 1988 through March 1989 are shown in figure 6. Most of the hydrographs show a large seasonal drawdown beginning in spring and increasing steadily until early November. Hydrogeologic sections of ground-water levels along the length of the valleys are shown in figure 7. These sections follow the same lines as the geologic sections presented earlier (fig. 4). Seasonal water levels were highest in March 1988 and lowest at different times between mid-October and mid-December 1988, depending on location. Water levels from the latter dates are combined to form a single profile representing the minimum seasonal water level.

Seasonal water-level declines are caused by a combination of increased pumping and decreased streamflow during the summer dry season. At the upper ends of the basins, natural downvalley drainage of ground water causes large dry-season declines. Rapid water-level declines begin when the total basinwide pumping rate becomes larger than the rate of streamflow entering the basin. This occurred between March and April 1988 in the Santa Rosa Basin and between April and May 1988 in the San Simeon Basin when streamflow entering the basin was about 1.3 ft^3/s. During February through April, water levels declined less than about 1 ft/mo in both basins. During June through August, the rate of water-level decline increased to between 3 and 7 ft/mo in most areas.

During November and early December 1988, the rate of water-level decline slowed or even reversed slightly at most wells. The creeks were still dry during that period, and water levels reflected the balance between decreased pumping rates and the small but relatively steady inflow of ground water from bedrock along the sides of the valleys.

After a few days of small sporadic flows, streamflow began with a large flow peak on December 24, 1988. Water-level response to the onset of streamflow was immediate, and water levels recovered as much as 19 ft in 4 days. In most wells, more than 90 percent of the winter water-level recovery was during the first 2 weeks of streamflow.

Dry-season drawdown during 1988 was small at several locations. Seasonal drawdown within about 2,000 ft of the coast was less than 5 ft in both basins because of the absence of nearby pumping and because the creek and ocean limit the range of natural water-level fluctuations (see, for example, well 27S/8E-16D1, fig. 6*A*). Drawdown was less than about 2 ft at two inland locations along Santa Rosa Creek near wells 27S/9E-19H2 and 27S/8E-24L2. The lack of drawdown at these locations probably is caused by subsurface obstructions to ground-water flow downstream of the wells. The relatively impermeable obstructions act like dams, causing a stairstep in the downvalley water-level profile (fig. 7) and forcing ground water to emerge as surface flow in the creek. Water levels in the uppermost part of the valley, upstream of well 27S/9E-19H2, rise nearly to the level of the thalweg when the creek flows in winter, then gradually recede in summer to a nearly flat profile level with the obstruction (fig. 7*A*). The obstruction near well 27S/8E-24L2 prevents the dry-season pumping depression near municipal wells 27S/8E-26C5 and 26D1 from significantly affecting wells upstream of the obstruction. The creek probably serves as the principal means by which ground water moves past the obstructions.

The obstructions conceivably could be caused by thick, localized clay deposits, faults, or buried bedrock ridges that decrease the cross-sectional area of the basin. The valley probably always has been too steep and narrow to favor deposition of clay materials by Santa Rosa Creek; however, a landslide from an adjacent hillslope could have created a thick, localized deposit of fine-grained sediments. Previous geologic investigations did not identify any faults young enough to have affected the basin-fill deposits (Hall and others, 1979; Pacific Gas and Electric Company, 1988). The shape of the hillsides near the obstructions indicates that shallow, buried bedrock ridges are a possible cause of the obstructions. These ridges could be more pronounced than indicated in the bedrock contour map (fig. 5) and geologic sections (fig. 4).

Bedrock constrictions in two locations along San Simeon Creek steepen the downvalley water-level profile but do not force ground water to emerge as surface flow in the creek. The first location is along the narrow canyon between wells 27S/8E-10A1 and 11D1. The water-level profile upstream of the canyon shows a pattern of seasonal filling and recession similar to, but less pronounced than, the one at the upper end of the Santa Rosa Basin (fig. 7*A*). The second location, locally known as "Holland Gap," is between wells 27S/8E-9J3 and 9J4 at the upstream end of the CCSD

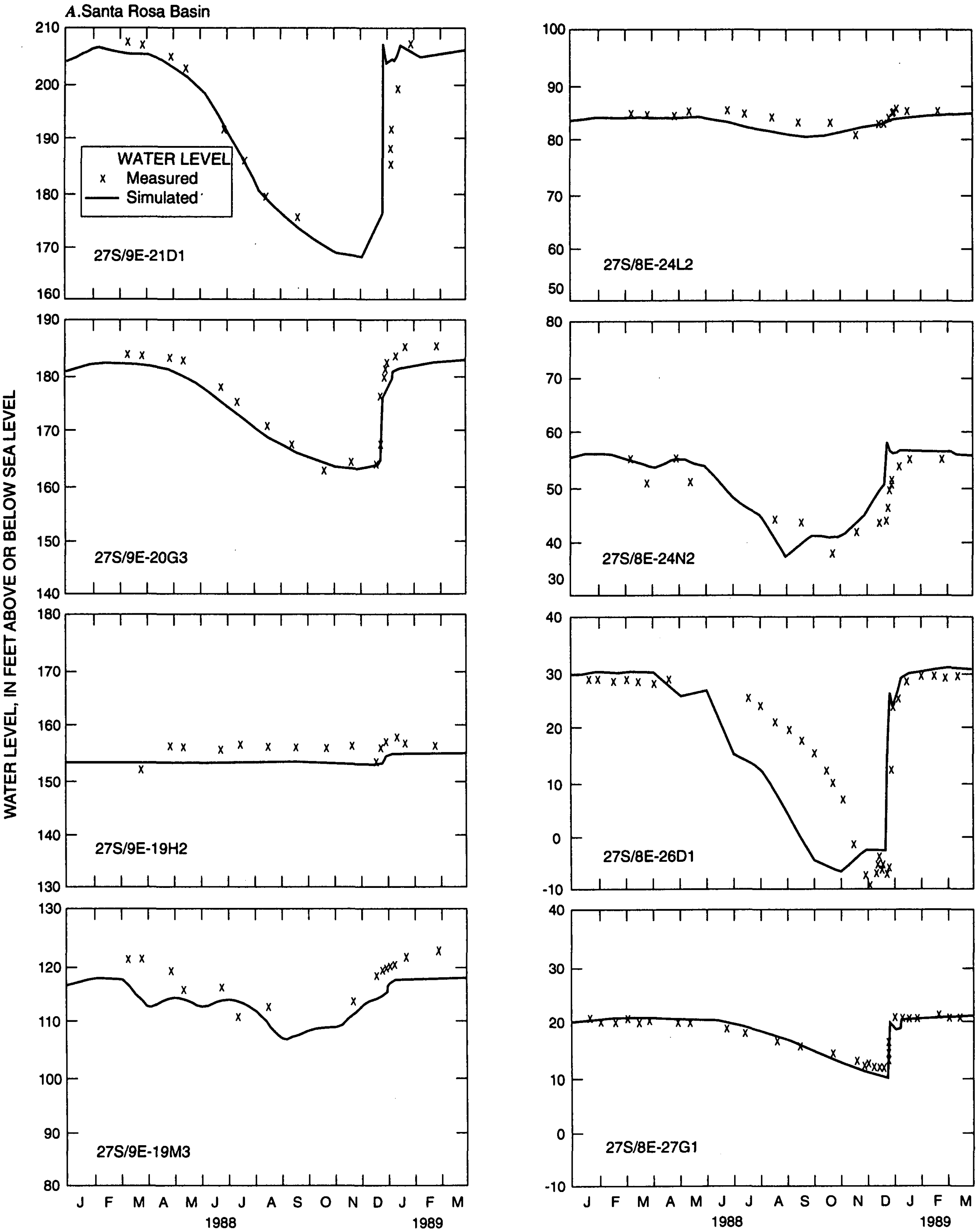


Figure 6. Measured and simulated water levels for selected wells in (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, San Luis Obispo, California, January 1988 through March 1989.

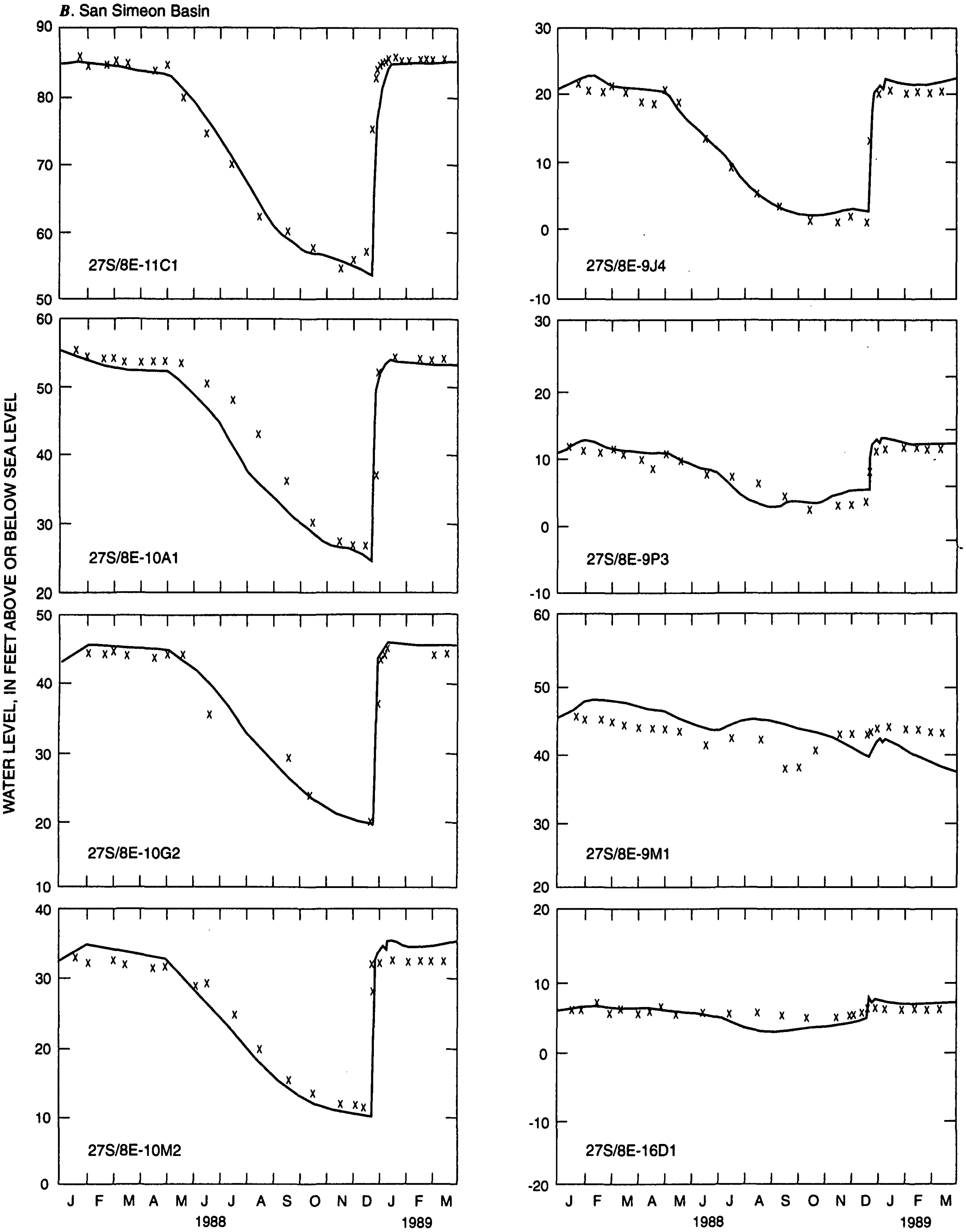
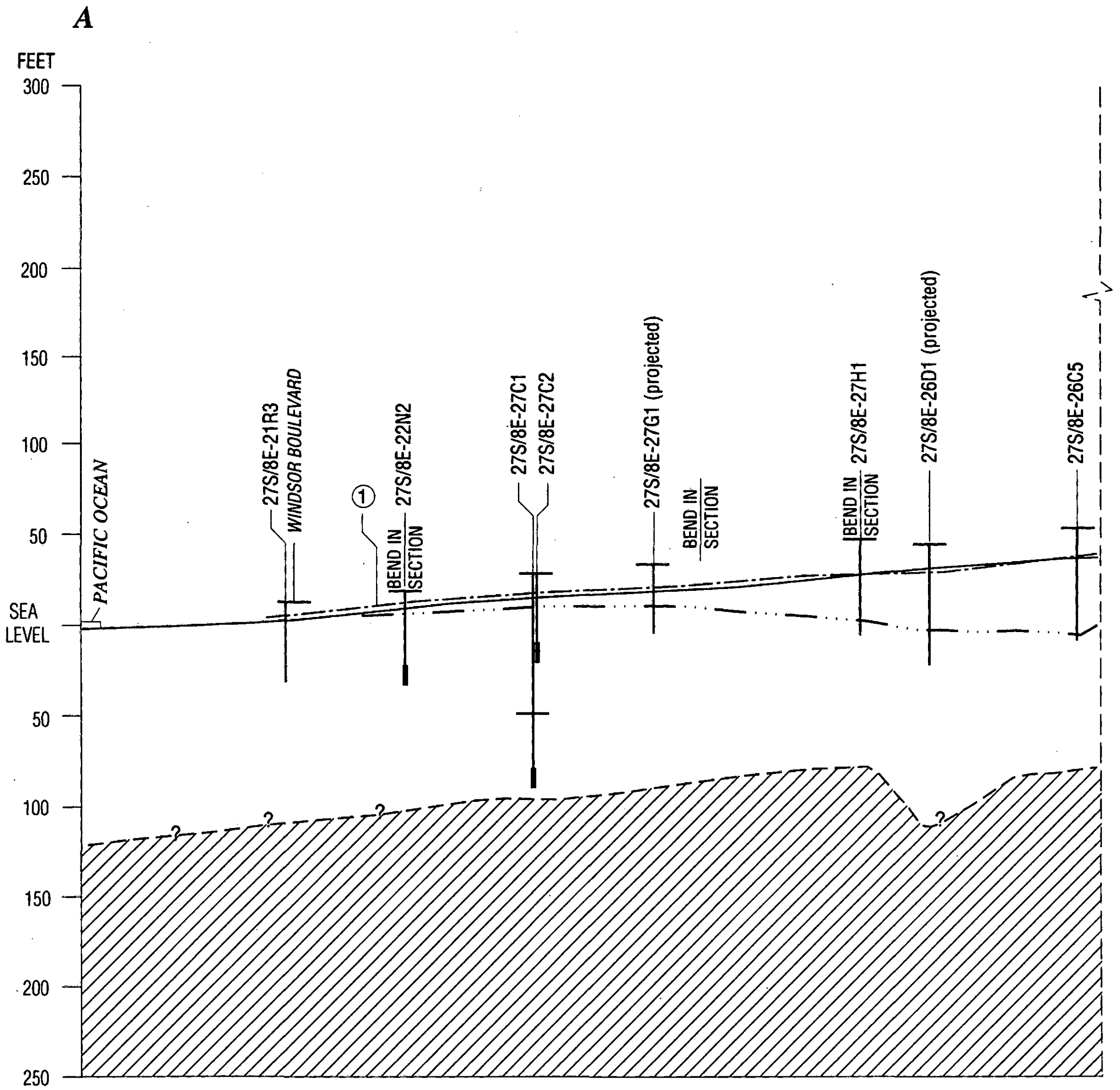


Figure 6. Measured and simulated water levels for selected wells in (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, San Luis Obispo, California, January 1988 through March 1989—Continued.



A. Santa Rosa Basin

Figure 7. Ground-water levels for wells along the length of (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, San Luis Obispo, California. (Location of sections are shown in figure 3.)

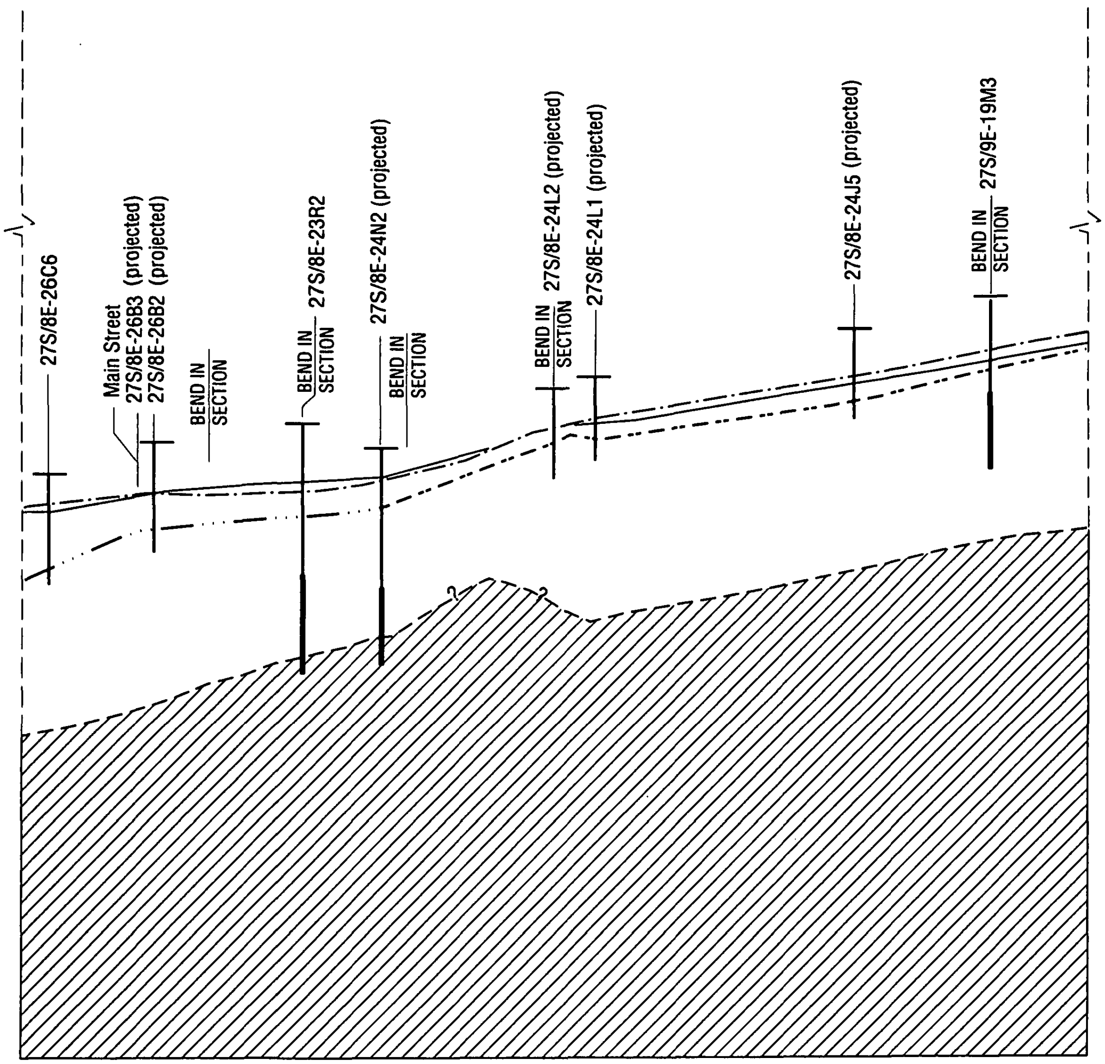


Figure 7. Ground-water levels for wells along the length of (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, San Luis Obispo, California. (Location of sections are shown in figure 3.)—Continued.

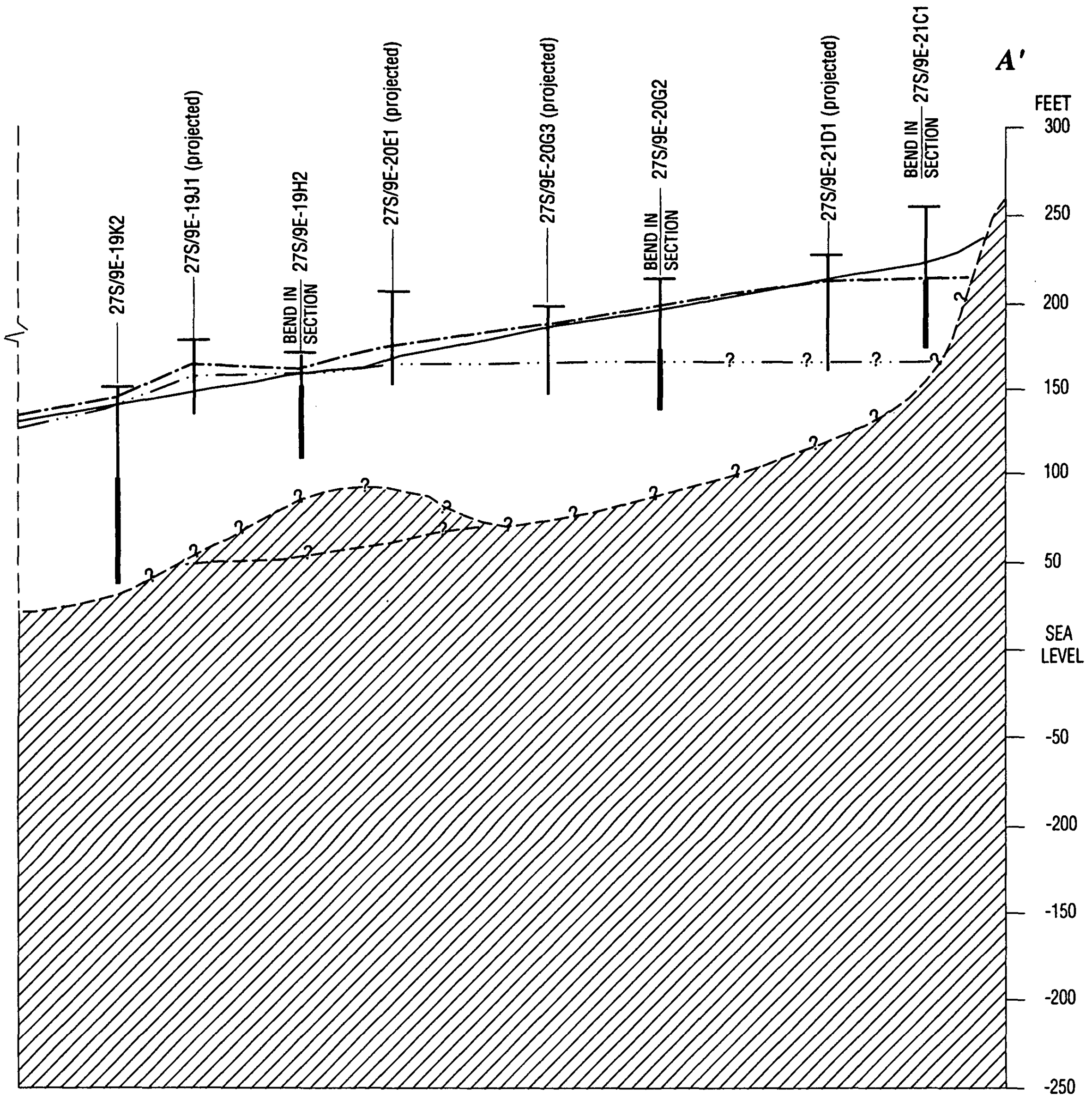
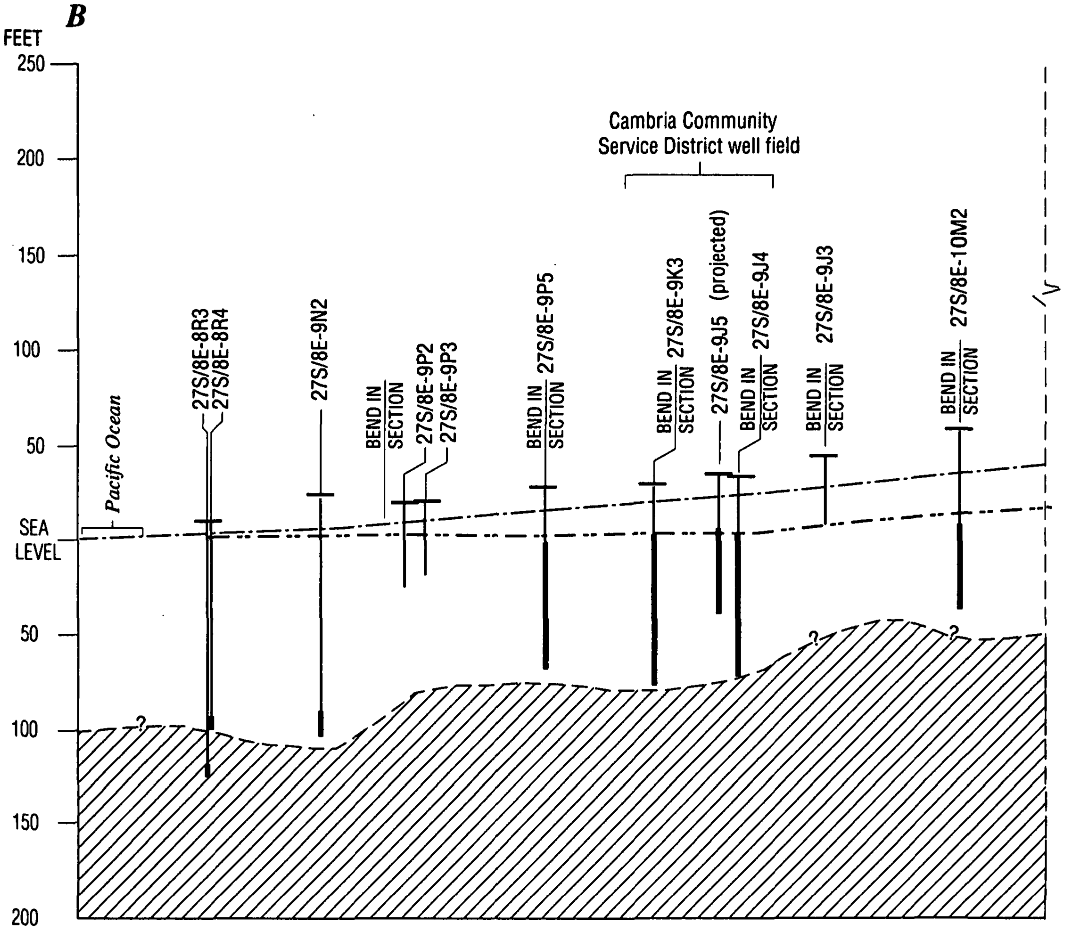
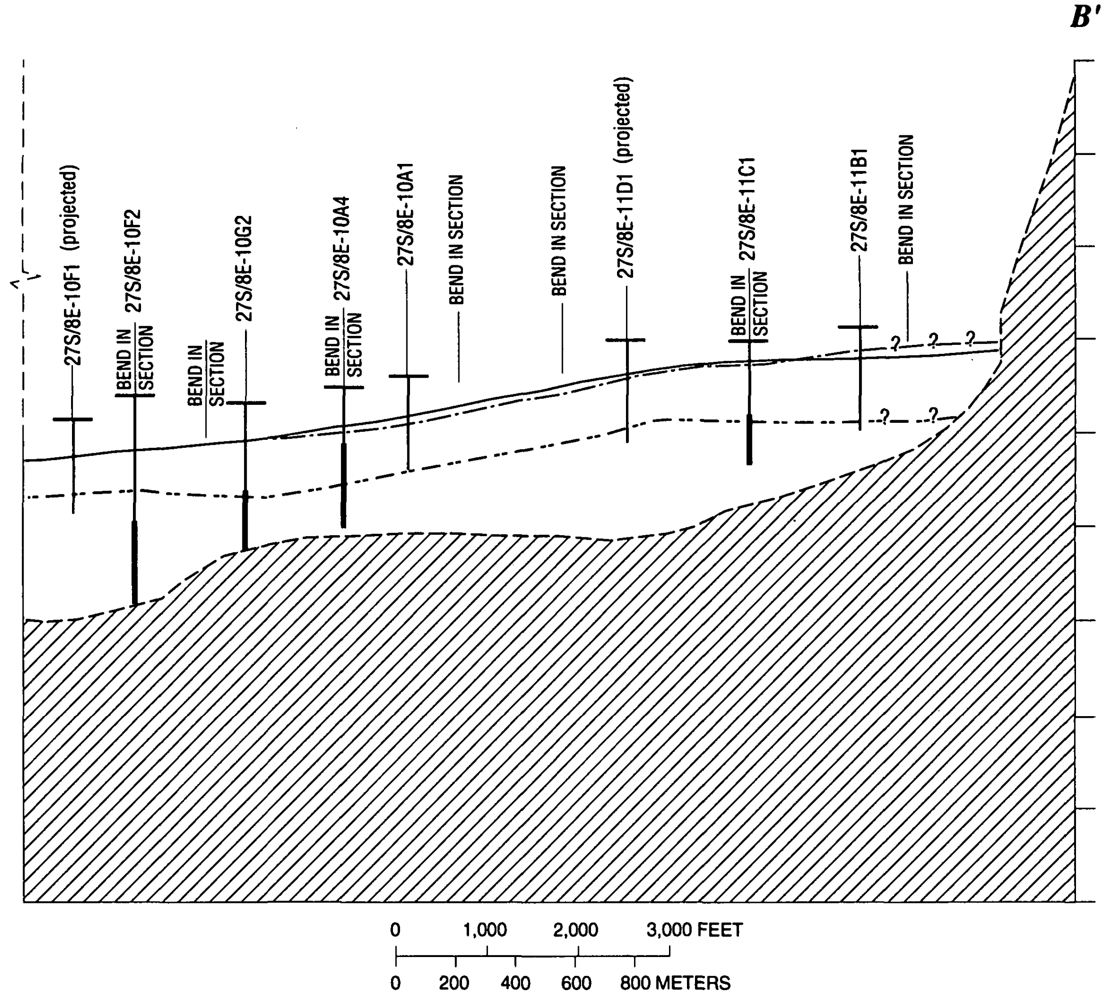


Figure 7. Ground-water levels for wells along the length of (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, San Luis Obispo, California. (Location of sections are shown in figure 3.)—Continued.



B. San Simeon Basin

Figure 7. Ground-water levels for wells along the length of (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, San Luis Obispo, California. (Location of sections are shown in figure 3.)—Continued.



EXPLANATION

▨ **BEDROCK** - Bedrock surface is approximate profile along deepest part of basin

----?--· **CONTACT** - Dashed where approximately located. Queried where uncertain

——— **CREEK THALWEG**

MINIMUM WATER LEVEL DURING 1988

—·—·—· March 14,1988 (San Simeon Basin) and March 22-23, 1988 (Santa Rosa Basin). Queried where uncertain

—--—--· November 15,1988 (San Simeon Basin) and October 18-21, 1988 (Santa Rosa Basin). Queried where uncertain

—···— December 13-16, 1988 (Santa Rosa Basin). Queried where uncertain

27S/8E-10A1 **WELL AND PERFORATED INTERVAL**-Horizontal line is land surface. Heavy line is perforated interval

Figure 7. Ground-water levels for wells along the length of (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, San Luis Obispo, California. (Location of sections are shown in figure 3.)—Continued.

well field (fig. 7*B*). Small bedrock outcrops in the creekbed and near the road indicate that ground water must flow through a relatively narrow notch in the buried bedrock surface.

A large seasonal pumping depression occurred in 1988 near municipal wells 27S/8E-26C5 and 26D1 in the Santa Rosa Basin. The combined discharge from these wells was fairly constant from June through December 22, 1988, and was equivalent to a continuous pumping rate of 235 gal/min. Effects of the pumping were evident as far upstream as well 27S/8E -24N2 and as far downstream as well 27S/8E-21R3 (fig. 7*A*). Although static water levels at the pumping wells declined as much as 11.6 ft below sea level in late autumn, water levels between those wells and the coast remained higher. The lowest water level in well 27S/8E-27G1 was about 10 ft above sea level (fig. 6*A*).

A pumping depression was similar but smaller at the CCSD well field in the San Simeon Basin. Water levels in the well field declined to a minimum of about 1.5 ft above sea level. Water levels between the well field and the coast are elevated by recharge from the CCSD wastewater sprayfield. However, regulatory constraints limit the buildup of the recharge mound to no more than about 1 ft above water levels in the well field.

Water-level gradients across the valleys generally are steeper than those along the valleys. There are few wells along the sides of the valleys, but cross-valley gradients can be estimated by comparing water levels in wells with the water surface in the creek. During the winter flow season, the creek surface and the adjacent water table are at about the same altitude. By this method, cross-valley water-level gradients in March 1988 ranged from almost 0 to 0.958 and averaged about 0.027. Downvalley water-level gradients were smaller, ranging from about 0.002 to 0.008 and averaging less than 0.006. When the creeks are flowing, downvalley gradients are controlled by the slope of the creek channels.

Vertical water-level gradients within the basin-fill deposits are small in most locations because most municipal and irrigation wells penetrate virtually the entire basin thickness. The wells draw water from all depths and, consequently, do not tend to create vertical water-level gradients. Vertical gradients could be measured accurately only at three locations where multiple-depth monitoring wells were installed for this study. Wells 27S/8E-8R3 and 8R4 in the San Simeon State Beach campground (fig. 2*B*) are perforated at depths of 130 to 140 ft and 85 to 95 ft, respectively. Water levels in both wells show pronounced tidal fluctuations with a maximum amplitude of about 1 ft. The fluctuations at the two depth intervals are slightly out of phase, so that the vertical gradient alternates from upward to downward. The wells are 500 ft from the ocean and only 25 ft from a ponded area where San Simeon Creek reaches the beach. Water levels in both wells are consistently higher than the water level in the pond, with upward gradients ranging from about 0.001 to 0.010 ft/ft. The upward gradient probably results from fresh ground water flowing upward over the wedge of relatively dense seawater that is at the base of the aquifer near the coast.

Slightly farther upstream, a large downward vertical gradient is created by the CCSD wastewater sprayfield operation. In 1988, the water level in a 20-foot-deep piezometer well (27S/8E-9N3) was within 2 ft of the land surface and was 13 to 16 ft higher than the water level in nearby well 27S/8E-9N2, which is perforated at a depth of 117 to 127 ft below land surface. The downward gradient resulted from a combination of high recharge rates at the land surface and deep pumping from wells several hundred feet upstream.

A small upward vertical gradient also is evident at wells 27S/8E-27C1 and 27C2 in the Santa Rosa Basin. The wells are perforated at depths of 105 to 115 and 40 to 50 ft below land surface, respectively. The wells are 4,500 ft from the coast, but water levels are not noticeably influenced by tides. The vertical gradient was consistently upward with a magnitude of about 0.009 ft/ft. The gradient reversed for a few days following a flood peak on December 24, 1988. At this location, the upward gradient might not result from discharge of fresh ground water over a saltwater wedge. Digital simulation of the ground-water-flow system indicated that ground water is forced upward and into the creek by a constriction in the aquifer downstream of the wells. Between the constriction and the coast, the gradient reverses and water tends to seep from the creek back into the aquifer.

Long-term water-level hydrographs for four locations are shown in figure 8. Winter water levels are about the same every year because even a small quantity of streamflow is sufficient to recharge the ground-water basins fully. After the rapid recovery of ground-water levels during the first few weeks of the streamflow season, additional recharge from the creek is rejected. Water levels near the creek stabilize at about the level of the creek surface, which remains fairly constant except during storms. Water year 1977 was an exception; total annual creek discharge was only about 5 percent of normal. Semiannual water-level measurements in spring 1977 indicated that water levels at many wells did not fully recover during the winter.

The Santa Rosa and the San Simeon Basins differ from larger or less developed basins in that annual inflows and outflows are a large part of the total quantity of ground water in storage. Thus, the basins could not sustain a significant excess of outflow over inflow without going completely dry in a few years.

Two long-term water-level trends have occurred in recent years, but neither is necessarily indicative of a long-term imbalance between inflow and outflow. The first is a small, gradual decline in winter water levels in the middle part of the San Simeon Basin between wells 27S/8E-10A1 and 9L1 (see, for example, well 27S/8E -10G1, fig. 8). During 1978–87, the average rate of long-term decline in winter water levels at five wells was 0.35 ft/yr. The most likely cause of the decline was increased winter pumping rates at the CCSD well field. Total pumpage for January through March increased an average of 8.4 acre-ft/yr during 1979–88. The trend was greater than zero at the 0.05 level of significance. Increased pumping in winter induces increased seepage from the creek, but water levels are lowered slightly in the process. This relation was confirmed by model simulations described later in the report.

The second trend is a steady increase in the dry-season water-level decline near the CCSD well field on San Simeon Creek (27S/8E-9L1, fig. 8). This trend is caused largely by the steady increase in dry-season pumpage at the well field since the late 1970's. Agricultural pumpage also increased rapidly in the

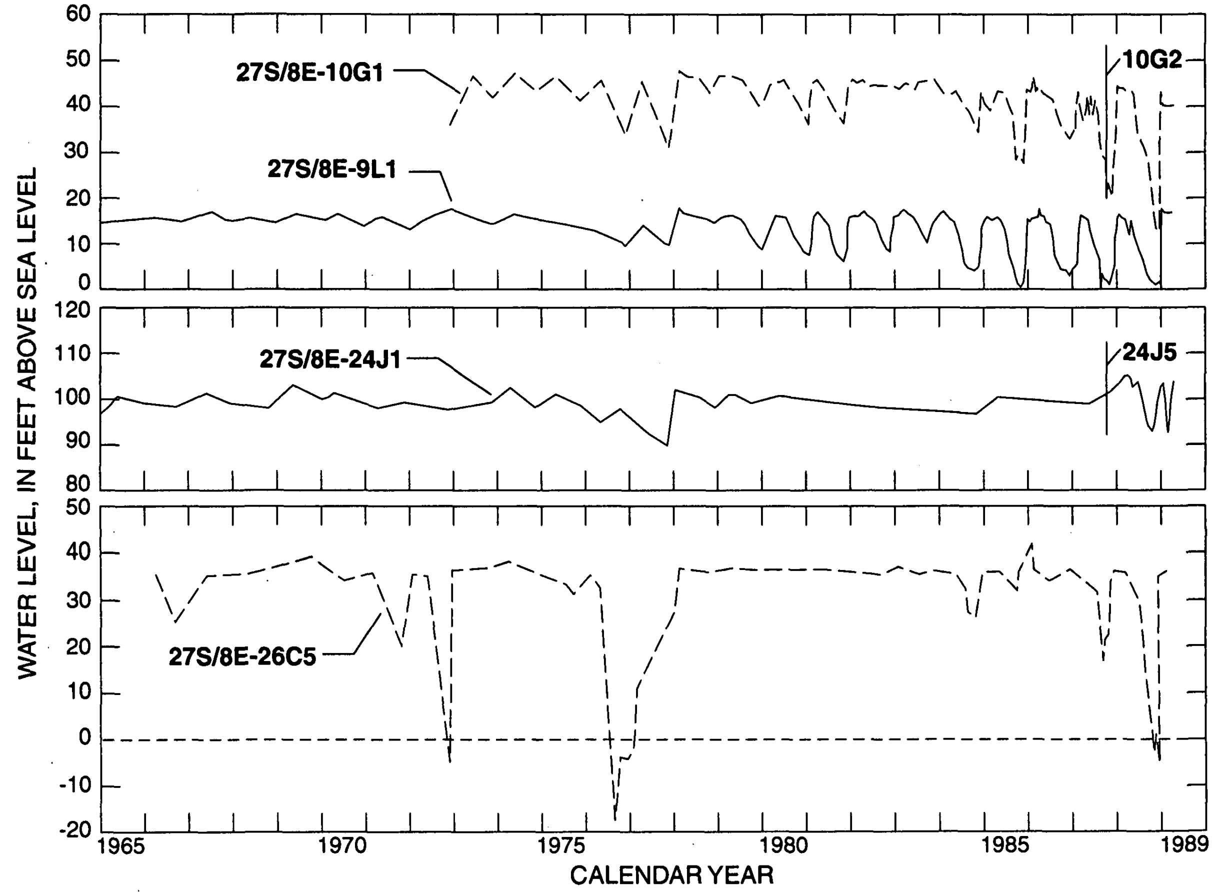


Figure 8. Water levels in four wells in the Santa Rosa and the San Simeon ground-water basins, San Luis Obispo County, California, 1965–89.

early 1980's because of a shift from dry-farmed to irrigated crops. This contributed to the increase in dry-season water-level declines since that time (27S/8E -10G1, fig. 8).

Transmissivity and Storage Coefficient

Transmissivity (*T*) describes the ease with which ground water flows through an aquifer and equals the product of aquifer thickness and hydraulic conductivity. Hydraulic conductivity (*K*) in units of feet per day is the quantity of water that will flow through 1 ft^2 of cross-sectional area of an aquifer under a water-level gradient of 1 ft/ft. The storage coefficient (*S*) of an aquifer is a dimensionless ratio equal to the quantity of water that would be released from an aquifer, per square foot of aquifer area, following a 1-foot decline in water level. In unconfined aquifers, water is released by drainage of pore spaces at the water table. The corresponding storage coefficients (specific yields) are much larger than in confined aquifers where water is released by elastic expansion of the water and geologic materials.

Estimates of *T* and *S* were obtained by several methods. Single-well drawdown tests analyzed using the straight-line method (Lohman, 1972) were done at eight wells and yielded estimates of *T*. Multiple-well drawdown tests analyzed using the Theis curve for confined aquifers yielded estimates of *T* and *S* at seven wells. Results of the tests are shown in table 1. Estimates of *T* were highly variable and ranged from 718 to 44,200 ft^2/d with a median value of 10,000 ft^2/d. Estimates of *S* ranged from 0.0022 to 0.0400 with a median value of 0.0097. The response of water levels in wells to the onset of winter streamflow were evaluated to estimate aquifer diffusivity, which is the ratio *T/S*.

These values of *S* are between the ranges commonly associated with confined and unconfined aquifers (Lohman, 1972; Freeze and Cherry, 1979). These measurements of *S* represent relatively short-term storage responses to stresses lasting from minutes to hours. As described in a later section of this report, larger estimates of *S* (0.045 to 0.10) resulted from digital simulation of longer term storage responses (days to years) using a ground-water-flow model. These larger values are in the low end of the range commonly associated with unconfined aquifers. Thus, most parts of the basins are slightly confined, probably as a result of discontinuous fine-grained layers.

Results of the multiple-well drawdown test at well 27S/8E-10A3 did not conform to theoretical patterns for homogeneous, isotropic aquifers. Drawdown at the more distant observation wells (27S/8E-10A1 and 10A2) was large relative to the drawdown at a closer well (27S/8E-10A4). Possible causes of the anomalous drawdowns include horizontally anisotropic hydraulic conductivity and the influence of nearby bedrock boundaries. Because these causes are difficult to evaluate using analytical methods, they were investigated using a digital, finite-difference ground-water-flow model (McDonald and Harbaugh, 1988). The model grid included a 59-acre rectangular area (fig. 2). The long sides of the area approximately coincided with the contact between bedrock and the basin fill and were designated as no-flow boundaries. The upstream end of the area was across a narrow part of the valley where underflow in summer is small. The downstream end of the area was arbitrarily drawn across the valley but was located far enough from the observation wells so that storage effects from aquifer materials downstream of the boundary would be negligible for a drawdown test lasting only 12 hours. The one-layer model contained 2,120 cells ranging in size from 4×4 to 50×150 ft.

The aquifer-test model was unable to duplicate the measured drawdowns exactly, but anomalies similar to those in the measured data could be achieved by adjusting the locations of the model boundaries or by assuming an anisotropic distribution of *K*. Drawdowns at the distant observation wells were insensitive to boundary location except when the buried bedrock sides of the basin were assumed to be within about 100 ft of the wells, which is unlikely. Anisotropy was introduced into the model by assuming that *K* is greater along the axis of the valley than perpendicular to it. *T* was even more anisotropic than *K* because basin thickness decreases toward the sides of the valley but is relatively constant along the valley axis. Anisotropy resulted in increased drawdown at the distant observation wells, which are aligned with the pumping well along the valley axis, and decreased drawdown at the closest observation well, which is aligned in a perpendicular direction. The best match between simulated and measured drawdowns was with *K*=720 ft/d in the axial direction, *K*=300 ft/d in the transverse direction, and *S*=0.05.

Anisotropy also was evident in the response of water levels in 19 wells to the onset of winter streamflow in December 1988. Equations describing

Table 1. Hydraulic characteristics determined from drawdown tests and streamflow-response tests for selected wells in the Santa Rosa and the San Simeon ground-water basins, San Luis Obispo County, California

[Location: See well-numbering system in text. Wells listed in downstream order. Analysis method: 1, straight line; 2, Theis curve. Streamflow-response test: Response to a period of streamflow beginning December 22, 1988, at 1500 hours and peaking on December 24, 1988. Effective thalweg: Effective thalweg indicates level to which water levels recovered, in feet above (+) or below (–) the altitude of the thalweg at the point where the creek is closest to the well. h, hour; ft^2/d, foot squared per day; ft, foot; —, no data]

Location	Drawdown test						Streamflow-response test		
	Duration (h)	Analysis method	Transmissivity (*T*) (ft^2/d)	Hydraulic conductivity (*K*) (ft^2/d)	Storage coefficient (*S*)	Diffusivity (*T/S*) (ft^2/d)	Distance from creek (ft)	Effective thalweg (ft)	Diffusivity (*T/S*) (ft^2/d)
					Santa Rosa Basin				
27S/9E-20G3	—	—	—	—	—	—	151	+1.64	1.3×10^4
20E1	3	1	18,000	301	—	—	225	+6.82	2.0×10^4
19K2	—	—	—	—	—	—	128	+.32	1.7×10^3
19M3	.8	2	2,940	48	0.0113	2.60×10^5	742	+6.79	1.3×10^4
27S/8E-24J4	.6	1	1,000	17	—	—	—	—	—
24L4	8	2	718	14	.0022	3.26×10^5	—	—	—
24L2	—	—	—	—	—	—	150	+2.30	3.6×10^3
24N2	—	—	—	—	—	—	80	-.85	1.7×10^3
23R2	—	—	—	—	—	—	80	+2.00	2.7×10^3
26C6	12	2	44,200	631	.0097	4.56×10^6	50	+1.26	1.8×10^3
26C5	12	1	10,000	143	—	—	37	+1.50	1.0×10^3
27H1	—	—	—	—	—	—	—	-.68	1.3×10^4
27H2	[1]12	[1]1	[1]5,750	[1]77	—	—	330	+.68	2.0×10^3
27G1	—	—	—	—	—	—	79	+.12	3.3×10^3
27C1	—	—	—	—	—	—	341	-2.62	3.3×10^4
21R3	8	1	19,100	383	—	—	—	—	—
					San Simeon Basin				
27S/8E-11C1	—	—	—	—	—	—	150	-2.20	1.0×10^5
10A1	9	2	7,070	177	0.0050	3.54×10^4	—	—	—
10A3	9	1	16,500	413	—	—	165	-1.22	4.0×10^4
10A4	9	2	13,500	338	.0400	3.38×10^5	265	-.72	6.8×10^4
10A2	9	2	7,500	188	.0120	6.25×10^5	—	—	—
10G2	—	—	—	—	—	—	30	-1.00	2.7×10^3
10F2	—	—	—	—	—	—	200	+2.20	1.0×10^5
10M2	12	1	5,620	99	—	—	—	—	—
9J3	—	—	—	—	—	—	275	-2.90	1.5×10^5
9P3[2]	24	2	16,702	185	.0072	2.32×10^6	—	—	—
9P2[2]	24	1	26,474	294	—	—	—	—	—

[1] Test by Robert Miller Drilling Company in 1984, reported in McClelland Engineers (1986).

[2] Test done in 1978. Raw data from Cambria Community Services District (John Stratford, written commun., 1988). Hydraulic conductivity calculated from transmissivity assuming saturated thickness of 90 ft.

the theoretical response of ground-water levels to sudden changes in stream stage were presented by Cooper and Rorabaugh (1963) and Hall and Moench (1972). The equations assume that the initial water table is flat, the aquifer is homogeneous, the creek fully penetrates the aquifer, and the change in stream stage is instantaneous. If these assumptions are met, measured water-level responses can be compared with theoretical responses to estimate aquifer diffusivity (*T/S*). When compared with results of drawdown tests, streamflow-response tests can reveal aquifer anisotropy because drawdown tests measure *T* in all directions. Streamflow-response tests are affected only by *T* in the direction perpendicular to the creek, which generally follows the valley axis.

The creek channels at the test sites do not fully penetrate the aquifer and therefore do not fit one of the assumptions used to develop the theoretical equations. If the error caused by this discrepancy is large, it would result in a delay between the instantaneous change in streamflow and the onset of the water-level response. None of the tests indicated an obvious measured delay, so the error was assumed to be negligible.

For this study, measured stream-stage hydrographs were discretized into 2-hour increments to approximate instantaneous changes. The theoretical responses to these incremental changes were superimposed using the convolution method. Results of the streamflow-response tests (table 1) indicate diffusivities ranging from 1.0×10^3 to 1.5×10^5 ft^2/d, with a median value of 1.3×10^4 ft^2/d. These values generally are smaller than those calculated using *T* and *S* values from drawdown tests, which ranged from 3.54×10^4 to 4.56×10^6 ft^2/d, with a median value of 3.38×10^5 ft^2/d. Assuming that *S* is the same for both types of tests, the differences can be attributed to relatively low *T* perpendicular to the valley axis. However, *S* might be larger for the streamflow-response tests because of their longer durations, and this could be the cause of the relatively small diffusivities.

WATER QUALITY

Surface-Water Quality

Surface-water samples were collected at the six sites shown in figure 9. Samples were collected on March 8–9, 1988, and February 23–24, 1989, and analyzed for concentrations of major ions, nitrate, and selected trace elements. Results of these analyses are shown in table 2. Flow was less than 6 ft^3/s in both creeks for all sampling dates.

Surface water generally is of better quality in San Simeon Creek than in Santa Rosa or Perry Creeks. For instance, the concentration of dissolved solids ranged from 280 to 292 mg/L (milligram per liter) along San Simeon Creek, whereas it ranged from 469 to 530 mg/L along Santa Rosa and Perry Creeks (table 2). Likewise, the concentrations of hardness, calcium, magnesium, sodium, potassium, sulfate, chloride, and manganese in San Simeon Creek were equal to or less than the concentrations of these ions in either Santa Rosa or Perry Creeks. Of the constituents tested, none had significantly lower concentrations in Santa Rosa or Perry Creeks than in San Simeon Creek.

Ion concentrations at the two sites on San Simeon Creek differed by less than 10 percent. In contrast, concentrations of several ions increased by 12 to 64 percent along Santa Rosa Creek. Some of these increases resulted from flow from Perry Creek into Santa Rosa Creek. Perry Creek seems to be the source of increased concentrations of sodium, potassium, chloride, bromide, and manganese. The high concentrations of these ions in Perry Creek probably result from weathering and from release of connate seawater trapped in the Tertiary marine deposits along Perry Creek. The effect of mixing water from Santa Rosa and Perry Creeks can be seen in the trilinear diagram in figure 10*A*. The diagram indicates that the composition of Perry Creek water is intermediate between Santa Rosa Creek water and seawater, and the composition of Santa Rosa Creek water below the confluence with Perry Creek results from mixing of upstream Santa Rosa Creek water with Perry Creek water.

Increased sulfate concentrations measured in the water from Santa Rosa Creek below the confluence with Perry Creek cannot be attributed to mixing of upstream Santa Rosa Creek water with Perry Creek water. The source of the sulfate might be the Upper Cretaceous marine sandstone that borders Santa Rosa Creek valley below the confluence with Perry Creek or the sediments in the part of the ground-water basin below the confluence.

Surface-water quality in Santa Rosa, San Simeon, and Perry Creeks is affected by the rate of streamflow. Specific conductance measured during different months of the year varies by as much as 36

Table 2. Surface- and ground-water quality near Cambria, San Luis Obispo County, California, 1988–89

[Location: See well-numbering system in text. Wells are in downstream order. Constituents are given in milligrams per liter unless otherwise noted. ft^3/s,

Location (fig. 9)	Date	Flow, instantaneous (ft^3/s)	Specific conductance (µS/cm)	pH (standard units)	Water temperature (°C)	Hardness, total (as CaCO$_3$)	Calcium, dissolved	Magnesium, dissolved	Sodium, dissolved	Percent sodium	Sodium adsorption ratio
Drinking-water standard		*na*	*na*	*[1]6.5-8.5*	*na*	*na*	*na*	*na*	*na*	*na*	*na*
				Surface water							
Santa Rosa Creek	3-09-88	3.0	722	8.2	15.5	--	66	48	20	--	--
near Cambria	2-24-89	--	737	8.1	13.0	--	72	51	22	--	--
Santa Rosa Creek at	3-09-88	5.0	848	8.2	13.0	--	71	57	30	--	--
State Highway 1	2-24-89	--	822	8.3	13.0	--	71	57	31	--	--
Santa Rosa Creek at	3-08-88	5.0	865	8.2	16.5	--	69	56	33	--	--
Windsor Boulevard	2-24-89	--	838	7.9	--	--	70	57	32	--	--
Perry Creek at Cambria	3-09-88	.40	931	8.1	15.0	--	56	58	58	--	--
	2-24-89	.37	867	8.1	13.0	--	51	55	58	--	--
San Simeon Creek at	3-08-88	5.1	493	8.2	15.5	--	42	30	16	--	--
Palmer Flats	2-23-89	--	468	8.0	14.5	--	41	29	15	--	--
San Simeon Creek	3-08-88	3.3	518	8.2	12.0	--	45	32	16	--	--
near Cambria	2-23-89	3.6	495	8.2	17.0	--	44	31	16	--	--
				Ground water							
Santa Rosa basin											
27S/9E-20G2	12-13-88	na	712	7.7	15.5	380	70	49	25	13	0.6
	2-23-89	na	709	7.2	15.5	370	69	48	24	12	.5
20BS3	2-23-89	na	618	7.9	14.5	290	54	38	33	20	.8
19H3	12-12-88	na	833	7.6	15.0	430	77	57	37	16	.8
	2-22-89	na	821	7.8	17.5	390	72	52	33	15	.7
27S/8E-24L1	12-13-88	na	1,050	8.0	15.0	610	110	82	38	12	.7
	2-24-89	na	1,080	7.9	16.0	610	110	82	37	12	.7
27C1	12-13-88	na	2,270	7.5	16.0	880	120	140	230	36	3
	2-22-89	na	2,430	7.1	17.5	940	130	150	230	35	3
27C2	12-13-88	na	1,580	7.9	16.0	810	110	130	73	16	1
	2-22-89	na	1,620	7.2	17.5	840	120	130	68	15	1
San Simeon basin											
27S/8E-11C1	12-14-88	na	734	7.5	15.5	360	63	48	33	17	.8
	2-22-89	na	571	7.5	16.0	280	51	38	20	13	.5
10A3	12-14-88	na	608	7.8	15.5	290	54	38	20	13	.5
	2-22-89	na	535	7.5	17.0	270	50	35	18	13	.5
10HS1	2-22-89	na	1,230	7.0	12.0	450	89	55	110	34	2
9M4	12-14-88	na	960	7.6	15.0	400	83	48	73	28	2
	2-23-89	na	978	7.6	18.0	400	84	47	72	28	2
9N2	12-14-88	na	1,390	7.8	15.5	680	120	92	64	17	1
	2-22-89	na	1,420	7.4	17.0	680	120	93	68	18	1
8R3	12-13-88	na	2,320	8.3	17.0	460	74	66	340	61	7
	2-21-89	na	2,010	7.8	18.0	570	95	80	250	49	5
8R4	12-13-88	na	816	7.8	16.5	230	39	33	99	48	3
	2-21-89	na	426	7.5	18.0	96	17	13	54	54	2

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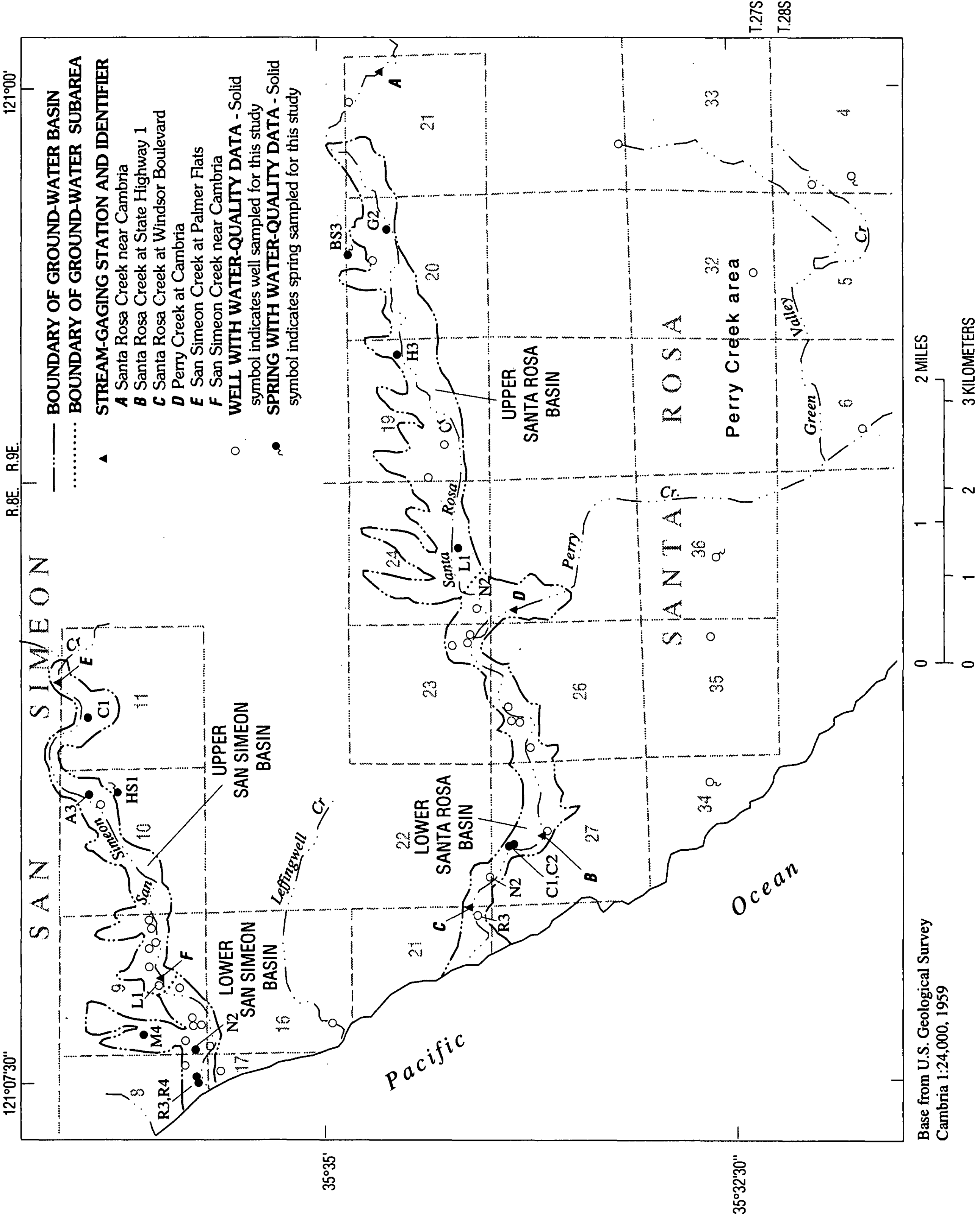
[1] Secondary maximum contaminant level (Title 22, California Code of Regulations, 1986, sections 64401-64473).

[2] Primary maximum contaminant level (Title 22, California Code of Regulations, 1986, sections 64401-64473).

cubic foot per second; µS/cm, microsiemen per centimerer at 25°C; °C, degrees Celsius; na, not applicable; --, no data; <, actual value is less than value shown]

Potassium, dissolved	Alkalinity, total (as $CaCO_3$)	Sulfate, dissolved	Chloride, dissolved	Fluoride, dissolved	Bromide, dissolved	Silica, dissolved	Dissolved solids, residue at 180°C	Dissolved solids, sum of constituents	Nitrite plus nitrate, dissolved (as N)	Boron, dissolved	Iron, dissolved	Manganese, dissolved
na	*na*	[1]*250*	[1]*250*	[1]*2.0*	*na*	*na*	[1]*500*	[1]*500*	[2]*10*	*na*	[1]*0.3*	[1]*0.05*
Surface water--*Continued*												
1.7	347	110	25	0.3	--	18	--	--	--	0.160	0.011	--
1.6	328	100	24	.2	0.022	12	520	--	<0.010	.150	.009	0.008
1.4	306	95	14	.3	--	20	--	--	--	.130	.009	--
1.4	304	110	14	.2	<.010	19	469	--	<.010	.130	.007	.003
1.8	343	110	7.5	.3	--	18	--	--	--	.160	.009	--
1.7	326	120	30	.3	.037	12	530	--	<.010	.150	.006	.009
3.1	376	52	65	.4	--	7.4	--	--	--	.150	.009	--
2.5	328	58	72	.4	.079	5.6	502	--	<.010	.130	.008	.043
1.1	216	41	13	.2	--	15	--	--	--	.200	.009	--
1.0	202	42	12	.2	<.010	14	280	--	<.010	.200	.006	.001
1.1	229	42	14	.2	--	15	--	--	--	.180	.003	--
1.1	216	44	13	.1	<.010	14	292	--	<.010	.180	.005	.003
Ground water--*Continued*												
Santa Rosa basin--*Continued*												
1.3	308	95	15	0.3	--	21	473	470	2.00	0.150	0.012	0.002
1.2	287	97	15	.3	--	21	445	454	1.40	.130	.006	.003
.5	264	63	17	.2	--	23	373	393	1.30	.050	.005	.002
1.0	376	78	15	.3	--	27	547	518	<.010	.180	.014	.350
.8	348	85	24	.3	--	27	496	503	.013	.170	.046	.330
1.2	536	97	27	.3	--	30	730	708	<.010	.240	.022	.470
1.1	563	100	27	.2	--	31	711	727	<.010	.230	.030	.490
3.4	516	66	550	.5	--	34	1,520	1,460	.020	.220	.110	1.60
2.4	517	59	650	.5	--	36	1,470	1,570	<.010	.190	.070	1.70
1.4	618	96	210	.3	--	32	1,080	1,020	<.010	.180	.021	.910
.8	635	88	210	.4	--	33	1,030	1,030	<.010	.170	.200	1.00
San Simeon basin--*Continued*												
1.2	264	76	40	.1	--	20	461	453	2.90	.200	.033	.020
.9	258	50	16	.2	--	19	342	354	.939	.170	.008	.003
1.0	250	51	15	.1	--	21	357	353	.531	.170	.004	.002
.8	243	45	15	.2	--	20	320	333	.697	.170	.009	.002
5.0	211	290	150	.6	--	54	892	881	.036	.150	.016	.190
1.6	446	18	81	.5	--	32	594	606	<.010	.310	.018	.910
1.4	448	19	82	.5	--	32	596	608	<.010	.310	.030	.920
1.0	500	77	180	.4	--	32	889	868	.018	.190	.012	1.40
.7	494	80	190	.5	--	33	873	884	<.010	.160	.870	1.60
6.7	250	140	580	.3	--	18	1,400	1,380	.014	1.40	.010	.190
4.4	298	100	540	.2	--	27	1,240	1,280	<.010	.560	.060	.330
3.2	270	63	77	.2	--	24	495	501	.011	.240	.009	.180
4.2	157	31	30	.2	--	13	270	257	<.010	.170	.370	.230



Base from U.S. Geological Survey
Cambria 1:24,000, 1959

Figure 9. Locations of surface- and ground-water-quality measurement sites, San Luis Obispo County, California.

percent at a single site. The variations tend to be inversely related to streamflow. Specific conductance, measured on the approximate date of the onset of winter streamflow, indicated that there is no increase in dissolved minerals associated with the first period of runoff of the winter season.

Specific conductance of San Simeon Creek at Palmer Flats ranged from 472 µS/cm (microsiemen per centimeter at 25 degrees Celsius) on December 20, 1988, the approximate date of the first winter flow, to 556 µS/cm on May 10, 1988. The stream discharges on these dates were 6.0 and 0.98 ft^3/s, respectively. Specific conductance at the gaging station on Perry Creek, just above the confluence with Santa Rosa Creek, ranged from 867 µS/cm on February 24, 1989, when the stream discharge was 0.37 ft^3/s to 1,360 µS/cm on November 17, 1988, when discharge was 0.04 ft^3/s. These data illustrate the inverse relation between discharge and specific conductance.

Ground-Water Quality

Ground-water samples were collected for this study from 11 wells and 2 springs along the San Simeon Creek and Santa Rosa Creek ground-water basins (fig. 9). Samples were collected in December 1988 and February 1989, when ground-water levels were near their minimum and maximum seasonal levels, respectively. Analyses of these samples (table 2) were combined with historical data for a more complete evaluation of ground-water quality. The historical data are of unknown accuracy although samples that did not exhibit a cation-anion balance were omitted. In cases where multiple samples were available for a well, the median concentration of a given ion was used in the spatial analysis of water quality.

Ground-water quality does not meet drinking-water standards in all parts of the basins. California State drinking-water standards for the constituents measured in this study are shown in table 2 and fall into two categories. Primary maximum contaminant levels are enforceable standards to protect public health. Of the constituents discussed here, only nitrate is regulated by a primary maximum contaminant level. Secondary maximum contaminant levels regulate aesthetic characteristics of drinking water, such as taste, odor, and color. Concentrations of pH, sulfate, chloride, fluoride, dissolved solids, iron, and manganese are regulated by secondary maximum contaminant levels. For the constituents listed in table 2, California State drinking-water standards (Title 22, California Code of Regulations, sections 64401-64473) are the same as Federal standards, except that secondary maximum contaminant levels are enforceable.

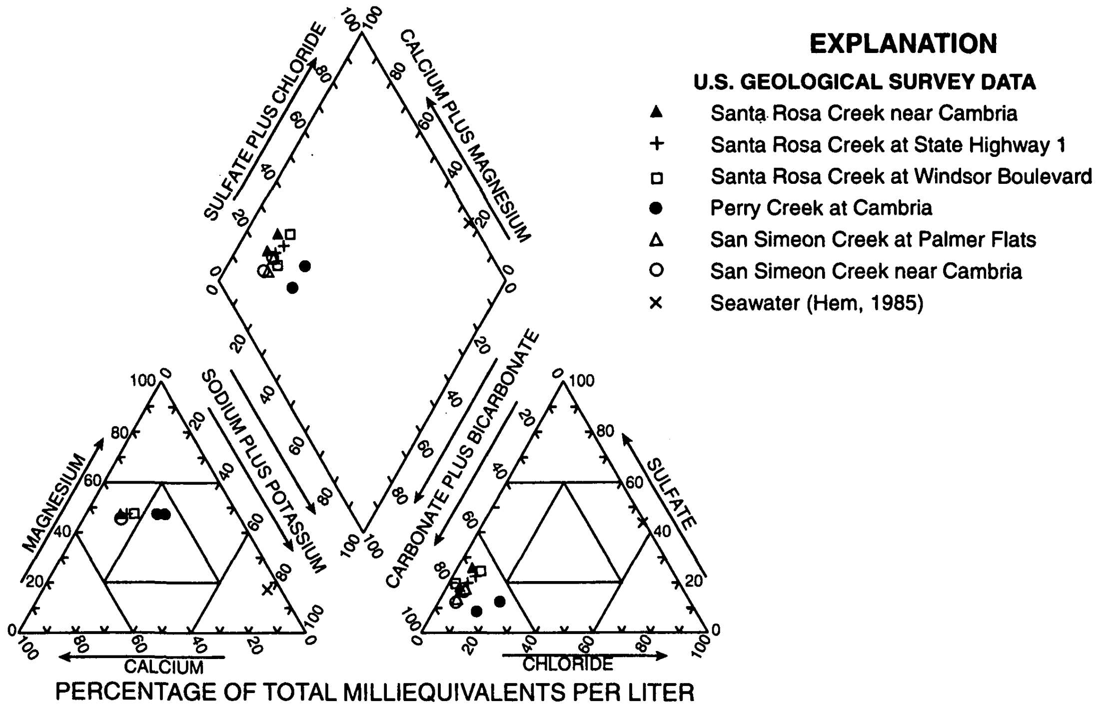
Identification of Subareas

Five subareas within the study area were identified on the basis of water-quality differences (fig. 9). The San Simeon and the Santa Rosa Basins were each divided into an upper and lower basin, and ground water in the Perry Creek drainage area was grouped as the fifth subarea. Pico Creek was not included in the delineation of subareas. Along San Simeon Creek, the boundary between the upper and lower basins is near well 27S/8E-9L1 at the downstream end of the CCSD well field. Along Santa Rosa Creek, the boundary is between wells 27S/8E-24N2 and 24L1, about 2,000 ft upstream of the confluence with Perry Creek. The boundary in the Santa Rosa Basin coincides with the location of one of the subsurface flow obstructions.

The differences in water quality among the five subareas are most clearly indicated by the concentrations of sodium, sulfate, chloride, and dissolved solids. The relative concentrations of sodium, sulfate, and chloride, in each subarea can be seen in the trilinear diagrams in figures 10*B* through 10*D*. In these figures, the range of historical data for each subarea is enclosed by a line, and data from samples collected for this study are plotted as individual points. Quantitative differences in concentrations of sodium, sulfate, chloride, and dissolved solids are indicated by the boxplots shown in figure 11. The boxplots schematically show the sample distribution of ion concentrations in the subareas.

The lower basins have higher concentrations of sodium, chloride, and dissolved solids than the upper basins. The difference between the upper and lower basins along San Simeon Creek is larger and more abrupt than along Santa Rosa Creek. Sodium and chloride increase equally, so that the relative concentrations of ions in wells near the coast approaches that of seawater (fig. 10*C*). Ground water in the Perry Creek Basin also is high in sodium, chloride, and dissolved solids (fig. 10*D*), but it is lower in sulfate than water in the lower Santa Rosa Basin to which it is tributary. Overall, water quality is best in the upper San Simeon Basin.

A. **Surface-water quality – Santa Rosa, San Simeon, and Perry Creeks**



B. **Ground-water quality – San Simeon basin**

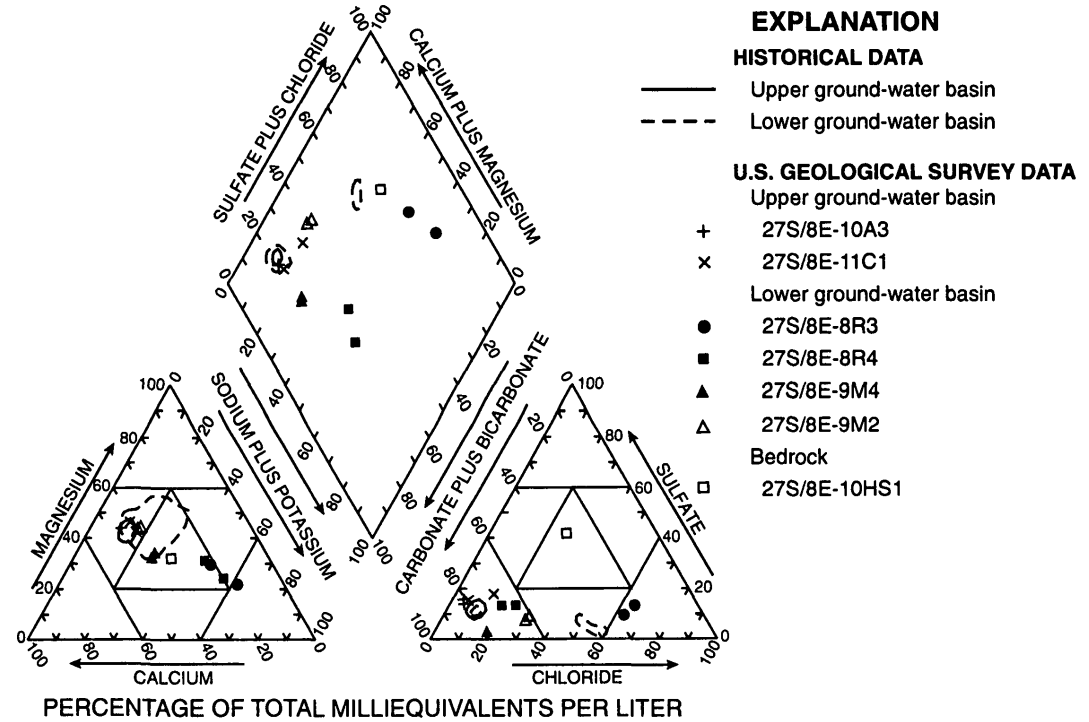
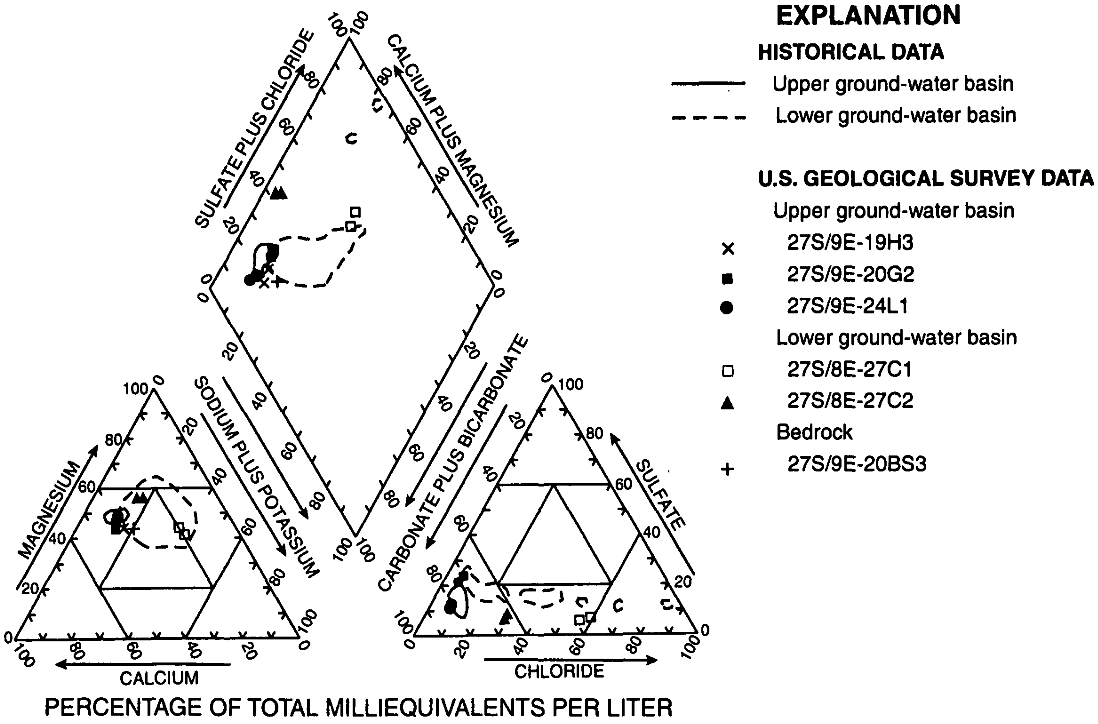


Figure 10. Quality of surface water of (*A*) Santa Rosa, San Simeon, and Perry Creeks and quality of ground water of (*B*) the San Simeon Basin, (*C*) the Santa Rosa Basin, and (*D*) the Perry Creek area, San Luis Obispo County, California. Historical data from STORET (U.S. Environmental Protection Agency, written commun., 1987) San Luis Obispo County (Glenn Britton, written commun., 1988, and John Stratford, Cambria Community Services District, written commun., 1988).

C. **Ground-water quality – Santa Rosa basin**



D. **Ground-water quality – Pico basin and Perry Creek area**

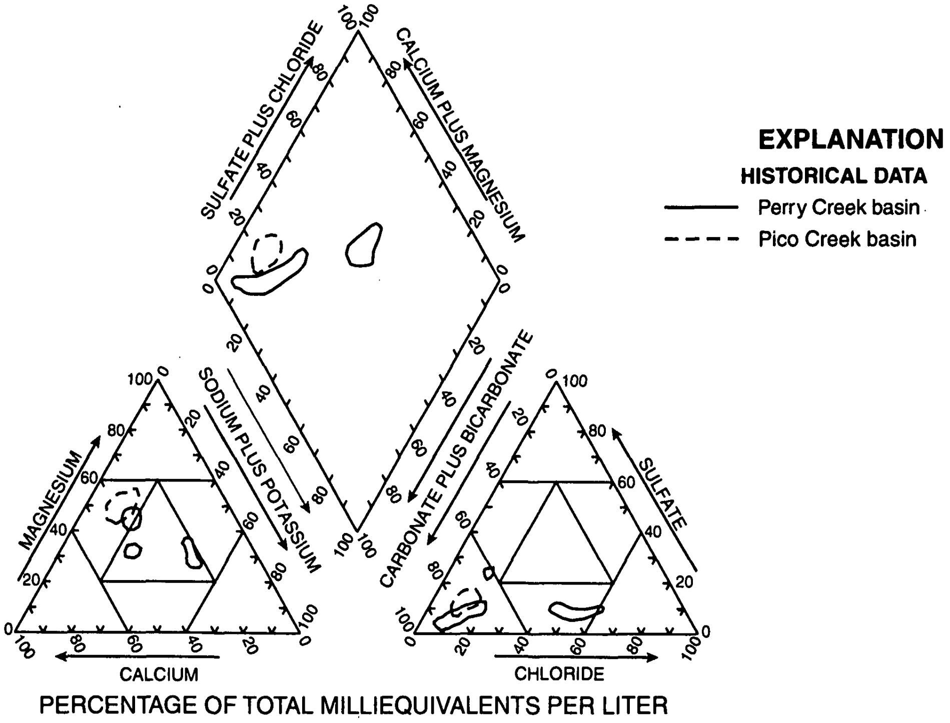


Figure 10. Quality of surface water of (*A*) Santa Rosa, San Simeon, and Perry Creeks and quality of ground water of (*B*) the San Simeon Basin, (*C*) the Santa Rosa Basin, and (*D*) the Perry Creek area, San Luis Obispo County, California. Historical data from STORET (U.S. Environmental Protection Agency, written commun., 1987) San Luis Obispo County (Glenn Britton, written commun., 1988, and John Stratford, Cambria Community Services District, written commun., 1988)—Continued.

Salinity

Sources of Salinity

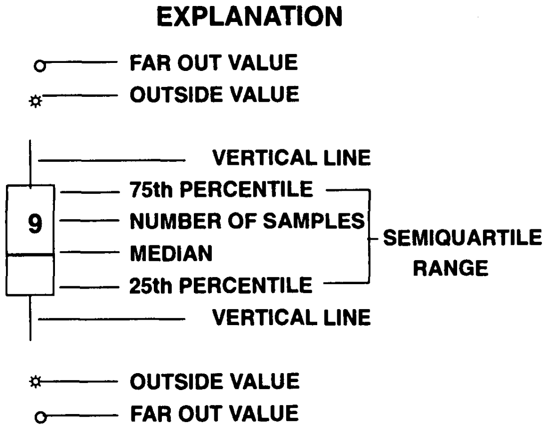
In this discussion, the term "salinity" refers to the concentrations of sodium, chloride, and dissolved solids. The source of salinity in the lower basins is of interest because water from some wells in those areas does not meet the secondary maximum contaminant levels for dissolved solids and chloride. The concentration of dissolved solids in wells 27S/8E -27C1 and 8R3 was between 1,240 and 1,520 mg/L in December 1988 and February 1989 (table 2). The secondary maximum contaminant level is 1,000 mg/L. The concentration of chloride in the two wells was between 540 and 650 mg/L; the secondary maximum contaminant level is 500 mg/L, but for taste reasons, the maximum concentration recommended is 250 mg/L (Title 22, California Code of Regulations, sections 64401-64473). Brackish water is water that is less saline than seawater but substantially more saline than fresh ground water. For this discussion, water with a dissolved-solids concentration greater than about 1,000 mg/L is considered brackish.

Possible sources of salinity in the lower basins and coastal areas include Perry Creek, the Cretaceous marine sandstone (unit Ks in fig. 3), other bedrock materials, municipal wastewater, irrigation-return flow, and the ocean. Although more than one of these sources might be significant in some locations, the ocean is the only source that can account for all the observed salinity effects.

Ground water in the Perry Creek area is more saline than ground water in the lower Santa Rosa Basin, but it has a lower sulfate concentration. Unless there is a separate source of sulfate, Perry Creek could not be the source of the salinity in the lower basin. Inflow from the Perry Creek area is small because the transmissivity of alluvial deposits in that area is too small relative to surface- and ground-water inflow from the upper Santa Rosa Creek Basin to account for the salinity increase. Also, because of its location, the Perry Creek area could not be the source of salinity in the lower San Simeon and the Pico Basins.

The Cretaceous marine sandstone that is exposed on the hillslopes surrounding the lower Santa Rosa Basin could contribute some saline water to that basin. However, it could not be a significant source of salinity in the lower San Simeon and the Pico Basins because it does not occur extensively in those areas.

Two springs in the upper basin areas were sampled to determine the quality of ground water moving through fractures in Franciscan bedrock. The springs had quite different water-quality types, so it is difficult to generalize about bedrock water quality. Spring 27S/8E-10HS1 near the south side of the upper San Simeon Basin had a dissolved-solids concentration of 892 mg/L, which is higher than the concentration in wells in that basin but lower than the concentration measured in some wells in the lower San Simeon Basin. That spring also had a higher proportion of sulfate than ground water in any of the basins in the study area (fig. 10, table 2). In contrast, spring 27S/9E-20BS3 near the north side of the upper Santa Rosa Basin had a water type similar to that of ground water in the basin, but its dissolved-solids concentration (373 mg/L) was lower. In spite of this variability, Franciscan bedrock probably is not a likely cause of high salinity in the lower basins. It is remotely conceivable that upland bedrock areas could have been flushed of brackish connate water by infiltration and through flow of meteoric waters. The spring water could originate from recent meteoric



Far out values are more than 3.0 times the semiquartile range from the top or bottom of the rectangle

Outside values are between 1.5 and 3.0 times the semiquartile range from the top or bottom of the rectangle

Vertical lines extend a distance equal to 1.5 times the semiquartile range away from the top or bottom of the rectangle or the limit of the data, whichever is least

Figure 11. Concentrations of sodium, sulfate, chloride, and dissolved solids in ground-water subareas, San Luis Obispo County, California.

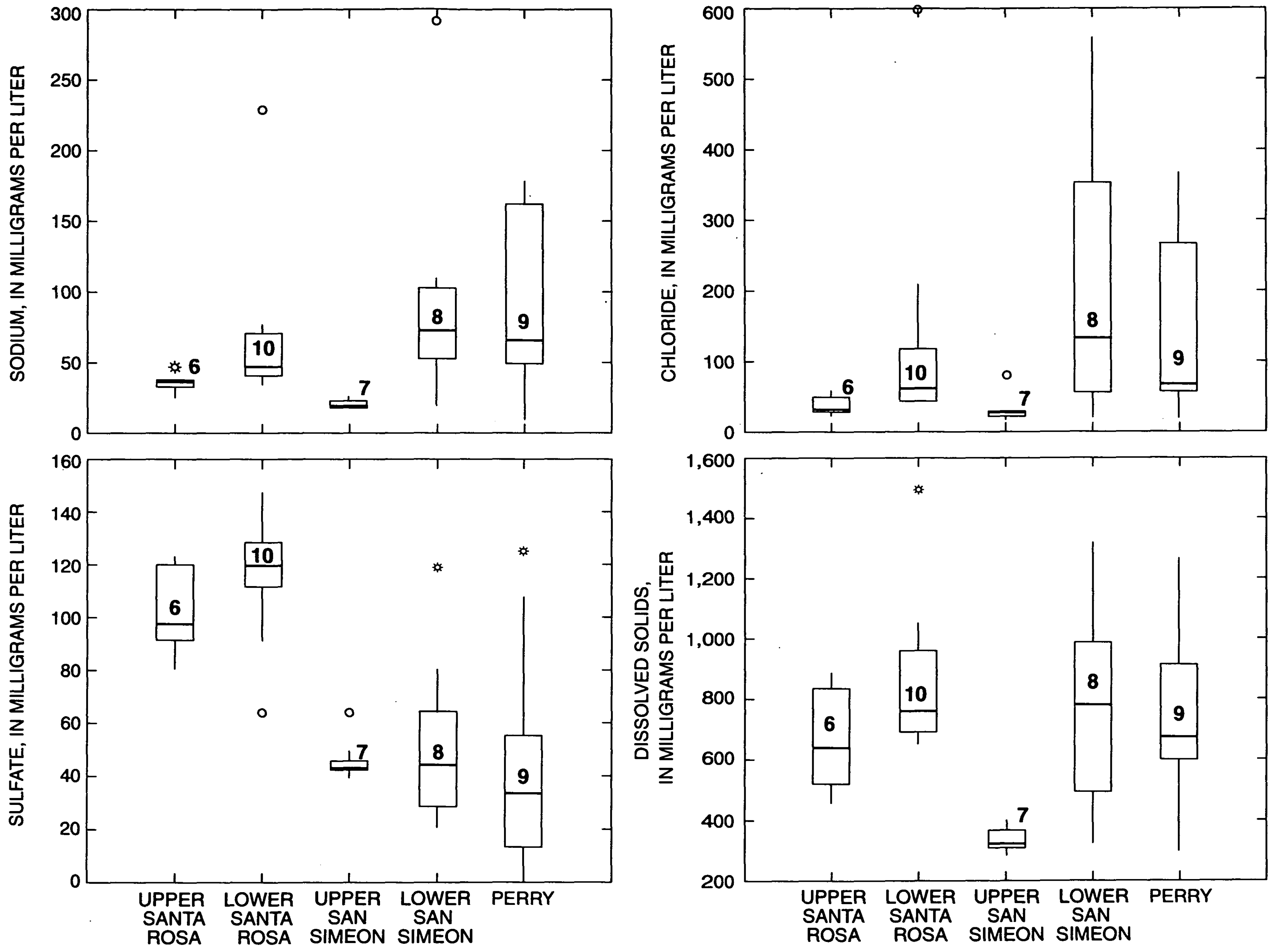


Figure 11. Concentrations of sodium, sulfate, chloride, and dissolved solids in ground-water subareas, San Luis Obispo County, California—Continued.

sources, and older, denser connate water gradually could have migrated downward to deeper parts of the ground-water system, including the lower basins.

Wastewater from old septic systems, leaking sewer pipes, or the CCSD wastewater sprayfield could contribute some salinity to the lower basins, but these probably are not major sources. Use of septic systems in the lower Santa Rosa Basin was largely discontinued when the municipal sewer system was installed in 1972. Because the annual turnover of ground water in the basin is fairly high, significant quantities of old septic leachate probably are not still present. High salinity in the lower San Simeon Basin existed prior to the wastewater sprayfield operation, so wastewater cannot be the source of all salinity in that area. A comparison of the quantity of municipal water delivered to customers with the quantity of treated wastewater disposed of at the sprayfield in 1987 did not indicate that large quantities of wastewater are leaking from the sewer system. Finally, nitrate concentrations are not elevated in the lower basins, which commonly is the case in areas contaminated with wastewater.

Evaporative concentration of irrigation water could explain some of the downvalley increase in dissolved solids. Data from six wells between wells 27S/9E-20G2 and 27S/8E-24N2 in the upper Santa Rosa Basin indicate that the concentration of dissolved solids increases fairly consistently by 30 mg/L per thousand feet down the valley (correlation coefficient, *r*, = 0.87). Because ground water flows down the valley, water at the lower end has had more opportunity to be pumped to the surface and exposed to evaporation. However, this mechanism would not cause the observed shift in relative concentrations of anions (fig. 10).

The ocean is the probable source of high salinity in the lower basins and in the nearby Pico Creek Basin. Seawater could enter the ground-water basins by infiltration of salt spray, infiltration of storm waves that reach beyond the beach or up the creek, or lateral flow into the aquifers from offshore extensions of the basin-fill deposits. The first two mechanisms would add seawater at the water table, and salinity consequently would tend to decrease with depth. These mechanisms might occur in the Pico Creek Basin, where salinity is higher above the clay confining layer than below the confining layer (Cleath, 1986). However, differing quantities of lateral seawater inflow into the shallow and deep aquifers might produce the same result. Ordinarily, lateral inflow of seawater causes an increase in salinity with depth.

Seawater Intrusion

Seawater can enter onshore parts of a fresh ground-water basin as a result of (1) the density difference between seawater and freshwater, (2) ground-water overdraft—an excess of pumping over recharge—in onshore areas, and (3) local pumping near the coast causing water levels to drop below sea level. In the former case, a seawater wedge tapering inland will naturally form at the base of the basin near the coastline. The wedge often remains relatively stationary while fresh ground water flows up along the top of the wedge and discharges to the ocean. The Ghyben-Herzberg equation states that in isotropic sediments with static ground water the distance from sea level to the top of the seawater wedge is about 40 times the altitude of the water table above sea level (Bear and Dagan, 1964). In the case of overdraft or ground-water or local coastal pumping, the interface between seawater and freshwater tends to move inland when onshore water levels are at or below sea level. This phenomenon is called seawater intrusion.

In the lower Santa Rosa Basin, salinity increases with depth. Well 27S/8E-27C1, which has high salinity, is perforated near the base of the ground-water basin at an altitude of 80–90 ft below sea level (fig. 7*A*). Well 27S/8E-27C2 at the same location is perforated at an altitude of 15–25 ft below sea level. The dissolved-solids concentration was 440 mg/L less than in well 27S/8E-27C1, and the chloride concentration was 340 to 440 mg/L less (table 2).

Brackish water in well 27S/8E-27C1 might not be related to a natural seawater wedge or to seawater intrusion. Although an upward water-level gradient exists between this well and well 27S/8E-27C2, the gradient seems to be caused by a bedrock constriction. These wells, which are 4,500 ft from the coast, had minimum seasonal water levels in 1988 of more than 9 ft above sea level. These water levels indicate a theoretical interface altitude of 280 ft below sea level, which is far below the bottom of the basin. The theoretical interface altitude might not be accurate because conditions in the lower Santa Rosa Basin do not conform exactly to the assumptions of the Ghyben-Herzberg equation. In particular, the basin-fill deposits probably are not isotropic. Preferred grain orientation and interbedding of clay with sand and silt probably decrease vertical permeability relative to horizontal permeability, and this can flatten the interface profile relative to isotropic deposits (Meisler and others, 1985). This effect probably is not strong enough to extend the top of the wedge inland as far as these wells. The high water levels in these wells and in well 27S/8E-21R3, closer to the coast, eliminate seawater intrusion as a cause of the salinity. An alternative possibility is that the brackish water in well 27S/8E-27C1 is from a pocket of seawater left over from a previous high stand of sea level.

Historical water-quality data indicate that seawater intrusion might have occurred in the lower Santa Rosa Basin in the past. The chloride concentration in water from well 27S/8E-21R3 was 1,925 mg/L in November 1961. Background chloride concentrations typically ranged from 30 to 270 mg/L as shown in figure 12 (Glenn Britton, San Luis Obispo County Engineering Dept., written commun., 1988). Water-level data are not available for November 1961, but rainfall during the preceding 3 years was only 72 percent of average. An associated decrease in ground-water recharge could have allowed the seawater-freshwater interface to move inland. A similar salinity increase (to 933 mg/L) was measured in December 1969; however, the water level in well 27S/8E-21R3 was not unusually low at that time (Glenn Britton, San Luis Obispo County Engineering Dept., written commun., 1987). The salinity increase in 1969 could have been related to temporary changes in the creek outlet. A major flood occurred during the preceding winter, and it could have caused a breach in the beach large enough to allow a greater-than-normal advance of seawater up the creek during the summer. This could have increased ground-water salinity near well 27S/8E-21R3, which is only about 50 ft from the creek and about 1,900 ft inland.

In the lower San Simeon Basin, salinity also increases with depth. Well 27S/8E-8R3 is perforated at an altitude of 122 to 132 ft below sea level and has high salinity. Well 27S/8E-8R4 at the same location is

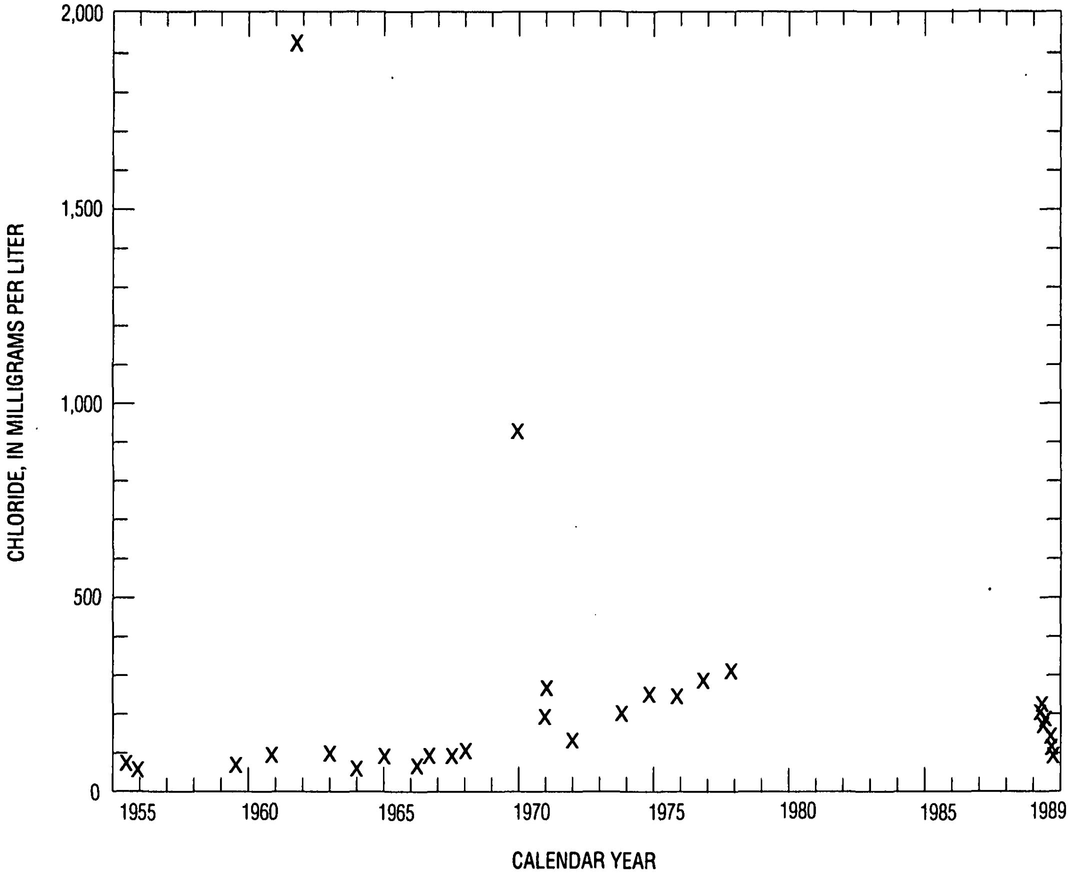


Figure 12. Chloride concentrations in ground water at well 27S/8E-21R3 in the Santa Rosa Basin, San Luis Obispo County, California, 1955–89.

perforated at 76 to 86 ft below sea level, and the dissolved-solids concentration is 905 to 970 mg/L less than the dissolved-solids concentration in well 27S/8E -8R3 (table 2). The chloride concentration was 503 to 510 mg/L less than the chloride concentration in well 27S/8E-8R3.

Water levels indicate that the salinity gradient between wells 27S/8E-8R3 and 8R4 results from a natural, relatively stable seawater wedge. The minimum water level in well 27S/8E-8R3 during 1988–89 was about 3.4 ft above sea level. The Ghyben-Herzberg relation indicates that for this water level, the top of the seawater wedge would be at an altitude of 136 ft below sea level, which is close to the altitude of the well screen (122 to 132 ft below sea level). Also, the discharge of fresh ground water over a saltwater wedge theoretically will create upward flow of ground water. This is confirmed by water-level data for wells 27S/8E-8R3 and 8R4 next to San Simeon Creek. Water levels decrease progressively from the deeper well up to the creek, indicating an upward gradient of 0.001 to 0.010 ft/ft.

Brief salinity increases concurrent with low ground-water levels have occurred in the Pico Basin and almost certainly resulted from pumping which caused water levels temporary to drop below sea level. During November and December 1984, chloride concentrations in several wells in the Pico ground-water basin increased from background chloride concentrations of less than 45 mg/L to concentrations as high as 460 mg/L within 2 weeks after water levels in those wells declined below sea level (Stephen Havlicek, San Simeon Acres Community Services District, written commun., 1985; Cleath, 1986). Concentrations returned to background levels within 4 months after water levels rose back above sea level. Similar but less well-documented events occurred in 1981 and possibly 1982 (Cleath, 1986).

Chemistry of Brackish Water

Differences in proportional concentrations of calcium, magnesium, sodium, sulfate, and chloride in brackish water can be used to indicate the extent to which the seawater component has fully reacted with clays in the basin-fill deposits. If the interface is advancing, these differences qualitatively indicate how recently the interface reached the well location. If the interface is stationary, the differences indicate how close the well is to the interface. Table 3 shows the percentage of seawater in coastal wells in the lower Santa Rosa, the lower San Simeon, and the Pico Basins. The percentage of seawater is calculated assuming nonreactive mixing of seawater and fresh, inland ground water. Separate estimates of the percentage of seawater are calculated using data for each ion. Chloride is the most conservative of the five ions and probably gives the best estimate of percentage of seawater.

In all three basins, the percentage of seawater estimated using the calcium and magnesium ions is greater than or equal to the chloride estimate, and the sodium estimate is lower than the chloride estimate. This effect is caused by cation exchange between seawater and clays in the basin-fill deposits. Prior to intrusion, the cations adsorbed to the clays were predominantly calcium and magnesium. Although calcium and magnesium adsorb more tightly than sodium, seawater contains seven times as many sodium ions as calcium and magnesium ions combined. The effect of mass action is to replace adsorbed calcium and magnesium with sodium. The result in the solution phase is to create a relative increase in calcium and magnesium and a relative decrease in sodium, compared with mixing without cation exchange. These increases and decreases have a corresponding effect on the estimated percentage of seawater. This effect is greatest in the Pico Basin, where intrusion was recent at the time the samples were collected. The percentage of seawater estimated from the chloride concentration was 1.7 percent. The calcium and magnesium estimates were much larger (17 and 4.2 percent, respectively), and the sodium estimate was much lower (0.21 percent) (table 3).

If seawater continues to flow through a previously fresh aquifer, the adsorbed phase equilibrates with the composition of the brackish water. Cation-exchange reactions diminish, and estimates of the percentage of seawater calculated from cation concentrations approach the estimate calculated from chloride concentration. This indicates that the brackish water at well 27S/8E-8R3 in the lower San Simeon Basin is the most fully equilibrated of the samples investigated. The chloride estimate was 2.8 percent, and the calcium, magnesium, and sodium estimates were 8.7, 2.8, and 2.6 percent, respectively (table 3). The water at well 27S/8E-27C1 in the lower Santa Rosa Basin showed an intermediate amount of equilibration.

Factors Affecting Use

In addition to salinity, several other water-quality characteristics potentially might affect ground-water use in the Cambria area. These include hardness and the concentrations of sulfate, nitrate, boron, iron, manganese, and trihalomethanes. Historical and present land-use practices also might affect water quality.

The calculated percentages of seawater (table 3) indicate that sulfate is not a conservative ion. Although sulfate is relatively unaffected by cation-exchange processes, it can be removed from solution by reduction to sulfide. This effect is not evident in the lower San Simeon Basin and is small in the Pico Basin. In the lower Santa Rosa Basin, however, reduction is so strong that the sulfate concentration is lower in brackish water than in either seawater or fresh ground water. This results in an unrealistic (negative) value for the percentage of seawater. The reduction was confirmed by the odor of hydrogen sulfide at wells 27S/8E-27C1 and 22N2. The odor of hydrogen sulfide is unpleasant even in small concentrations. The reduction process probably is associated with organic matter in fine-grained beds in the basin-fill deposits. The concentration of sulfate in water from spring 27S/8E-10HS1 exceeded the secondary maximum contaminant level of 250 mg/L given in Title 22, California Code of Regulations, 1986, sections

Table 3. Percentage of seawater in coastal wells in the lower Santa Rosa, lower San Simeon, and Pico ground-water basins, San Luis Obispo County, California

[Chemical analyses of ground water are in milligrams per liter]

Basin	Item	Calcium	Magnesium	Sodium	Sulfate	Chloride
Lower Santa Rosa	Fresh ground water[1]	71	74	46	125	58
	Brackish ground water[2]	125	145	230	62	600
	Percentage of seawater[3]	15.9	5.6	1.8	–2.4	2.9
Lower San Simeon	Fresh ground water[4]	53	36	20	42	20
	Brackish ground water[5]	84	73	295	120	560
	Percentage of seawater[3]	8.7	2.8	2.6	2.9	2.8
Pico	Fresh ground water[6]	72	55	35	52	145
	Brackish ground water[7]	130	110	56	85	460
	Percentage of seawater[3]	17	4.2	.21	1.2	1.7
Seawater (mg/L)[8]		410	1,350	10,500	2,700	19,000

[1] Average composition of four samples from wells 27S/8E-26C5 and 26D1 between 1967 and 1972.

[2] Average composition of two samples from well 27S/8E-27C1 in December 1988 and February 1989.

[3] Percentage of seawater calculated from a mixing-model equation:

$$x = \frac{100(C_{BW} - C_{FW})}{(C_{SW} - C_{FW})},$$

where x is percentage of seawater, and C_{BW}, C_{FW}, and C_{SW} are the concentrations of an ion in brackish water, freshwater, and seawater, respectively.

[4] Average composition of four samples from wells 27S/8E-9J1, 9L1, and 9J4 between 1965 and 1981.

[5] Average composition of two samples from well 27S/8E-8R3 in December 1988 and February 1989.

[6] Average composition of samples from San Simeon Acres Community Services District Wells #1 and #2 in December 1984 (data from Stephen Havlicek, San Simeon Acres Community Services District, written commun., 1985).

[7] Average composition of samples from two private wells (Cavalier Motel and Silver Surf Motel) in November 1984 (data from Stephen Havlicek, San Simeon Acres Community Services District, written commun., 1985).

[8] Average composition of seawater (Hem, 1985).

64401-64473 (table 2). Unless removed, ground water in parts of the lower Santa Rosa Basin could become unacceptable for potable purposes.

Iron and manganese concentrations in ground water exceed the secondary maximum contaminant levels in many locations throughout the study area but especially in the lower basins. Seventeen of the 24 manganese analyses done for this study exceeded the secondary maximum contaminant level of 0.05 mg/L, whereas only 2 of the 24 iron analyses exceeded the secondary maximum contaminant level of 0.3 mg/L (table 2). Manganese concentrations in ground water along the Santa Rosa Basin increased downstream and ranged from 0.002 at well 27S/9E-20G2 to 1.70 mg/L at well 27S/8E-27C1. The median value for that basin was 0.470 mg/L. Manganese concentrations also increased downstream in the San Simeon ground-water basin, ranging from 0.002 mg/L at well 27S/8E-10A3 to 1.60 mg/L at well 27S/8E-9N2. The median concentration for that basin was 0.190 mg/L. The two samples with iron concentrations in excess of the standard were from wells 27S/8E-11C1 and 8R4 in the lower San Simeon Basin (table 2). Iron and manganese are more soluble in a reduced state, and the high concentrations in the lower basins probably result from low oxidation potential in those areas.

Manganese concentrations in surface-water samples were less than 0.010 mg/L for Santa Rosa Creek and San Simeon Creek and was 0.043 mg/L for Perry Creek (table 2). The relatively low concentrations in surface water result partly because the creek water is oxidized. Manganese concentration in seawater is only 0.002 mg/L (Hem, 1985). The source of the manganese in ground water probably is the basin-fill deposits.

Nitrate concentrations met the primary maximum contaminant level of 10 mg/L as nitrogen in all surface- and ground-water samples collected for this study. Eleven of 24 samples had concentrations less than the detection limit of 0.010 mg/L as nitrogen. The highest concentration was 2.90 mg/L at well 27S/8E -11C1 (table 2). Historical data of unknown accuracy indicate that nitrate concentrations exceeded the primary maximum contaminant level twice in wells in the CCSD wastewater sprayfield. However, both samples were collected before 1976 and pre-date the sprayfield operation.

Historical nitrate data indicate that concentrations are highly variable in space and time. The distribution of concentrations does not indicate an obvious source, such as fertilizers, leaking sewers, or residual effects of old septic systems in residential areas. The ocean has a nitrate concentration of only 0.67 mg/L as nitrogen, so it cannot be the source of high nitrogen concentrations. Relatively high concentrations might result from inadequate surface seals on wells near pastures, barnyards, rural septic systems, or fertilizer handling areas. Buried organic material in the basin-fill deposits also could contribute nitrogen to ground water.

Historical ground-water data indicate that boron concentrations were high, 1.0 to 1.4 mg/L, in a cluster of three wells near Perry Creek about 5 mi southeast of Cambria. The source of this boron might be a marine graywacke unit of the Franciscan Complex that is exposed near these wells (Hall and others, 1979). A boron concentration of 1.4 mg/L was measured in brackish water from well 27S/8E-8R3 (table 2). Other coastal wells with high salinity have much lower boron concentrations, which indicate that the source of the boron in well 27S/8E-8R3 might be local bedrock. Boron concentrations less than 1.0 mg/L—which include all other samples in the study area—are not likely to affect crops grown in the area. Several crops could be adversely affected by boron concentrations between 1.0 and 2.0 mg/L. These crops in order of decreasing sensitivity are beans, bell peppers, oats, peas, and tomatoes (Bohn and others, 1979).

Hardness concentrations in the ground-water samples are consistently greater than 180 mg/L (as $CaCO_3$). Hence, ground water throughout the study area is hard (Hem, 1985). Hardness concentrations in ground water tend to increase downstream, with historical values ranging from 250 to 400 mg/L in the upper basins and from 300 to 1,000 mg/L in the lower basins. Concentrations in the Perry Creek area generally are between 400 and 500 mg/L.

Trihalomethanes are carcinogenic organic compounds containing bromine or chlorine that can occur naturally or from chlorination of water containing organic carbon. Bromide was detected in surface-water samples collected for this study. The municipal water supply is chlorinated prior to delivery; however, trihalomethane concentrations measured by the Cambria Community Services District (1990) were less than 0.01 mg/L. The primary maximum contaminant level is 0.1 mg/L.

Seasonal and Long-Term Trends

Ground water at the 11 wells sampled for this study became more dilute between December 1988 and

February 1989. The concentration of dissolved solids decreased in 10 of 11 wells; the average decrease was 76 mg/L (12 percent). The increase at the remaining well was only 2 mg/L (0.3 percent). The dilution resulted from ground-water recharge during the 2 months between sampling dates. The principal source of recharge was flow in San Simeon and Santa Rosa Creeks. Near the upper ends of the upper basins, the concentration of dissolved solids in ground water in February was nearly the same as the concentration in the creeks, indicating little dissolution of aquifer minerals during the recharge process. The gradual increase in dissolved solids during spring, summer, and autumn could result from gradual dissolution of aquifer minerals or from the evaporative concentration of ground water as it is used and reused for irrigation.

The composition of ground water in wells near the coast did not show a consistent trend away from the composition of seawater as a result of basin recharge between December 1988 and February 1989. This indicates that salinity in those wells is not a transient response to seasonal water-level fluctuations but rather is the result of more stable long-term processes.

Although ground water generally became more dilute during the winter of 1989, concentrations of iron and manganese increased at many wells. Manganese concentrations increased an average of 0.076 mg/L (11 percent) at 8 of 11 wells, decreased an average of 0.018 mg/L (10 percent) at 2 wells, and did not change in the remaining well (table 2). Increases in iron concentrations were even more dramatic. Iron concentration increased an average of 0.188 mg/L (1,370 percent) at 8 of 11 wells. Decreases at the remaining three wells averaged only 0.024 mg/L (46 percent). These increases suggest that ground water became more reduced during recharge because iron and manganese are more soluble in their reduced state. The transition of iron from the ferric to the ferrous state occurs at a lower oxidation potential than the analogous transition in manganese, which could explain the larger changes in iron concentrations. The seasonal variations in oxidation potential could be caused by the seasonal cycles in pumping and water levels. Pumping water from deep, reduced strata tends to draw relatively aerated water down from shallower strata. Seasonal variations in pumping can thus cause seasonal variations in the movement of dissolved oxygen into reduced strata.

With one possible exception, historical ground-water-quality data do not indicate any long-term trends in water quality. The possible exception is evident in water-quality samples collected from well 27S/8E-21R3 in the lower Santa Rosa Basin between 1955 and 1977. In addition to the previously described transient intrusion in 1962 and 1969, the data might indicate a slight increasing trend in salinity between 1970 and 1977. This trend can be seen in the plot of chloride concentrations for 1955–89 shown in figure 12. The slope of the chloride trend for 1971–77 (29.7 mg/L per year) was significantly greater than zero at the 95-percent confidence level. On a trilinear diagram (not shown), the anion composition of ground water for 1971–77 shows a trend toward the composition of seawater, indicating that the increasing chloride concentrations did not result from a simple evaporative process. However, 17 samples collected in 1989 (Bryan Bode, Cambria Community Services District, written commun., 1990) indicated that the chloride concentration had not continued to steadily increase since 1977. The chloride concentration during 1989 was highly variable, which could indicate that the apparent trend during the early 1970's is not accurately defined by the small number of data points.

WATER BUDGETS

Water budgets provide a quantitative means of comparing various processes that affect a hydrologic system. They can also reveal opportunities and constraints for water-supply development. Ground-water budgets for the Santa Rosa and the San Simeon Basins are presented in this section. Climatic and surface-water processes that influence flows to and from the ground-water basins also are described. Although field data were used to develop the estimates for each budget item, some estimates were revised using ground-water-flow models documented later in this report. Model calibration indicated that some of the initial estimates of flows and aquifer characteristics were inaccurate or mutually inconsistent. The revised estimates are briefly mentioned in this section for completeness. They are described more fully in the section on "Digital Simulation of Hydrologic System."

Annual ground-water budgets for each basin for April 1988 through March 1989 are shown in table 4. Nonzero budget items range from 4 to 1,175 acre-ft/yr. Model results are precise in that small changes in input result in small, predictable changes in output. Accuracy of the water budgets is limited primarily by the accuracy of the assumptions and data used in the model and probably is not greater than two significant digits. To retain small items in the budgets while giving a reasonable indication of accuracy for large items, all values in the table and text are rounded to the nearest 10 acre-ft/yr. Only head-dependent flows, which include seepage to and from the creek, ground-water outflow to the ocean, phreatophyte transpiration, and net storage change, are simulated by the models. The remaining budget items are estimated from field data and are specified as input to the models. Some inflows are directly offset by related outflows. From a management standpoint, a more useful picture of the water budgets emerges when related flows are combined into a net flow. For example, flow losses from Santa Rosa Creek are a large budget item, but so is ground-water flow into the creek. The actual quantity of streamflow captured as ground-water recharge is best indicated by the net flow loss from the creek. Net flow losses for the creeks and net pumpage are shown in the table 4.

The budget period was chosen to begin and end in late winter when the basins are virtually full. Ground-water levels tend to recover during winter to a level that is in equilibrium with the level of the water surface in the creek. This level usually is within a few feet of the same level every year. High creek stages could result in high ground-water levels, but high stages occur only briefly during storms. Similarly, if ground-water levels rise because of rainfall recharge or inflow from bedrock, the water tends to drain fairly quickly into the creek until levels return to equilibrium with the creek stage. Thus, although some budget items

Table 4. Simulated annual water budgets for the Santa Rosa and the San Simeon ground-water basins, San Luis Obispo County, California, April 1988 through March 1989

[All values rounded to nearest 10 acre-feet per year. Positive net flow indicates flow into basin; negative net flow indicates flow out of basin. CCSD, Cambria Comumunity Services District. <, actual value is less than value shown]

Budget item	Santa Rosa Basin			San Simeon Basin		
	Inflow	Outflow	Net flow	Inflow	Outflow	Net flow
Rainfall recharge	140	0	140	50	0	50
Creek seepage	1,120	650	470	950	410	540
Subsurface inflow and outflow:						
Onshore boundaries	370	0	370	150	0	150
Ocean boundary	0	60	-60	0	320	-320
Agricultural water use:						
Pumpage	0	890	-570	0	450	-280
Irrigation-return flow	320	0		170	0	
Nonagricultural water use:						
Municipal pumpage	0	250	-240	0	550	-120
Rural pumpage[1]	0	10		0	<10	
Wastewater recharge:						
CCSD sprayfield[2]	0	0		440	0	
Septic tanks	10	0		<10	0	
Irrigation-return flow	10	0		0	0	
Phreatophyte transpiration	0	160	-160	0	30	-30
Total inflows and outflows			-50			-10
Net storage change			-30			-10
Mass-balance error			20			0

[1] Includes domestic and industrial pumpage.

[2] Recharge at sprayfield equals applied wastewater plus rainfall minus ET_0.

vary from dry years to wet years, these variations usually are offset by compensating changes in other budget items so that late-winter water levels remain about the same. Exceptions occur in extremely dry years (drier than 1988–89) when ground-water levels do not fully recover in winter.

Rainfall

Rainfall distribution in the study area was estimated by combining measurements from six permanent rainfall stations and measurements from four temporary stations operated during 1987–89. The temporary stations were operated to better define local variations in rainfall distribution. Average annual rainfall at the temporary stations was estimated by correlation with measurements at the permanent stations during water year 1988. Locations of the gaging stations and annual rainfall during water year 1988 are shown in figure 1.

Rainfall distribution during 1988 was consistent with the patterns of average rainfall for 1936–67 shown on a map developed by the San Luis Obispo County Flood and Water Conservation District (Glenn Britton, written commun., 1989). The additional stations did not reveal any obvious local anomalies in rainfall distribution. In particular, local orographic effects were not evident, although only two stations were located on hillsides above the valley floor. Generally, average annual rainfall increased uniformly from 20 in. at the coast to about 26 in. at the inland ends of the Santa Rosa and the San Simeon Basins. Average annual rainfall at the headwaters of the creek drainages is about 40 to 50 in.

Records for local rainfall stations are fairly short. The Hearst Ranch station (fig. 1) has been in operation since 1939, but most of the other stations have been in operation for a much shorter time. A better indicator of long-term climatic trends and variability is the 120-year rainfall record for the station at the California Polytechnic State University Institute in San Luis Obispo, 30 mi southeast of Cambria. Annual rainfall at the San Luis Obispo-Poly station correlates well with rainfall at stations in the Cambria area (*r* between 0.85 and 0.96).

Cumulative departure of annual rainfall at the San Luis Obispo-Poly station during 1870–1989 is shown in figure 13. Using the period 1957–72 as representative of long-term average climatic conditions, average annual rainfall at Hearst Castle, San Simeon, and CalTrans stations is 31.6, 23.4, and 21.1 in., respectively. The CalTrans station was moved in January 1969. A double-mass plot indicated that rainfall at the old location averaged 85 percent of rainfall at the new location, and the historical data were adjusted accordingly. The cumulative departure

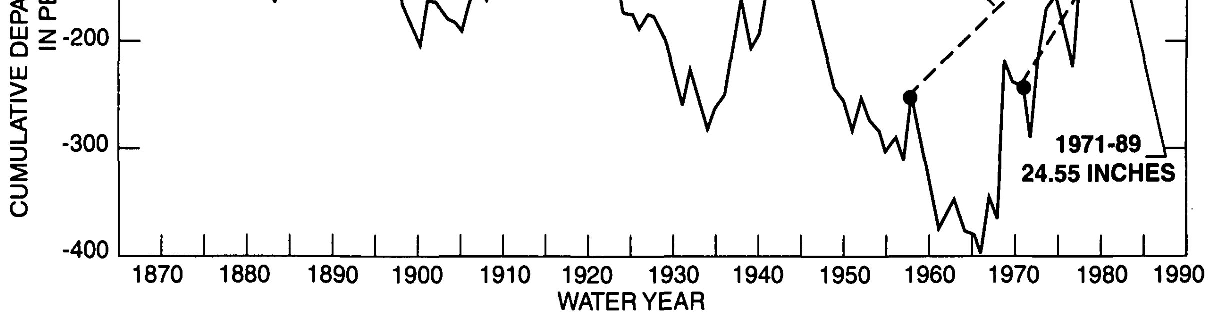


Figure 13. Cumulative departure of annual rainfall at the San Luis Obispo-Poly station, San Luis Obispo County, California, 1870–1989.

diagram also indicates that water years 1988 and 1989 were drier than normal. Rainfall at the three stations during water year 1988 was between 71 and 87 percent of the long-term average. Rainfall at the three stations during water year 1989 was between 55 and 66 percent of the long-term average.

Typically, about 93 percent of annual rainfall occurs between November and April. Winter storm systems bring periods of rainy weather lasting several days. A large storm on December 23–26, 1988, brought 2.0 to 3.8 in. of rainfall to the valley floors and resulted in large streamflow peaks.

Streamflow

Flow Entering Ground-Water Basins

The drainage areas of Santa Rosa and San Simeon Creeks extend inland to the crest of the Santa Lucia Range (fig. 1), which reaches altitudes of 3,400 ft above sea level. Runoff from the areas upstream of the ground-water basins and from the Perry Creek drainage area was measured with continuous-record stream-gaging stations (fig. 2). Because of the steep terrain in the upstream areas, streamflow responds markedly to rainfall. Some water is retained in the soil and fractured rock, however, and reemerges as base flow in the creeks. In most years, base flow gradually decreases in spring and ceases or becomes a trickle of several gallons per minute by early summer.

The drainage area of San Simeon Creek is 26.2 mi^2 of which 3.2 percent is occupied by the ground-water basin, 86.2 percent is upstream of the upper end ground-water basin, and 10.6 percent is in small drainage on the hillslopes along the sides of the basin. Van Gordon Creek enters San Simeon Creek about 0.5 mi east of the Pacific Ocean and has a drainage area of 2.6 mi^2. The drainage area of Santa Rosa Creek is 24.5 mi^2, and the distribution among basin, upstream, and hillslope areas is 7.7, 60.2, and 32.1 percent, respectively. Perry Creek enters Santa Rosa Creek about 1 mi east of Cambria and has a drainage area of 22.7 mi^2.

Streamflow has been measured since 1959 at the upstream gaging station on Santa Rosa Creek (Santa Rosa Creek near Cambria) and since 1971 at the upstream gaging station on San Simeon Creek (San Simeon Creek at Palmer Flats) (fig. 2). Streamflow during occasional periods of missing record was estimated by correlation with flow in Santa Rita Creek near Templeton, about 15 mi east of Cambria (outside of study area). Santa Rita Creek is similar to San Simeon and Santa Rosa Creeks in terms of drainage area, terrain, and rainfall.

The downstream gaging station on Santa Rosa Creek (Santa Rosa Creek at State Highway 1) (fig. 2) has been in operation since 1976, although it may soon be discontinued because a new gaging station was installed at the Main Street bridge. The downstream gaging station on San Simeon Creek and the gaging station on Perry Creek were installed for this study and were operated during water years 1988–89.

Flow-duration curves for daily mean flows at the upstream gaging stations on Santa Rosa and San Simeon Creeks for the period of record for each gaging station are shown in figure 14. The curves indicate that peak flows in San Simeon Creek tend to be larger and that smaller flows are less persistent. Flow is virtually 0 about 47 percent of the time at the San Simeon Creek gaging station and about 25 percent of the time at the Santa Rosa Creek gaging station. The curves do not represent long-term average conditions because the periods of record for both gaging stations were wetter

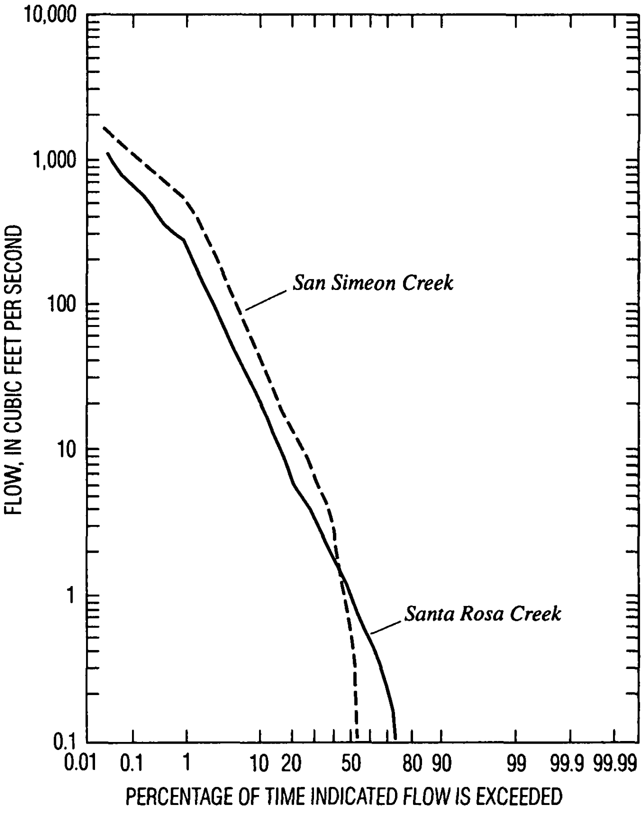


Figure 14. Flow-duration curves for daily mean flow in San Simeon Creek at Palmer Flats (1971–89) and Santa Rosa Creek near Cambria (1959–89), San Luis Obispo County, California.

than average. This issue is described more fully in the section "Occurrence and Effects of Drought."

The persistence of base flow in late spring and summer is affected by evapotranspiration in the upper parts of the drainage areas. A long-time Cambria resident observed that summer base flow in Van Gordon Creek was much more persistent for several years following large brush fires along the upper reaches of the creek (Clyde Warren, oral commun., 1989). Controlled brush-removal experiments in small semiarid drainage areas with similar vegetation have demonstrated that shrubs close to the creekbed can consume as much as 40 percent of annual streamflow (Hibbert and others, 1982).

Flow in Perry Creek is not closely related to flow in Santa Rosa Creek. A tiny trickle of base flow (less than 0.1 ft^3/s) persists throughout the summer and probably is supported by emerging ground water. After omitting flows of less than 0.03 ft^3/s, a least-squares regression of daily mean flows in the two creeks during 1988–89 indicated that flow in Perry Creek was generally about 0.18 times as large as flow in Santa Rosa Creek (r=0.80). Streamflow during some storms was distinctly different, however. For example, the largest mean daily flow in Perry Creek during a storm on December 23–26, 1988, was only one-half as large as the largest flow during a storm on January 17–19, 1988. This is exactly opposite of the relative flow magnitudes in Santa Rosa Creek during the same two storms.

Annual stream discharge during 1959–89 at the upstream gaging station on Santa Rosa Creek ranged from 244 to 27,800 acre-ft, with a mean value of 7,840 acre-ft and a median value of 5,010 acre-ft. Annual discharge during 1971–89 at the upstream gaging station on San Simeon Creek ranged from 475 to 42,600 acre-ft, with a mean value of 16,200 acre-ft and a median value of 13,100 acre-ft.

The flow-duration curves and annual discharge statistics for Santa Rosa and San Simeon Creeks probably are not representative of the long-term average because the periods of record for the stream-gaging stations were wetter than usual, based on long-term rainfall records. Better estimates of long-term mean and median annual discharges were obtained by relating annual discharge in Santa Rosa and San Simeon Creeks to annual rainfall at San Luis Obispo, as shown in figure 15. The data indicate that the relation of discharge and rainfall is approximately linear. Correlation coefficients of ordinary least-squares regression lines were 0.91 and 0.96 for Santa Rosa and San Simeon Creeks, respectively.

Mean and median rainfall in San Luis Obispo during 1870–1989 were 21.79 and 19.76 in., respectively. The regression equations indicate that the corresponding mean and median annual discharges in Santa Rosa Creek are 6,800 and 5,700 acre-ft, respectively. In San Simeon Creek, the mean and median are 13,100 and 10,900 acre-ft, respectively. These means are 13 to 19 percent smaller than the means calculated for the period of streamflow record. The medians are about the same for both periods. The mean exceeds the median because wet-year outliers create a positive skew to the annual rainfall distribution.

Daily mean flow at the upstream gaging stations on Santa Rosa and San Simeon Creeks during water years 1988–89 is shown in figure 16. Peak instantaneous flow on December 24, 1988, was 1,870 ft^3/s at the upstream gaging station on Santa Rosa Creek and 2,280 ft^3/s at the upstream gaging station on San Simeon Creek. Annual discharge in Santa Rosa, San Simeon, and Perry Creeks during 1988–89 was 1,925, 4,320, and 304 acre-ft, respectively. The drainage areas of the creeks are of nearly equal size. The differences in annual discharge result primarily from differences in rainfall and land slope. Perry Creek drains foothill areas where rainfall and land slopes are much less than in the other two drainage areas.

Runoff from small drainages in the hills along the sides of the ground-water basins occurs only during brief periods of intense rainfall. On December 23–26, 1988, between 1.4 and 2.4 in. of rain fell on the

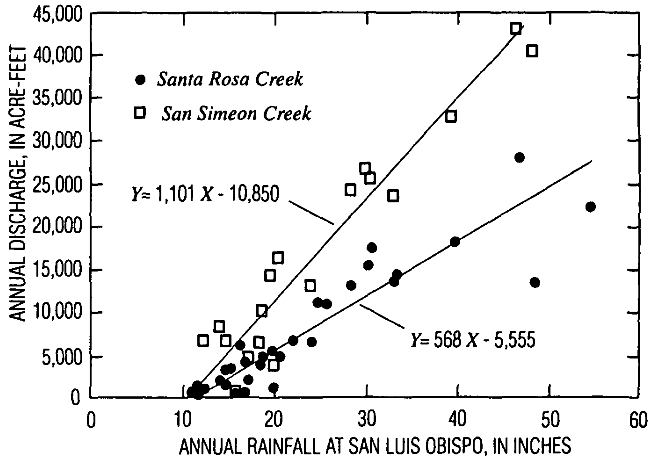


Figure 15. Relation of annual rainfall at San Luis Obispo and annual discharge in San Simeon and Santa Rosa Creeks, San Luis Obispo County, California.

hillslopes, and flows of less than 0.5 ft³/s were measured in several small drainages. Rainfall intensity tapered off to a drizzle, and by the next day flow in most of the small drainages had stopped. The combined runoff from all the small drainages along the hillslopes was less than 1 percent of the flow in the main creeks at that time. Likewise, runoff from the valley floors was negligible. Local runoff could contribute a larger percentage of flow if rainfall intensity for a particular storm was relatively high in the small drainage.

Gains and Losses Within Ground-Water Basins

As the creeks flow across the ground-water basins, they can gain or lose water through the creekbeds. In winter, seepage from the creeks provides the largest source of recharge to the ground-water basins. In summer, movement of ground water into the creeks creates flow along some stream reaches. Streamflow gains and losses were measured using three methods: (1) instantaneous streamflow measurements, (2) continuous records of streamflow at gaging stations, and (3) estimates of storage changes in the ground-water basin.

Flow measurements were made at four locations (fig. 2) along San Simeon Creek and at four locations along Santa Rosa Creek during the recession phase of the storm on December 23–26, 1988. The measurements indicated a loss of streamflow along all reaches of San Simeon Creek. The rate of loss between the upstream and downstream gaging stations decreased from 15.6 ft³/s on December 25 to 2.2 ft³/s on December 27. A similar pattern was observed on Santa Rosa Creek after accounting for inflow from Perry Creek and from an unnamed tributary near the northeast corner of sec. 21, T.27S., R.9E. The rate of loss along Santa Rosa Creek was highest along the reach between the upstream gaging station and a point near well 27S/9E-19J1. These flow loss measurements probably underestimate the average loss rate for the storm because they were made after the flow peak. As flow receded, some of the water stored in streambanks during the peak probably moved back into the creek, thereby offsetting losses through the bottom of the creekbed.

Estimating flow gains and losses on the basis of continuous records of streamflow at gaging stations can minimize errors caused by transient bank storage. This

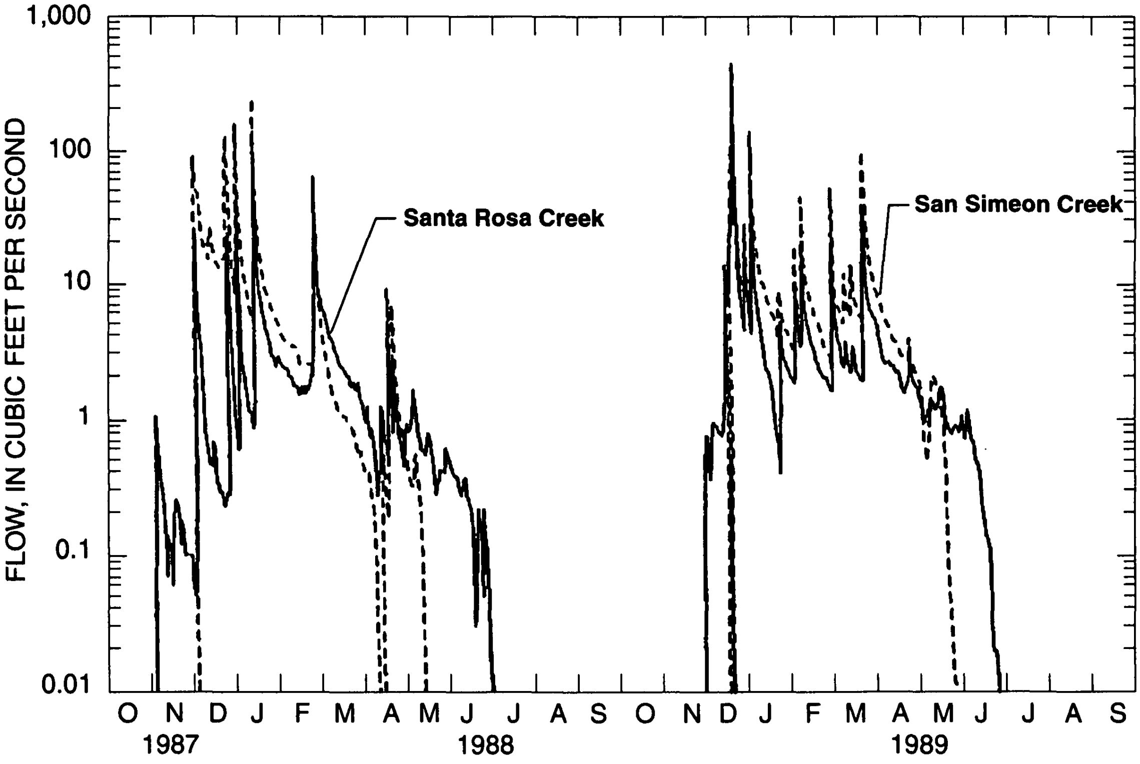


Figure 16. Daily mean flow in Santa Rosa Creek (Santa Rosa Creek near Cambria) and San Simeon Creek (San Simeon Creek at Palmer Flats), San Luis Obispo County, California, water years 1988–89.

was done by comparing cumulative discharges at the upstream and downstream gaging stations on each creek for a period of several days or weeks. This method is accurate only when flows for the gaging stations on Santa Rosa and San Simeon Creeks are less than about 50 ft^3/s. As flows increase, gains and losses become a smaller percentage of total flow and become smaller than the uncertainty in the flow measurements. Also, there are discrepancies between the rating curves used to calculate flow from stream stage at each gaging station. The accuracy of these curves is poor at high flow because few data are available to define the curve. Errors in the rating curve result in a consistent bias in calculated flow. For example, the upstream gaging station on San Simeon Creek gives a low reading at high flows relative to the downstream gaging station. As a result, flow gains are unrealistically large (as much as 323 ft^3/s) along the intervening reach when total flow exceeds about 100 ft^3/s. These gains are too large to be attributable to ground-water inflow, and there is little, if any, surface inflow.

Rating curves are more accurate for flows less than 50 ft^3/s, and in this range continuous streamflow records can be used to estimate net gains or losses in flow as the creeks cross the ground-water basins. Generally, calculated gains and losses along Santa Rosa and San Simeon Creeks are consistent with instantaneous flow data and indicate that the rate of flow to or from ground water is controlled by adjacent ground-water levels. Daily mean flow loss rates of 20 to 40 ft^3/s are common during the first few weeks of streamflow when ground-water levels are low. Net losses in mid-winter are small when ground-water levels rise to the level of the thalweg. An exception occurs near municipal wells which operate all year and induce flow losses from the channel even after nearby ground-water levels have fully recovered.

Because flow losses could not be estimated accurately at high flows, continuous streamflow records could not be used to estimate total annual ground-water recharge from the creeks.

A third estimate of seepage losses was obtained from estimates of storage changes in the aquifer. Water levels rose rapidly during and after the storm on December 23–26, 1988. Nearly all the rise was attributable to stream recharge because rainfall during the month prior to the onset of streamflow had little or no effect on water levels and because water levels abruptly ceased rising once they reached the approximate level of water in the creek. Water-level rises were multiplied by area and specific yield for local areas within the basins. These were summed to obtain the total storage change for each basin. The calculations indicated that aquifer storage in the San Simeon Creek Basin increased about 480 acre-ft during the first week after the onset of streamflow and about 40 acre-ft during the following week. At that point, the basin was virtually full and storage did not continue to increase. In the Santa Rosa Creek Basin, storage increased about 360 acre-ft during the first week after the onset of streamflow, 90 acre-ft the following week, and 130 acre-ft during the subsequent 11 weeks.

Streamflow and water-level data indicate that most of the recharge from the creek occurs early in the winter flow season. Once water levels rise to the level of the creek, further recharge is rejected. A comparison of manual flow measurements in March and December 1988 confirmed that net flow losses are relatively small when the basins are full at end of the flow season.

In summer, Santa Rosa Creek acts locally as a drain for ground water. Because of subsurface flow obstructions, the water table intersects the creekbed near well 27S/9E-19H2 and emerges as flow in the creek. During the summer of 1988, this flow was several cubic feet per second and continued downstream as far as well 27S/8E-24N2. During the summer of 1989, flow eventually receded to the vicinity of well 27S/8E-24J4.

The first reach of the creeks to dry up during streamflow recession is important for fisheries management. After each of two streamflow peaks in December 1988, one of the first reaches of Santa Rosa Creek to go dry was the reach adjacent to well 27S/8E -27H1. The first reach to go completely dry on San Simeon Creek during the summer of 1988 was between the CCSD well field and the wastewater sprayfield. Pools persisted all summer between the sprayfield and the coast, but flow in that reach was too small to detect visually.

On several occasions during low-flow conditions, flow in Santa Rosa Creek at the Windsor Boulevard bridge was greater than flow at the State Highway 1 bridge (fig. 2) but by less than 1 ft^3/s. This gain in flow probably is caused by ground water that is forced to the surface by a bedrock constriction in the aquifer.

All three methods used to estimate seepage losses from the creeks indicate that seepage rates are highest at the beginning of the streamflow season when rates in both basins average 400 acre-ft per week.

These rates decrease rapidly as ground-water levels rise to the levels of the creeks. The calibrated ground-water-flow models indicated that net seepage losses during the first week of streamflow following the storm on December 23–26, 1988, were 300 acre-ft in the Santa Rosa Basin and 410 acre-ft in the San Simeon Basin. Net seepage losses for April 1988 through March 1989 were 470 and 540 acre-ft in the Santa Rosa Basin and the San Simeon Basin, respectively (table 4).

Areal Recharge

Deep percolation of rainfall and irrigation water past the root zone of plants is another source of ground-water recharge. This type of recharge occurs throughout the ground-water basin wherever soils are not covered by impervious materials. The amount of deep percolation is affected by rainfall, irrigation, evaporative demand, plant type, and soil-moisture conditions. These factors were all accounted for in one-dimensional soil-moisture budgets developed for areas of uniform land use and vegetation type. Rainfall and irrigation are described in other sections of this report. The remaining factors and the budget calculations are described in this section.

Evaporative Demand

Evaporative demand refers to the humidity gradient that causes water to move in the vapor phase from plants, soils, and surface-water bodies, which are relatively moist, to the atmosphere, which is relatively dry. Evaporative demand in the study area during water years 1988 and 1989 was estimated from temporary local climate stations and permanent climate stations elsewhere on the coast.

A commonly used measure of evaporative demand is called reference evapotranspiration (ET_0). This is the amount of evapotranspiration that occurs from an areally extensive plot of irrigated short-cropped grass. The California Department of Water Resources (1988) operates a network of climate stations under a program called the California Irrigation Management Information System (CIMIS). ET_0 at each station is calculated using the modified Penman equation, which requires measurements of net solar radiation, temperature, windspeed, relative humidity, and soil heat flux. The CIMIS program uses empirical coefficients to adjust the raw Penman calculations to match measured consumptive water use by irrigated short-cropped grass.

A climate station similar to the ones used in the CIMIS program was operated at the CCSD well field (fig. 2*B*) during July through October 1988. In addition, measurements of actual evapotranspiration were made using the eddy-correlation method (Duell, 1990) during 3- to 4-day periods in July and October. These measurements were made at the well-field site, in a tomato field in July, and in a sugar pea field in October. Actual evapotranspiration can differ from ET_0, depending on vegetative characteristics and the availability of soil moisture. Data collected for the eddy-correlation measurements also were used to calculate ET_0 using the Penman equation. However, the humidity measurements of the eddy-correlation stations were made using a wet-bulb psychrometer rather than the dry-bulb psychrometer used at the Penman and CIMIS stations.

Monthly ET_0 measured at the well field was compared with the average of monthly ET_0 at CIMIS stations at Castroville, 90 mi north of the study area, and at Betteravia, 60 mi south of the study area. These stations were selected because they are both within a few miles of the coast, as is the study area. Coastal fog is common in summer, and consequently, ET_0 at the coastline can be as little as 65 percent of ET_0 at stations 10 to 20 mi inland (California Department of Water Resources, 1975).

Monthly ET_0 during 1988 is shown in table 5 including the measured values at the well field, the average of the two CIMIS stations, and two published estimates of long-term average ET_0. ET_0 at the well field is consistently higher than the CIMIS values. The discrepancy decreases from 34 percent in July to 13 percent in October. The difference probably results largely from differences in site characteristics. Dry site conditions can result in ET_0 measurements that are 15 percent too high (William Pruitt, University of California, Davis, oral commun., 1988). Instead of irrigated short-cropped grass, the well-field site is in an open field of nonirrigated, unmown wild grass with scattered native shrubs. The grass was dry and brown in July. In October, it had started to resprout in response to early winter rains and more closely approximated conditions at the CIMIS stations. This could explain the decreasing discrepancy between the ET_0 measurements. Daily ET_0 calculated using the Penman equation at the tomato and sugar pea sites was consistently less than at the well-field site, which

Table 5. Estimates of monthly reference evapotranspiration (ET_0) near Cambria during calendar year 1988 and for long-term average climatic conditions, San Luis Obispo County, California

[Well field: U.S. Geological Survey data, using CIMIS version of Penman equation. CIMIS: Average of values for CIMIS stations at Castroville and Betteravia. Cambria: Values for Cambria from Pruitt and others (1987). Central Coast: Values for central coast coastal valleys and plains (California Department of Water Resources, 1975). CIMIS, California Irrigation Management Information System. All values in inches. —, no data]

Month	1988		Long-term average	
	Well field	CIMIS	Cambria	Central Coast
January	—	1.91	1.86	1.8
February	—	3.00	2.22	2.1
March	—	4.74	2.93	3.1
April	—	4.50	3.54	3.9
May	—	5.68	4.15	4.7
June	—	4.88	4.49	4.9
July	6.61	4.94	4.76	5.3
August	5.95	4.57	4.27	4.8
September	4.39	3.39	3.54	3.8
October	2.79	2.46	3.05	3.2
November	—	2.06	2.03	2.2
December	—	1.86	1.64	1.5
Total	—	43.99	38.48	41.3

further indicates that the relatively hot, dry conditions at the well-field site might have resulted in an overestimate of ET_0. Use of the wet-bulb psychrometer at the crop sites also might have contributed to the difference.

Temperatures during 1988 might have been slightly higher than normal, which also would tend to increase ET_0. The average annual ET_0 for the two CIMIS stations at Castroville and at Betteravia in 1988 was 43.99 in., which is higher than the long-term average for those stations (39.42 in.) and higher than both of the published estimates of long-term average ET_0 (table 5).

The presence of a climatic gradient near the coast was evident in the daily temperature data collected at three locations along the Santa Rosa Creek valley. The stations were 0.4, 2.5, and 4.5 mi from the coast. Monthly averages of maximum, mean, and minimum daily temperatures at the stations are shown in figure 17. The influence of marine air is evident in the data for the station closest to the coast (CCSD wastewater plant), which has the narrowest range of daily temperature fluctuations in almost all months. The station farthest from the coast (Scooter Rhoades) generally has the largest range. Although the range of

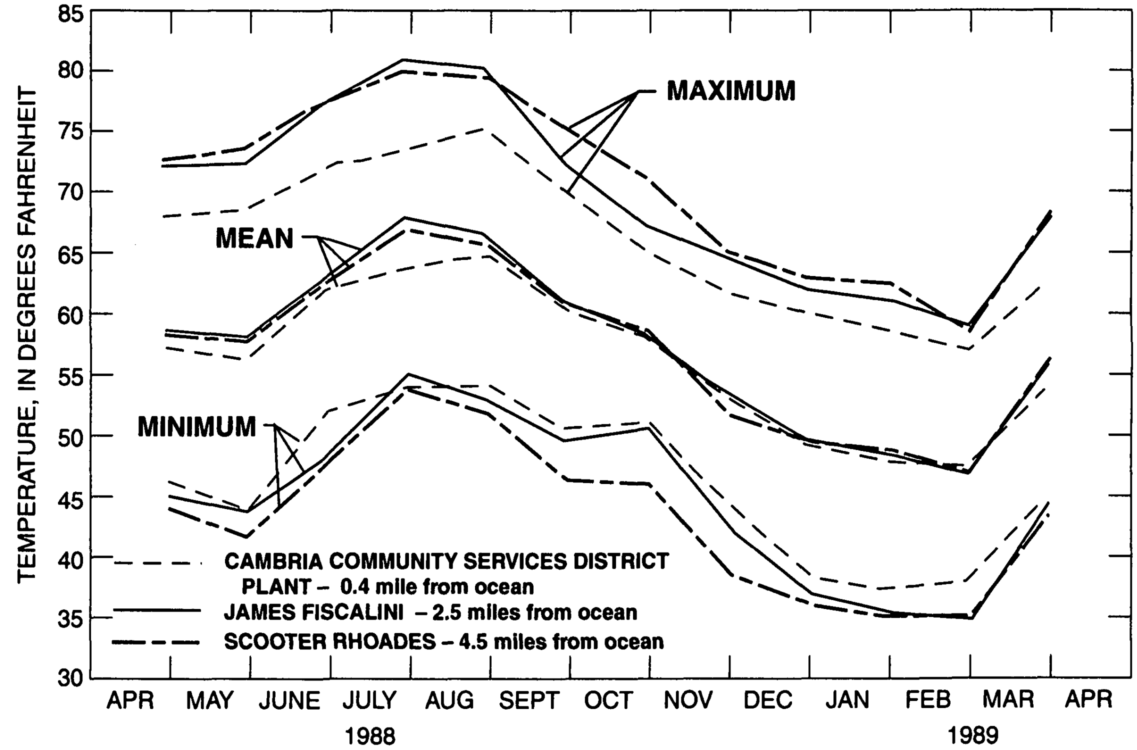


Figure 17. Monthly averages of maximum, mean, and minimum daily temperatures at three distances from the coast in the Santa Rosa Basin, San Luis Obispo County, California, 1988–89. (See figure 2 for location of climate measurement stations.)

daily temperature fluctuations increases inland, the daily mean temperature is similar for all stations in every month except July, when the mean temperature at the station closest to the coast was about 4°F lower than at the other two stations. The coastal station might have been heavily influenced by fog, which is common in summer.

Estimates of ET_0 were not adjusted to account for the coastal climatic gradient. ET_0 is related to daily mean temperature (U.S. Soil Conservation Service, 1967), which in this case does not vary significantly with distance from the coast. Fog can decrease solar radiation near the coast, but the corresponding decrease in ET_0 was assumed to be small relative to the overall

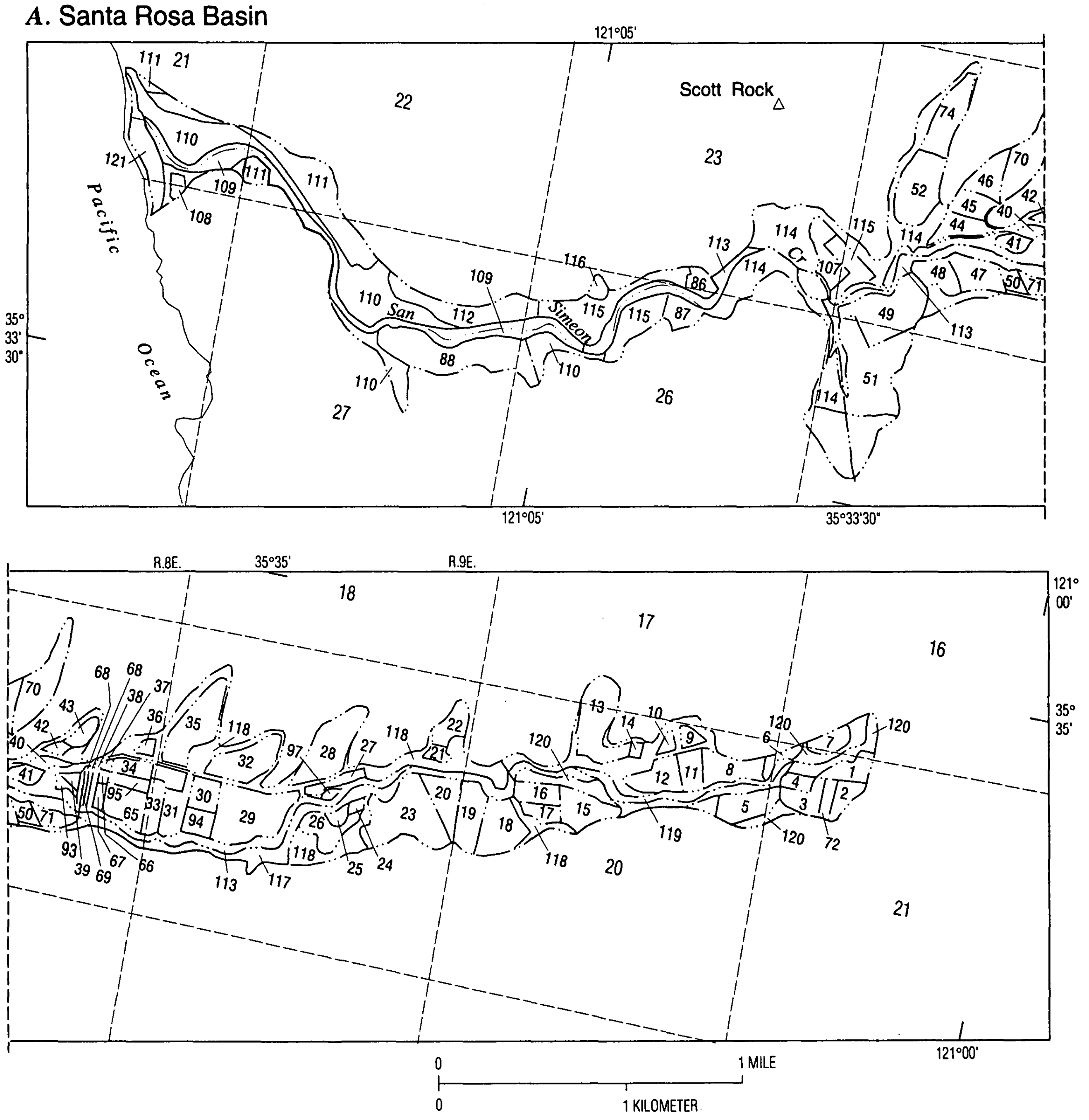


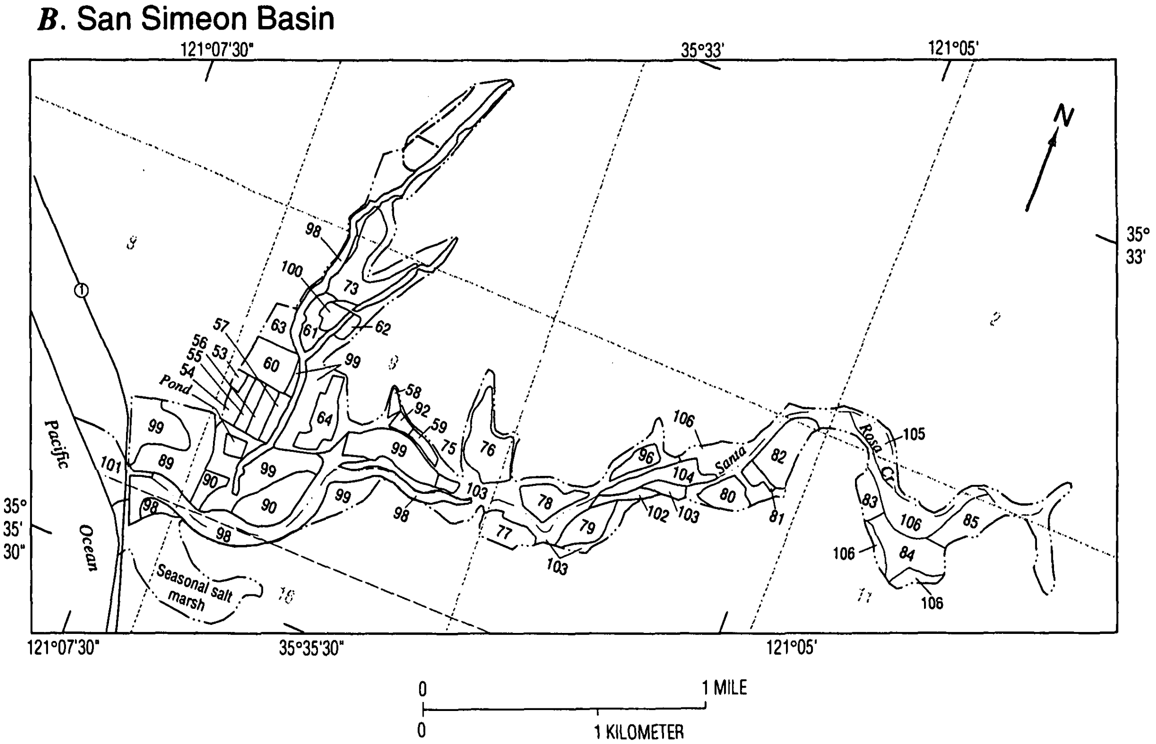
Figure 18. Fields and zones of uniform vegetation type in (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, San Luis Obispo County, California.

uncertainty in estimating ET_0 and crop evapotranspiration. Also, an analysis of water use at individual irrigation wells did not indicate an obvious inland increase in quantities of applied water, which would be expected if ET_0 increased inland.

Eddy-correlation measurements in the tomato and sugar pea fields were used to calculate crop coefficients, which are the ratio of actual evapotranspiration (AET) to ET_0. The tomato crop was measured in July; measurement began 2 days after an irrigation. The plants were one-half grown (staked to 3 ft tall) with about 30 percent canopy coverage. The crop coefficient was 0.82. Other estimates of the crop coefficient for half-grown tomatoes at the peak of their growing season generally are in the range of 0.76 to 0.95 (U.S. Soil Conservation Service, 1967; California Department of Water Resources, 1975; Doorenbos and Pruitt, 1977). The sugar pea field was measured in October starting the day after an irrigation. The vines were fully mature and strung to a height of about 6 ft in rows 3 ft apart. The calculated crop coefficient was 1.05. Published estimates of crop coefficients for sugar peas are not available, but the calculated values seem reasonable given the height of the crop and the damp soil conditions.

Land Use

Land use in the Santa Rosa and the San Simeon ground-water basins was mapped to determine the distribution of areal recharge. Land use was systematically observed every 1 to 3 months during 1988, and areas of uniform vegetation type were identified. A map of individual fields and zones of uniform vegetation type is shown in figure 18. A



EXPLANATION

—··— **BOUNDARY OF GROUND-WATER BASIN**-Dashed where approximately located

80 **FIELD OF UNIFORM VEGETATION** - Numbers correspond to table 6

Figure 18. Fields and zones of uniform vegetation type in (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, San Luis Obispo County, California—Continued.

tabulation of vegetation type, applied irrigation water, and ground-water recharge for each field and land-use zone is shown in table 6. A summary tabulation, grouped into irrigated and nonirrigated categories, is shown in table 7.

In 1988, 43 percent (519.5 acres) of the Santa Rosa Basin was crop land. About 36 percent of the basin area was irrigated at least once during the year. Residential, commercial, and industrial uses accounted for 8.5 percent (104 acres) of the basin area.

The relative amounts of agricultural and irrigated land in the San Simeon Basin in 1988 were similar to those in the Santa Rosa Basin. However, the cropping intensity was slightly greater. Cropping intensity is the ratio of cropped area or harvested acreage to total crop land. An intensity greater than 1.0 indicates that some fields produce more than one crop during the year. The cropping intensities in the Santa Rosa and the San Simeon Basins were 1.5 and 1.8, respectively. Assuming irrigation rates for each crop type are similar in both basins, the average quantity of irrigation water applied to each acre of crop land was greater in the San Simeon Basin.

Land use in the Santa Rosa and the San Simeon Creek valleys has changed significantly over the past several decades. Information regarding land use was obtained from interviews with local farmers (Jon Pedotti, Larry Fiscalini, and Scooter Rhoades), the California Department of Water Resources (Mark VanVlack, written commun., 1987), and from field surveys done during 1987–89 for this study. Sugar beets were the principal crop in the Santa Rosa Creek valley in the 1950's and 1960's. There was a shift toward dry-farmed crops such as garbanzo beans and oat hay in the 1970's, although about one-half of the crop land continued to be irrigated for alfalfa, pasture, and sudan grass. In the early 1980's, there was a rapid change to irrigated vegetable crops including cherry tomatoes, sugar peas, squash, and fava beans. Many fields were double-cropped in winter with dry-farmed hay and grains. These continued to be the principal crops at the time the surveys were done for this study.

The evolution of cropping patterns in the San Simeon Creek valley was similar. The San Simeon Creek valley was part of the William Hearst ranch until the 1930's and probably was used to raise fodder crops. From the 1930's to 1960's, there was some irrigation for sugar beets and flowers. During 1970–81, the principal crops were dry-farmed garbanzo beans, oat hay, and barley. The only significant irrigation during 1974–77 was for pasture at the present site of the CCSD wastewater sprayfield and for 60 acres of alfalfa. As in the Santa Rosa Basin, there was a rapid conversion to irrigated vegetable crops beginning in 1981.

Soil-Moisture Budget

A one-dimensional daily soil-moisture budget was calculated for 119 zones of uniform vegetation during January 1988 through March 1989. Zones consisted of individual agricultural fields or areas of natural vegetation and ranged in size from 0.5 to 152 acres (table 6). Rainfall was interpolated linearly to each zone using long-term rainfall patterns and daily rainfall at Soto Ranch and the CCSD wastewater plant. Surface runoff of rainfall was assumed to occur if daily rainfall exceeded 3.0 in. Irrigation was estimated from crop water demand and agricultural energy use, as described in a later section of this report.

Evapotranspiration of soil moisture was divided into two components. Evaporation of recent rainfall from the soil surface was assumed to occur at the ET_0 rate. This evaporation occurred from a hypothetical surficial soil layer with a storage capacity of 0.5 in. Evaporation of irrigation water from the soil surface was accounted for in the crop coefficients used to estimate crop water use. The second component of evapotranspiration was actual evapotranspiration by plants and was calculated by multiplying ET_0 by a monthly crop coefficient. Crop coefficients reflect plant type, growth stage, and season. Coefficients for agricultural crops were obtained from previous studies of crop water use (U.S. Soil Conservation Service, 1967; California Department of Water Resources, 1975; and Doorenbos and Pruitt, 1977) and ranged from 0.35 for oats just before harvest to 1.21 for fully mature and staked sugar peas in midsummer. Other coefficients used were 0.25 for bare soil and 1.00 for riparian vegetation and native brush and grass.

In nonirrigated areas, AET is limited by the amount of soil moisture available to plants. Available water capacity is the quantity of water that can be stored in the plant root zone between soil-moisture tensions corresponding to field capacity and wilting point. Available water capacity for each zone was calculated from water-retention characteristics of the local soils (U.S. Soil Conservation Service, 1984) and plant root depths. AET was adjusted by a multiplier which decreased sigmoidally according to soil type from 1.0 at field capacity to 0.0 at the wilting point (Dunne and Leopold, 1978, p. 142). For example,

Table 6. Vegetation type, applied irrigation water, and ground-water recharge for April 1988 through March 1989 and for average rainfall conditions for individual fields and land-use zones in the Santa Rosa and the San Simeon ground-water basins, San Luis Obispo County, California

[Location of fields shown in figure 18. Double-cropping with the same type of crop indicated by 2. acre-ft, acre-foot]

Field or zone number	Area (acres)	Vegetation type	April 1988—March 1989		Average rainfall	
			Applied irrigation water (acre-ft)	Ground-water recharge (acre-ft)	Applied irrigation water (acre-ft)	Ground-water recharge (acre-ft)
			Santa Rosa Basin			
1	6	Peas (2)	19.6	11.84	19.3	15.38
2	3	Peas, squash, lettuce	7.6	4.66	7.5	6.62
3	6	Peas (2)	23.3	12.40	22.9	15.91
4	3	Squash, lettuce	8.1	4.70	8.1	6.78
5	10	Oats, irrigated pasture	18.4	10.11	15.4	13.25
6	3	Peas	5.5	3.96	5.2	5.45
7	4	Peas, squash, lettuce	13.5	7.33	13.5	10.14
8	10	Oat hay, irrigated pasture	18.2	9.70	18.1	15.76
9	2	Oat hay, irrigated pasture	3.8	2.20	3.7	36
10	1	Oat hay, irrigated pasture	1.8	12	1.8	1.42
11	6	Alfalfa	17.5	76	17.6	10.97
12	10	Oat hay, irrigated pasture	17.5	8.78	17.5	15.57
13	15	Peas, tomatoes	28.5	11.44	28	192
14	1	Domestic orchard	0	.20	0	.74
15	10	Peas	26	13.99	22.1	186
16	6	Peas	6.7	4.45	4.5	6.93
17	4	Peas	12.2	6.61	12.3	90
18	12	Oat hay, squash	34	19.22	30.7	24.44
19	12	Oat hay, tomatoes	28.3	15.63	27.9	22.50
20	9	Peas, irrigated pasture	20.3	11.90	17.1	13.74
21	2	Irrigated pasture	6.3	3.63	4.7	3.24
22	5	Irrigated pasture	15.8	96	11.8	8.10
23	22	Irrigated pasture	53.4	24.14	53.5	38.52
24	1	Peas	1.1	.73	1.1	1.15
25	2.5	Peas	2.8	1.84	2.8	2.90
26	8	Nonirrigated pasture, peas	9.1	5.88	8.9	9.75
27	4	Peas	7.1	3.86	6.9	5.76
28	17	Nonirrigated pasture	0	1.24	0	8.17
29	26	Oat hay, squash	35.7	18.96	35.1	29.80
30	6.5	Oat hay, squash	7.2	5.22	7.1	7.95
31	8	Peas, oat hay	7.6	4.24	4.9	7.94
32	16	Irrigated pasture	45.3	21.79	40	26.36
33	6	Peas, oat hay	13.1	5.59	13.2	8.54
34	5	Lettuce, peas	10.5	4.94	8.8	6.51
35	20	Nonirrigated pasture	0	15	0	8.70
36	2	Nonirrigated pasture	0	.10	0	.87
37	.5	Tomatoes, peppers	1.2	.49	1	.63
38	2	Oat hay, tomatoes	2.7	.73	2.6	1.40
39	2.5	Fallow	0	.02	0	.92
40	3	Peas	5.5	2.33	5.4	3.38
41	4	Oat hay, squash	5.8	2.55	5.7	4.37
42	1.5	Nonirrigated pasture	0	.01	0	.54

Table 6. Vegetation type, applied irrigation water, and ground-water recharge for April 1988 through March 1989 and for average rainfall conditions for individual fields and land-use zones in the Santa Rosa and the San Simeon ground-water basins, San Luis Obispo County, California—Continued

Field or zone number	Area (acres)	Vegetation type	April 1988—March 1989		Average rainfall	
			Applied irrigation water (acre-ft)	Ground-water recharge (acre-ft)	Applied irrigation water (acre-ft)	Ground-water recharge (acre-ft)
			Santa Rosa Basin—Continued			
43	4	Nonirrigated pasture	0	0.02	0	1.45
44	6	Peas, oat hay	4.7	1.97	3.1	4.85
45	6	Peas, oat hay	10.5	2.96	8.9	5.78
46	8	Peas, oat hay	14.7	68	14.4	9.74
47	10	Peas, oat hay	16.9	8.26	13.4	11.92
48	7	Peas, oat hay	16	7.68	16	11.27
49	24	Oat hay, peas	24.2	10.94	15.9	176
50	3	Squash and zucchini	5.7	28	5.4	3.33
51	33	Peas, oat hay	98.7	48.99	97	65.46
52	14	Oat hay, squash	19	9.86	18.8	165
65	11	Peas (2)	25.8	9.80	22.6	14.32
66	1	Tomatoes (2)	2.3	.97	2.2	1.39
67	1.5	Tomatoes, squash	3.6	1.63	3.6	2.39
68	1.5	Tomatoes, oat hay	1.9	.52	1.9	1.22
69	.5	Peppers, oat hay	.8	.30	.8	.54
70	14	Irrigated pasture	34.4	127	26.7	14.21
71	4	Peas	8.8	36	7.7	47
72	3	Peas, squash	9.8	5.40	8.7	6.28
74	13	Oat hay, squash	23.6	8.23	20.2	12.74
86	4	Nonirrigated pasture	0	0	0	1.14
87	6	Irrigated pasture	20.4	9.84	15.8	9.82
88	33	Nonirrigated pasture	0	0	0	7.52
93	1.5	Peas	2.4	1.20	2.4	1.74
94	4.5	Oat hay, peas	8.8	4.95	7.7	6.51
95	3	Squash, lettuce	5.9	2.86	5.1	3.57
97	1	Fallow	0	.04	0	.45
107	8	Turf	32.1	16.27	26.6	166
108	1	Turf and shrubs	3.5	1.72	2.8	1.65
109	22	Riparian vegetation	0	0	0	0
110	102	Upland vegetation	0	0	0	0
111	33	Commercial	0	0	0	51
112	23	Residential	0	4.15	0	17.66
113	43.5	Riparian vegetation	0	0	0	0
114	152	Upland vegetation	0	0	0	0
115	38	Commercial	0	.17	0	7.96
116	1.5	Residential	0	.45	0	1.47
117	45	Riparian vegetation	0	0	0	0
118	86.5	Upland vegetation	0	0	0	0
119	18.8	Riparian vegetation	0	0	0	1.98
120	115	Upland vegetation	0	0	0	5.82
121	10	Beach	0	2.55	0	5.47
Total........	1,214.3		935.5	470.62	854.4	718.14

Table 6. Vegetation type, applied irrigation water, and ground-water recharge for April 1988 through March 1989 and for average rainfall conditions for individual fields and land-use zones in the Santa Rosa and the San Simeon ground-water basins, San Luis Obispo County, California—Continued

Field or zone number	Area (acres)	Vegetation type	April 1988—March 1989		Average rainfall	
			Applied irrigation water (acre-ft)	Ground-water recharge (acre-ft)	Applied irrigation water (acre-ft)	Ground-water recharge (acre-ft)
			San Simeon Basin			
53	1	Christmas trees	2	0.64	2	1.13
54	5	Squash, fava beans	10.1	48	8.6	5.23
55	5	Peas, fava beans	13.2	5.68	11.8	7.24
56	6	Peas, squash	11.5	5.4	10	7.52
57	5	Zucchini, peas	12.9	5.7	11.8	6.71
58	.8	Peas, Christmas trees	1.6	.71	1.6	12
59	3.9	Christmas trees	9.7	4.5	7.2	4.14
60	22	Peas, oat hay	53.8	22.86	53.6	323
61	9	Peas, oat hay	20.7	8.29	20	11.25
62	2.6	Peas, oat hay	5.8	2.43	5.8	3.46
63	6	Oat hay	0	0	0	1.54
64	14	Peas	40.8	162	35.8	19
73	24	Nonirrigated pasture	0	0	0	6.8
75	1.5	Fava beans, oat hay	4.5	1.94	4.2	2.52
76	17	Tomatoes, oat hay	37.3	14.98	30.3	17.34
77	9	Fava beans, oat hay	17.4	81	17.3	12.69
78	12	Zucchini, oat hay	22.8	12.28	21.1	159
79	12	Fava beans, oat hay	24.5	12.86	24.3	18.92
80	6.5	Zucchini, fava beans	17	9.31	15	10.21
81	1.5	Irrigated pasture	5.1	2.41	4.6	2.72
82	15	Squash, fava beans	37.4	20.14	37.4	20.14
83	5.5	Zucchini, oat hay	16.8	9.15	16.8	9.15
84	16	Squash, oat hay	43.5	27.53	43.5	27.53
85	12	Zucchini, fava beans	34.7	21.57	31.4	21.3
89	24	Campground (nonirrigated)	0	0	0	0
90	22	Wastewater sprayfield[1]	0	0	0	0
92	1.1	Christmas trees	2.7	1.3	2	1.17
96	7	Peas	7	4.69	7	7.2
98	46	Riparian vegetation	0	0	0	0
99	118.2	Upland vegetation	0	0	0	0
100	4	Equipment yard	0	0	0	1.42
101	16.1	Beach	0	4.11	0	8.8
102	15	Riparian vegetation	0	0	0	0
103	68.9	Upland vegetation	0	0	0	0
104	10	Gravel plant	0	11	0	5.24
105	10.2	Riparian vegetation	0	0	0	.55
106	50.5	Upland vegetation	0	0	0	0
Total........	605.3		452.8	227.6	423.1	289.06

[1] Applied water and ground-water recharge at the municipal waste were estimated separately using a different method.

Table 7. Land use in the Santa Rosa and the San Simeon ground-water basins, San Luis Obispo County, California, calendar year 1988

[Irrigated: Includes all fields and crops that were irrigated at least once during the year. All values in acres. CCSD, Cambria Community Services District]

Type of land use	Santa Rosa Basin		San Simeon Basin	
	Irrigated	Nonirrigated	Irrigated	Nonirrigated
Crop land	[1]438.0	81.5	[2]189.3	[3]37.0
Campground	0	0	0	18.8
CCSD well field	0	0	0	20.0
CCSD wastewater sprayfield	0	0	54.2	0
Residential[4]	.5	23.5	0	0
Commercial[4]	1.8	78.2	0	0
Industrial	0	0	0	14.0
Native vegetation				
Riparian	0	100.0	0	78.0
Nonriparian[5]	0	473.5	0	163.7
Rural impervious[6]	0	20.0	0	5.0
Total	[1]440.3	776.7	[2]243.5	[3]336.5
Cropped area				
Alfalfa	18.5	0	0	0
Christmas trees	0	0	4.9	0
Fava beans	0	0	66.0	0
Leafy vegetables	16.0	0	0	0
Oat hay	146.5	0	100.4	6.0
Pasture	100.0	81.5	1.5	31.0
Peppers	1.0	0	0	0
Squash	83.0	0	83.0	0
Sugar peas	247.5	0	72.4	0
Tomatoes	48.5	0	17.0	0
Total	661.0	81.5	345.2	37.0
Cropping intensity[7]	1.5	1.0	1.8	1.0

[1] Includes 3 acres of crop land outside the ground-water basin boundaries.

[2] Includes 14 acres of crop land outside the ground-water basin boundaries.

[3] Includes 28 acres of crop land outside the ground-water basin boundaries.

[4] Proportion of irrigated to nonirrigated acreage estimated from monthly distribution of municipal water use.

[5] Includes beach areas.

[6] Includes rural roads and buildings.

[7] Cropping intensity is the ratio of total cropped area to total area of cropped land. Values greater than 1.0 are possible when more than one crop is grown per year.

decreases in available soil moisture cause the AET of native brush and grass to decline rapidly during spring and early summer. The soil-moisture budget calculations indicate that there is little AET in summer, which is consistent with observations in other areas (Miller and others, 1983).

In irrigated areas, irrigation was assumed to occur as soon as soil-moisture depletion caused a decrease of 20 percent in AET. This resulted in irrigation frequencies of 14 to 21 days for sugar peas and tomatoes in summer, which are consistent with local farming practice (Larry Fiscalini and Gary Silveira, farmers, oral commun., 1989).

Deep percolation was assumed to occur when the amount of soil moisture in storage exceeded field capacity after adding inflows from rainfall and irrigation and subtracting evapotranspiration. In irrigated fields, most of the deep percolation is from excess applied irrigation water. During 1988–89, for example, deep percolation on typical irrigated fields consisted of about 8 in. of irrigation-return flow and 4 in. of rainfall recharge. No rainfall recharge occurred on nonirrigated fields or in areas of native vegetation (except the beach) during 1988–89. Total rainfall recharge from April 1988 through March 1989 was 140 acre-ft in the Santa Rosa Basin and 50 acre-ft in the San Simeon Basin (table 4). Agricultural irrigation-return flow was 320 and 170 acre-ft in the two basins, respectively. These totals differ from those shown in table 6 because of adjustments made to implement variable time-step durations in the ground-water-flow model.

Irrigation tends to increase rainfall recharge by leaving the soil in a relatively moist condition at the beginning of the winter rainy season. Smaller amounts of rainfall are then needed to bring the soil to field capacity and initiate deep percolation. The absence of deep percolation in nonirrigated areas during 1988–89 is not surprising because rainfall was only about 68 percent of the long-term average. In the central coast region, most deep percolation occurs during relatively wet years (Blaney and others, 1963; Yates, 1988).

To illustrate the threshold-type relation between annual rainfall and areal recharge, areal recharge during 1988–89 was recalculated assuming average rainfall. This was done by increasing daily rainfall by 46 percent, resulting in a twofold to threefold increase in rainfall recharge to about 410 acre-ft in the Santa Rosa Basin and 130 acre-ft in the San Simeon Basin. Agricultural pumpage and irrigation-return flow decreased by 7 to 9 percent. Total recharge from rainfall and irrigation-return flow under normal rainfall conditions was about 720 acre-ft in the Santa Rosa Basin and 290 acre-ft in the San Simeon Basin (table 6).

Subsurface Inflow and Outflow

Ground water enters the ground-water basins as subsurface inflow from bedrock areas along the sides of the basins. Infiltrated rainfall that percolates beneath the root zones of plants growing on the hillslopes gradually flows downward toward the valley floor through fractures in the bedrock. Some of this water emerges in springs, but the remainder seeps directly into the ground-water basins. Although fractured bedrock generally is much less permeable than alluvial aquifers, the total quantity of inflow is potentially large in this case because the thin, narrow basins have a large surface area in contact with bedrock.

An estimate of subsurface inflow from bedrock areas was obtained by multiplying the long-term average rainfall recharge rate by the area of hillslopes along the sides of the basin (fig. 19; table 8). Ridgetops were assumed to coincide with ground-water-flow divides. An estimate of the rainfall recharge rate was obtained from a 6-year study of soil-moisture profiles for a coastal area with similar vegetation about 80 mi south of Cambria (Blaney and others, 1963). The reported long-term average recharge rate for grassy areas was about 1.7 in/yr. This rate would correspond to 720 and 290 acre-ft/yr of inflow into the Santa Rosa and the San Simeon Creek Basins, respectively.

Rainfall on the Cambria hillslopes (21 to 27 in/yr) is greater than in the area where the soil-moisture study was done (13 in/yr), so one might expect inflow to be larger in the Cambria area. However, calibration of the ground-water models indicated that even the original estimates are too large because they cause unrealistic water-level recovery in late autumn. The calibrated estimates of inflow were about 370 and 150 acre-ft/yr for the Santa Rosa and the San Simeon ground-water basins, respectively (table 8). Subsurface inflow for some of the larger tributary areas, such as Van Gordon Creek, was estimated by applying Darcy's law to conditions at the basin boundary. Most of the deep percolation in these drainage basins was assumed to emerge as streamflow in the tributary creek rather than as subsurface inflow into the ground-water basin.

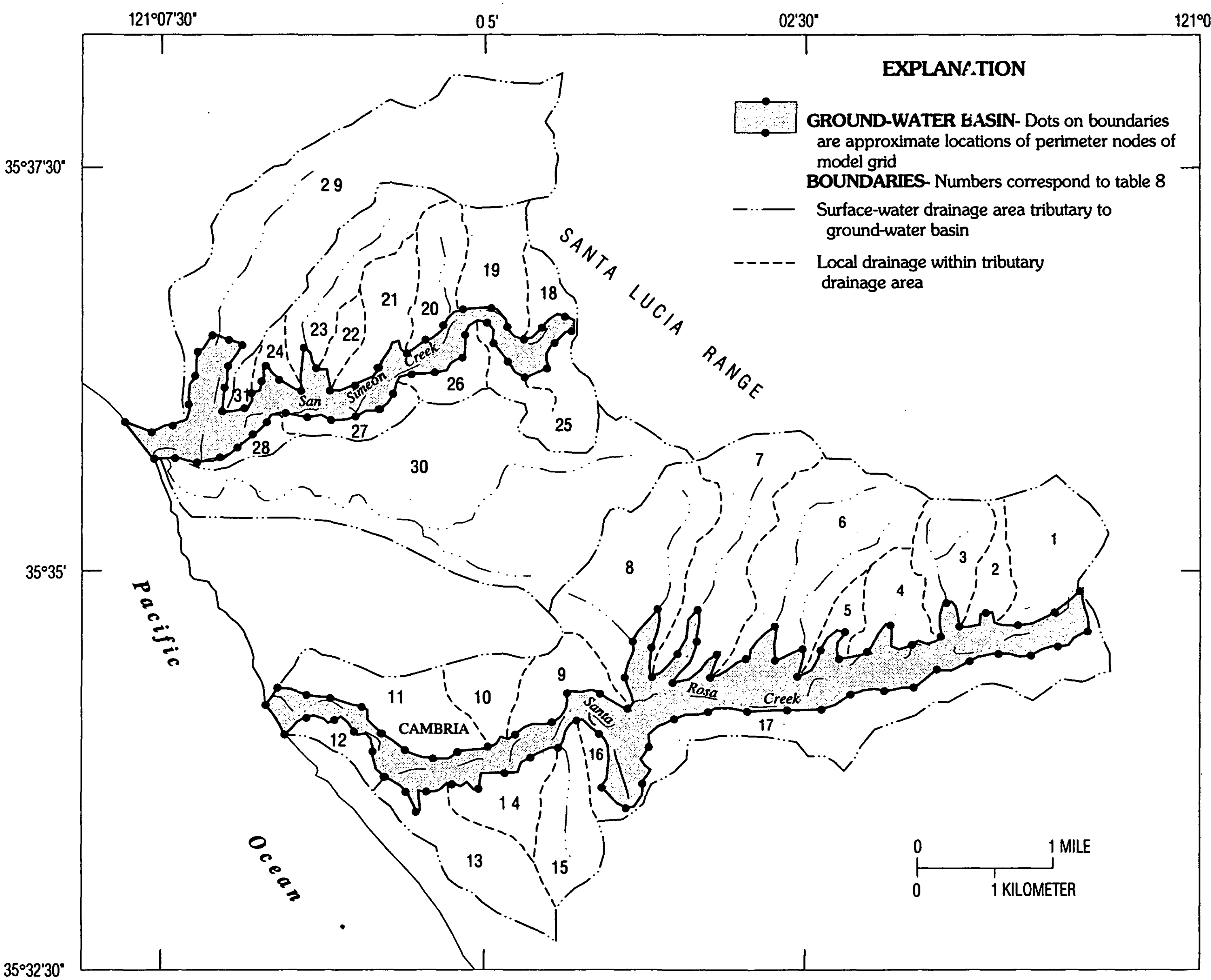


Figure 19. Tributary drainage basins contributing subsurface inflow to the Santa Rosa and the San Simeon ground-water basins, San Luis Obispo County, California.

Table 8. Drainage area and estimated subsurface inflow from tributary drainage basins adjacent to the Santa Rosa and the San Simeon ground-water basins, San Luis Obispo County, California

[Location of drainage basins shown in figure 19. acre-ft/yr, acre-foot per year]

Drainage basin No.	Drainage area (acres)	Subsurface inflow (acre-ft/yr)
	Santa Rosa Basin	
1	349	27
2	108	8
3	248	19
4	185	14
5	73	5
6	705	52
7	541	36
8	622	39
9	184	11
10	163	10
11	344	30
12	87	7
13	340	31
14	190	14
15	256	19
16	73	5
17	588	44
Total	5,056	371
	San Simeon Basin	
18	130	9
19	243	17
20	207	14
21	203	14
22	67	5
23	340	23
24	98	7
25	269	20
26	121	10
27	107	7
28	54	3
29	1,652	12
30	1,820	5
31	50	3
Total	5,361	149

Subsurface outflow occurs at the coast where the basin-fill deposits extend offshore beneath the ocean. Fresh ground water can reach the ocean by discharging directly through the ocean floor or by seeping into the creek and flowing to the ocean as surface-water outflow. The proportion of outflow that occurs as subsurface outflow depends on water-level gradients, aquifer transmissivity, and streambed leakances near the coast. A maximum estimate of subsurface outflow can be obtained by assuming that all outflow is subsurface, in which case it equals the product of hydraulic conductivity, cross-sectional flow area, and water-level gradient. For the Santa Rosa Basin, hydraulic conductivity was about 50 ft/d; the average water-level gradient in 1988 was about 0.00267, and the calculated outflow was 140 acre-ft/yr. Corresponding values for the San Simeon Basin were 400 ft/d for hydraulic conductivity, 0.00303 for average water-level gradient, and 790 acre-ft/yr for calculated outflow. The calibrated ground-water-flow models estimated that the rates of outflow for the two basins during 1988–89 were 60 and 320 acre-ft/yr, respectively. The rates of subsurface outflow probably do not vary substantially from year to year because the presence of the creek channel and the small amount of pumping near the coast tend to maintain relatively constant water-level gradients.

Transpiration by Phreatophytes

In areas where the water table is shallow, deep-rooted plants can use ground water in addition to soil moisture. In the Cambria area, this occurs primarily along creek channels, which are bordered by dense thickets of shrubs and trees. This riparian vegetation covers about 129 acres along Santa Rosa Creek and 71 acres along San Simeon Creek (table 6). The quantity of ground water transpired decreases rapidly with increasing depth to the water table. Few measurements of actual evapotranspiration by riparian vegetation on the central California coast have been done. A maximum estimate of the quantity of water consumed can be calculated by assuming that riparian vegetation obtains all its water from ground water and transpires at a rate equal to ET_0. These assumptions yield estimates of 330 acre-ft/yr for the Santa Rosa Basin and

260 acre-ft/yr for the San Simeon Basin. Estimates calculated by the ground-water models for 1988–89 were smaller: 160 and 30 acre-ft/yr (table 4). The smaller estimates result because depth to the water table limits phreatophyte transpiration in some of the areas mapped as riparian vegetation.

Water Use

Agricultural

Agricultural water use was estimated from crop water demand and from records of electricity use by wells and ditch pumps. Crop water use (AET), described earlier in the section, "Areal Recharge," gives an estimate of the consumptive water use by crops. Electricity use gives an estimate of agricultural pumpage. The ratio of AET to pumpage is the irrigation efficiency. Estimates of AET and pumpage were calculated independently and then compared to see if the resulting irrigation efficiency was reasonable.

With the permission of the well owners, records of monthly electricity use were obtained for the 18 principal irrigation wells in the Santa Rosa and the San Simeon Basins. Almost all irrigation water is supplied by wells, most of which have individual electric meters. Water occasionally is pumped out of the creek at two locations, but in both cases, the ditch pumps are electric and are connected to the same meter as a nearby well. Unit electricity use is the number of kilowatt-hours (kWh) used to pump 1 acre-ft of water. It is a function of well efficiency and total pumping lift. The efficiency of each well was measured for this study at least once during 1988 (Dennis Kunkel, Pacific Gas and Electric Company, written commun., 1988). The results of 23 well-efficiency tests indicated that unit electricity use ranged from 178 to 401 kWh/acre-ft with a median value of 323 kWh/acre-ft. Pumping efficiency ranged from 27 to 80 percent, with a median value of 56 percent. For some of the tests, water was discharged to waste at low pressure. This would result in lower total pumping lift and possibly lower pumping efficiency than under normal operating conditions.

Total pumping lift is the sum of the static depth to water in the well, the drawdown of water in the well when the pump is operating, the difference in altitude between the wellhead and the discharge point, and the discharge pressure at the discharge point (converted from units of pounds per square inch to feet of water). In the Cambria area, estimating pumpage from electricity use is complicated because most wells serve fields at different altitudes, the static depth to water gradually increases during the irrigation season, and discharge pressure for furrow irrigation is different from that for sprinkler irrigation. Variations in the first two factors were relatively small and could be estimated fairly accurately. The largest source of uncertainty stemmed from the irrigation method. The discharge pressure for furrow irrigation is less than 5 lb/in^2, and the discharge pressure for sprinklers typically is about 60 lb/in^2. This pressure difference corresponds to a difference in pumping lift of 127 ft, which is much larger than variations typically associated with static depth to water or field altitude. A sample of 18 sprinkler set-ups indicated a wide range of operating pressures, from 25 to 72 lb/in^2 with a median pressure of 58 lb/in^2.

Estimating total pumping lift is further complicated by the fact that many farmers irrigate a single crop by both sprinkler and furrow methods, depending on the maturity of the crop. Other farmers irrigate the same crops entirely by sprinkler. Thus, in any given month, a well is likely to serve several different crops at different stages of maturity using different irrigation methods. The irrigation method for each field in each month was estimated from observations of crop maturity and from information provided by individual farmers.

An increase in total pumping lift causes an increase in unit electricity use. The proportional increase was calculated for six wells where efficiency tests were done for several values of total pumping lift. The results were highly variable but averaged 1.4 kWh/acre-ft per foot of increase in total pumping lift. This value was assumed to apply to the remaining 12 irrigation wells.

A final source of uncertainty in calculating agricultural pumpage from electricity use arose where the electricity meter for a well was not functioning correctly or where the service connection supplied electricity for uses other than pumpage. In these cases, the magnitude of the error was estimated and the electricity record adjusted accordingly.

The pumpage at each well was calculated by allocating the amount of electricity used in a given month among the fields served by the well. The allocation for each field was then divided by the unit electricity use calculated from the total pumping lift conditions at that field during that month. The allocations were based on the irrigation water demand calculated by the soil-moisture budget algorithm described earlier. Total agricultural pumpage from April 1988 through March 1989 was 890 acre-ft in the Santa Rosa Basin and 450 acre-ft in the San Simeon Basin (table 4). Monthly agricultural pumpage during that period is shown in figure 20 for each basin.

Irrigation efficiency is the ratio of AET to the quantity of irrigation water applied to a crop. Irrigation efficiencies were calculated for each well by comparing total crop water demand in all fields served by a well with the pumpage at that well. Crop water demand is calculated by the soil-moisture budget algorithm as the quantity of irrigation water needed to avoid water stress caused by soil-moisture depletion. This was converted to electricity demand using the total pumping lift at each field and the pumping efficiency of the well. When compared on a monthly basis, there was often a considerable discrepancy between the calculated and the measured amount of electricity use. Much of the error resulted from slight miscalculations of the timing of periods of irrigation. For example, if irrigation occurred at the end of a month and the soil-moisture budget algorithm predicted that it was near the beginning of the following month, a discrepancy between calculated and measured electricity use would result for both months.

Irrigation efficiency was assumed to be constant for each well and was selected so that total calculated energy use equaled total measured energy use from April 1988 to March 1989. Irrigation efficiencies ranged from 53 to 80 percent, with a median value of 66 percent. Some of the high values probably result from under irrigation of low-value forage crops such as pasture, alfalfa, and oat hay.

Municipal and Industrial

More than 98 percent of the households in the Cambria area receive water from the five CCSD municipal wells. Two of these wells are along Santa Rosa Creek (27S/8E-26C5 and 26D1) and three are in the CCSD well field along San Simeon Creek (27S/8E-9J4, 9J5, and 9K3) (fig. 2). The San Simeon wells generally are used in preference to the Santa Rosa wells, so pumpage from the Santa Rosa wells typically varies depending on streamflow patterns and ground-water levels in the San Simeon Basin. Municipal pumpage for Cambria during 1956–88 (John Stratford, General Manager, written commun., 1989) is shown in figure 21.

Municipal pumpage has increased substantially in recent years from about 130 acre-ft in 1956 to about 820 acre-ft in 1988 (fig. 21). Long-term municipal pumpage trends indicate a greater yearly average increase in pumpage from 1982 to 1988 than from 1967 to 1976. From 1967 to 1976, pumpage increased an average of 6.0 percent per year. During the 1977–78 drought and the 5 years immediately following, production increased an average of only 2.2 percent per year. This lower rate probably is attributable to successful water conservation efforts and to extensive water main repairs done in the late 1970's. From 1982 to 1988, pumpage increased at an average of 8.4 percent per year.

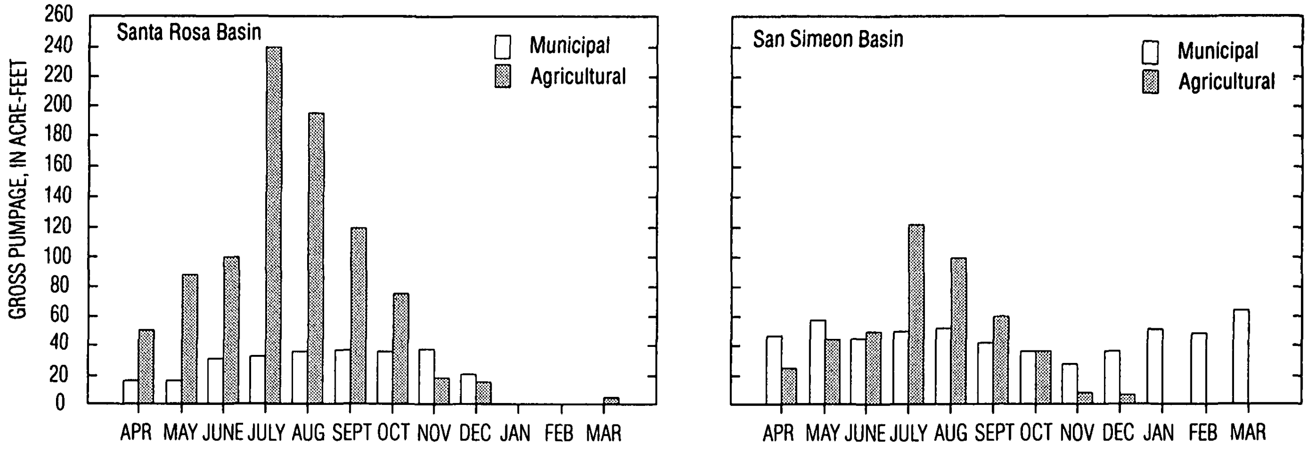


Figure 20. Monthly municipal and agricultural pumpage for the Santa Rosa and the San Simeon ground-water basins, San Luis Obispo County, California, April 1988 through March 1989.

Monthly municipal pumpage from April 1988 through March 1989 is shown in figure 20 for each basin. The absence of municipal pumpage from the Santa Rosa Basin for January and February 1989 reflects the preferential use of San Simeon water, which is of higher quality than water from the Santa Rosa Basin, when the San Simeon supply is adequate.

Comparison of metered consumption and metered pumpage indicates that in 1988 about 10 percent of the water pumped in the distribution system was unaccounted for. Water losses that are unaccounted for result from leaks, underrecording by meters, and unmetered uses such as flushing water mains, firefighting, and water supply for the wastewater-treatment plant and the San Simeon Beach campground. System losses have decreased substantially in recent years. About 30 percent of the water pumped into the system was unaccounted for during 1966–79, whereas only about 15 percent was unaccounted for during 1980–84.

The average monthly distribution of municipal pumpage during calendar years 1979–88 is shown in figure 22. Outdoor water use was estimated by a curve separation procedure in which indoor use is subtracted from total use. Indoor water use was assumed to equal total municipal water use in January. Seasonal fluctuations in indoor water use were estimated by comparing San Luis Obispo County's population estimate for Cambria of 3,900 in January 1985 with the CCSD's maximum seasonal population estimate for Cambria of 5,000 (McClelland Engineers, Inc., 1986). On the basis of these estimates, the peak seasonal population is about 28 percent greater than the population in January. A similar curve separation of municipal wastewater flows for 1984–88 indicated a peak summer population about 17 percent greater than the minimum winter population. For this analysis, a 10-percent average increase in indoor water use was assumed for May and September and a 20-percent average increase for June through August. Outdoor water use was calculated by subtracting indoor use from total use for each month. Annually, about 83 percent of municipal pumpage is used indoors and the remaining 17 percent is used outdoors.

A complete water-use budget was calculated for calendar year 1987. It indicated that 9.7 percent of the 777 acre-ft of water pumped in 1987 was lost from the system before delivery. On the basis of a municipal water-use curve separation for water delivered in 1987, 74 percent was used indoors and 26 percent was used outdoors. About 98 percent of the water used indoors enters the sewer system and the remaining 2 percent is

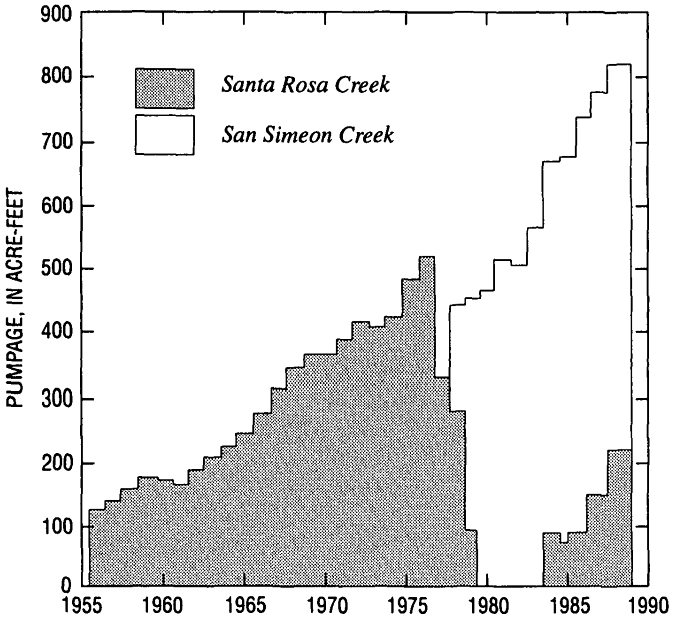


Figure 21. Annual municipal pumpage for Cambria, San Luis Obispo County, California, 1956–88.

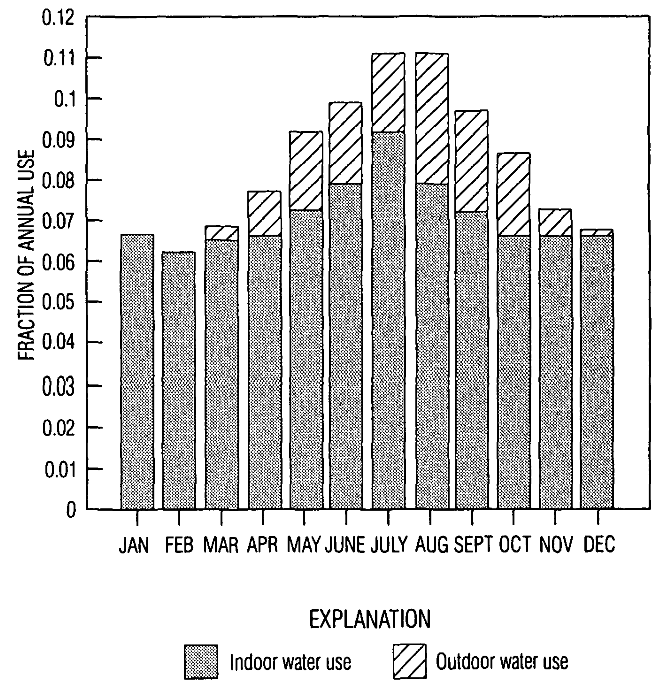


Figure 22. Average monthly distribution of municipal pumpage, San Luis Obispo County, California, 1979–88.

consumed (California Department of Water Resources, 1983). On the basis of the preceding calculations, about 570 acre-ft of water entered the sewer system in 1987. By comparison, the measured quantity of wastewater reaching the CCSD sprayfield was 530 acre-ft. The 7-percent discrepancy may be the result of sewer main losses or of errors in the estimates of indoor and outdoor water use.

Average annual per capita water consumption is about 140 gal/d. This amount was calculated using population estimates for 1985 and consumption data for July 1985 through June 1986. Total water consumption was 640 acre-ft from July 1985 to June 1986, and the average annual population in 1985 was 4,200 people.

Individual domestic wells and springs provided water for about 90 permanent residents and an approximately equal number of migrant field workers in 1988. Rural domestic pumpage was about 12 acre-ft/yr in the Santa Rosa Basin and 5 acre-ft/yr in the San Simeon Basin. These estimates are based on the assumption that per capita domestic water use is the same for permanent rural residents as it is for residents within the CCSD service area. Per capita water use by migrant field workers was assumed to be one-third that of permanent rural residents.

Overview of Budgets

In 1988–89, the creek was the largest source of inflow to the Santa Rosa and the San Simeon Basins, followed by subsurface inflow and rainfall recharge. Rainfall recharge would be significantly larger in a year with above-average rainfall, but there would be a corresponding decrease in seepage from the creek. In both basins, net pumpage was the largest outflow; net agricultural pumpage was about twice as large as net municipal and rural nonagricultural pumpage. However, these lumped, basinwide budgets mask significant differences in the distribution and quality of return flow from municipal and agricultural uses. Most irrigation-return flow occurs in the middle or upstream parts of the valleys and contributes to the supply for agricultural and municipal wells farther down the valley. Treated municipal wastewater is returned to the basins at only one location, the CCSD sprayfield. Water-quality regulations prohibit direct use of the recharged wastewater for potable purposes, and reuse for irrigation is limited by the downstream location of the sprayfield.

There are several differences between the water budgets for the two basins. Net municipal pumpage is larger in the Santa Rosa Basin even though gross municipal pumpage is smaller because all treated wastewater is returned to the San Simeon Basin. Ground-water inflow is relatively large in the Santa Rosa Basin because areas of tributary ground-water inflow along the sides of the basin are much larger. Ground-water outflow to the ocean is a much larger percentage of total outflow in the San Simeon Basin than in the Santa Rosa Basin where ground water tends to reach the ocean by the creek instead. This tendency also partly explains why net creek seepage is a smaller percentage of total inflow in the Santa Rosa Basin than in the San Simeon Basin (48 percent compared with 73 percent).

The nonzero net storage change does not imply that there is a significant or long-term imbalance between inflow and outflow. Both basins were virtually full at the beginning and end of the budget period. The small net storage change simply reflects slight differences in streamflow, rainfall, and cropping patterns between the first and last months of the budget period. Similarly, the mass-balance error is an artifact of the precision specified for solving the equations in the models. It is negligible in both basins.

The budgets for 1988–89 reflect dry climate and streamflow conditions. Ground-water budgets and model simulations were not done for periods of average or wet climatic conditions. However, the response of the system to wetter conditions can be inferred from sensitivity analyses of the models and the configuration of head-dependent boundaries.

If ground-water levels fully recover in winter—which happens in all but extremely dry years—additional recharge from deep percolation, flow losses, or subsurface inflow is largely rejected and simply contributes to increased streamflow to the ocean. Additional rainfall in summer and autumn could significantly decrease agricultural pumpage but would have little effect on municipal pumpage. Increasing the rate and, more importantly, the duration of streamflow in summer would greatly decrease dry-season water-level declines by providing a large source of recharge to offset ground-water pumping.

DIGITAL SIMULATION OF HYDROLOGIC SYSTEM

Digital models were developed to provide an integrated analysis of ground- and surface-water flow in the Santa Rosa and the San Simeon Basins. Separate models were developed for each basin. The models accounted for spatial variations in aquifer characteristics and interactions among inflows, outflows, and water levels. They also provided a means to estimate flows and basin characteristics for which direct measurements were inaccurate or unavailable. The models were calibrated to simulate accurately the hydrologic systems under present-day conditions. They were then used to simulate the effects of hypothetical streamflow and pumping conditions.

The digital models are mathematical representations of the conceptualized hydrologic system and are not as detailed or complex as the real system. The accuracy and precision of model results are limited by the validity and accuracy of the assumptions and data used in the model.

Model Design

Ground-water flow in the basin-fill deposits was simulated using a three-dimensional finite-element model (FEMFLOW3D) developed by Durbin and Bond (1998). The model code simulates a linearized three-dimensional free-surface ground-water system with a fixed grid. A complete description of the background, the mathematical basis, and the structure of FEMFLOW3D is presented in Durbin and Bond (1998).

The model code was applied to the Santa Rosa and the San Simeon Basins by preparing separate sets of input data for each basin. Plan views of the model grids are shown in figure 23. The Santa Rosa model has 910 nodes and 678 triangular prismatic elements. The San Simeon model has 768 nodes and 595 triangular prismatic elements. Small node spacings were chosen to achieve a high level of spatial resolution in simulated results, particularly between the creeks and nearby wells.

Values of hydraulic conductivity (*K*) and storage coefficient (*S*) are assigned to each element. An algorithm presented by Glover (1988) is used to include horizontal anisotropy of *K*. In these models, anisotropy is the ratio of *K* perpendicular to the major valley axis to *K* parallel to the major valley axis.

Transmissivity is adjusted according to the saturated thickness of the aquifer in each time step, which is consistent with unconfined conditions. For comparison, several simulations were done assuming confined conditions (constant saturated thickness). Results were better using the unconfined assumption, which is consistent with the absence of extensive confining layers in most parts of the basins. Measured and calibrated storage coefficients also indicated that conditions are unconfined or only slightly confined.

Onshore boundaries of the basins are represented in the models as no-flow or specified-flow boundaries. The ocean boundary coincides with the coastline in both basins and is represented as a head-dependent flow boundary. Seawater is assumed to have the same density as freshwater, and the boundary head is equal to sea level. For comparison, simulations also were done with a static saltwater wedge acting as a no-flow boundary.

Some flows into and out of the ground-water basins are not influenced by ground-water levels. These include pumpage and recharge from rainfall and irrigation-return flow. These flows are calculated prior to each simulation and are included in the model as specified flows at appropriate nodes (fig. 18, table 6). The timing of agricultural pumpage, irrigation-return flow, and rainfall recharge is determined by the soil-moisture budget algorithm.

Ground-water inflow also is assumed to be independent of ground-water levels in the basins. Although this is not strictly true, the permeability of bedrock is small enough that inflow probably changes slowly in response to water-level fluctuations in the basins. Also, those fluctuations are small compared to the total gradient from the hilltops to the valleys. Furthermore, seasonal fluctuations in recharge on adjacent hillsides are diminished as the recharge water percolates slowly toward the basin. However, inflow from bedrock probably decreases during several consecutive dry years. In early 1991 after 4 consecutive years of below-average rainfall, three springs along the Santa Rosa Creek valley went dry and flow in three others was less than one-half of normal (Scooter Rhoades, local resident, oral commun., 1991). For simulations of 1 to 2 years the assumption of constant inflow from bedrock is reasonable. In the 1988–89 simulation, inflow from each drainage area was distributed along the boundary of the ground-water basin so that inflow was concentrated at the node closest to the point where the surface-water drainage entered the valley floor (fig. 19).

Other flows into and out of the ground-water basins are influenced by ground-water levels. These head-dependent flows include ground-water flow to

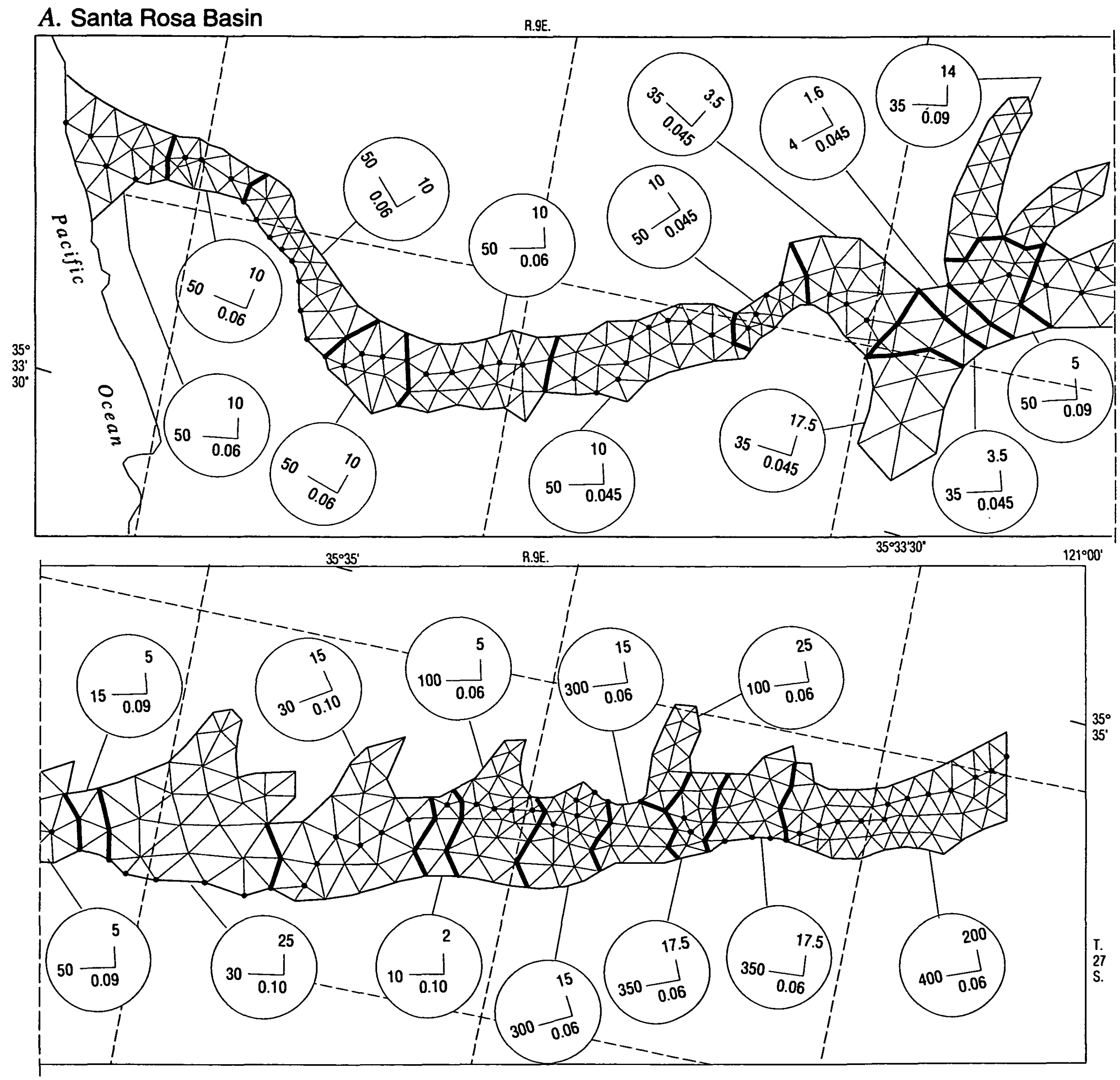
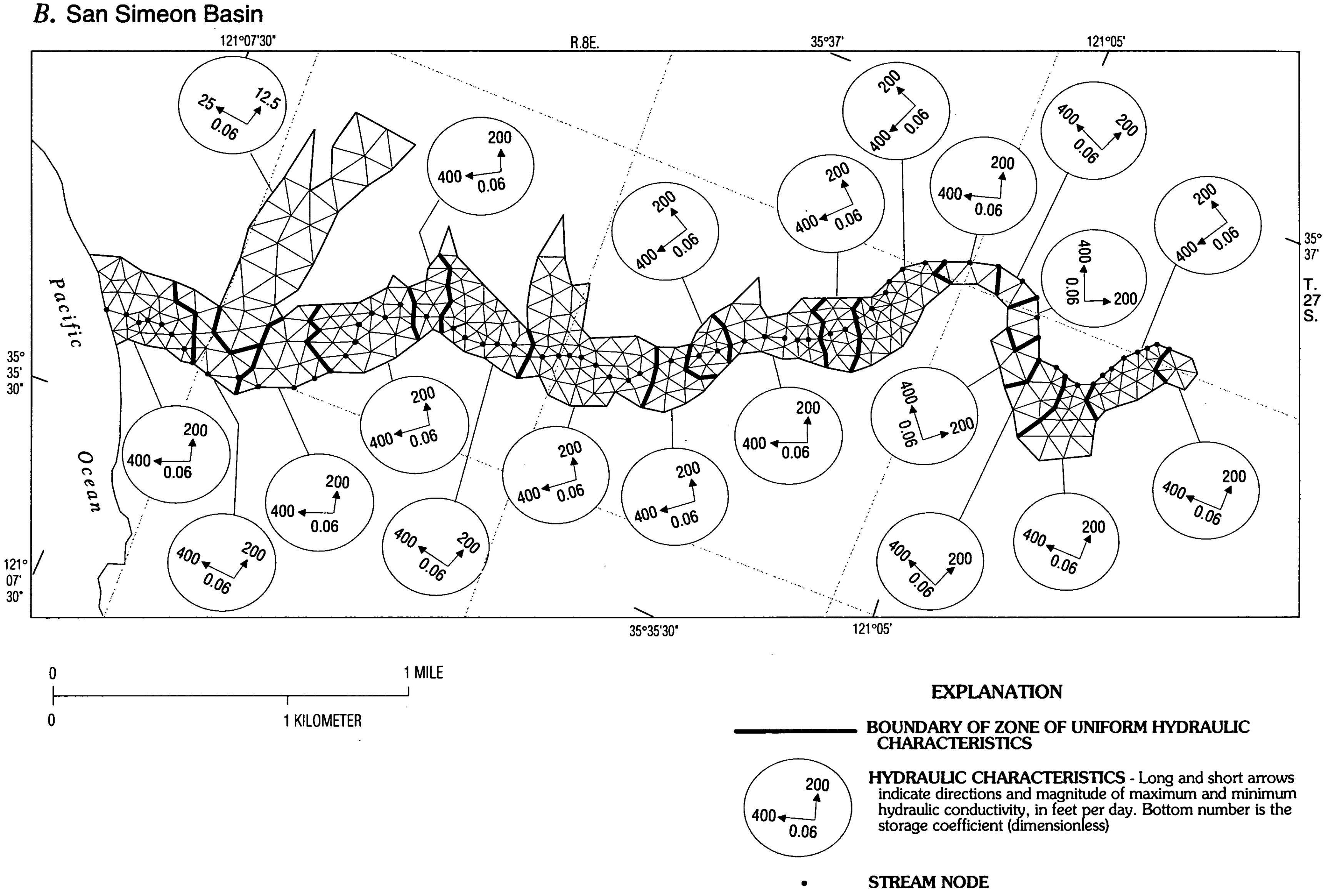


Figure 23. Nodal grids and zones of uniform hydraulic characteristics for the ground-water-flow models of the Santa Rosa and the San Simeon ground-water basins, San Luis Obispo County, California.



B. San Simeon Basin

Figure 23. Nodal grids and zones of uniform hydraulic characteristics for the ground-water-flow models of the Santa Rosa and the San Simeon ground-water basins, San Luis Obispo County, California—Continued.

and from the creeks, transpiration by phreatophytes, and flow across the ocean boundary.

Seepage to and from the creeks is calculated as a linear function of streambed leakance, wetted area, and the difference in water level between the stream surface and nearby ground water. Streambed leakance is the vertical hydraulic conductivity of the streambed divided by a length term that theoretically represents the distance from the streambed to the point where ground-water level is measured. Calibrated leakances range from 0.5 to 0.7 per day in the Santa Rosa model and are 0.7 per day in the San Simeon model.

The altitude of the stream surface in each reach in each model time step is obtained by adding stream stage to the thalweg altitude. Stream stage and width are calculated from streamflow using power functions fitted to rating curves for stream-gaging stations in the study area. The functions are

$$S = 0.1471 Q^{0.5136} \qquad (1)$$

where

S is stream stage, in feet; and

Q is stream discharge, in cubic feet per second;

$$W = \begin{cases} 7.25\ Q^{0.3934}, \text{ if } h_s > h_{gw} \\ 7.25\ Q_{gw}{}^{0.3934}, \text{ if } h_s < h_{gw} \end{cases} \qquad (2)$$

where

W is wetted perimeter, in feet;

h_s is the altitude of the stream surface, in feet;

h_{gw} is the altitude of the ground-water level next to the creek, in feet; and

Q_{gw} is the stream discharge, in cubic per second, that would occur if h_s were equal to h_{gw}.

Streamflow entering the upper ends of the basin areas is routed reach-by-reach in a downstream direction. Each reach is associated with a particular model node, resulting in a total of 106 reaches in the Santa Rosa model and 82 reaches in the San Simeon model. Inflow to each reach equals outflow from the preceding reach, and stream stage and seepage are calculated from local streamflow and ground-water levels. In this way, mass balance is presented for streamflow and ground water.

Transpiration of ground water by phreatophytes is calculated for areas of riparian vegetation, which cover about 129 acres in the Santa Rosa Basin and 71 acres in the San Simeon Basin (fig. 18, table 6). The transpiration rate is adjusted according to the depth of the simulated water table at nodes in those areas, decreasing linearly from a maximum rate equal to residual ET_0 when the water table is at land surface to zero when the water table is at a depth of 18 ft or more. Residual ET_0 is the amount of evaporative demand that cannot be supplied by soil moisture and was calculated using the soil-moisture budget algorithm described earlier for field soils. Residual ET_0 varies by month and land-use zone. Water-table altitude varies for each model node and time step, and the extinction depth of 18 ft is constant for all nodes in all time steps.

Flow across the ocean boundary is assumed to be possible in both directions, depending on whether water levels at nodes along the coastline are above or below sea level. The rate of flow is regulated by a conductance value assigned to each boundary node. Conductance equals a leakance term multiplied by the cross-sectional area of flow. The leakance term includes a hypothetical length representing the effective distance from the coastline to the point where the aquifer crops out on the ocean floor. Because this distance is highly speculative, boundary conductances were selected primarily on the basis of model calibration.

Model Calibration

The models were calibrated by adjusting selected input variables until simulated water levels and streamflow matched measured values. Calibration provides a means of estimating variables that are difficult to measure directly, such as streambed leakances and aquifer storage coefficients. It also offers a means of checking the accuracy of prior estimates of other input variables, and it ensures that the estimates for all variables are mutually consistent. Calibration and sensitivity analysis also indicate the variables to which model results are most sensitive. In sensitivity analysis, variables are systematically adjusted within their ranges of uncertainty to determine the relative contribution of individual variables to overall model uncertainty.

The principal period used for model calibration was from April 1988 through March 1989. Simulations were transient, with time steps ranging from 1 day during the first week of winter streamflow to 1 month during the summer dry season. Initial water levels equaled measured water levels at the beginning of April 1988. Steady-state simulations were used to estimate water levels in areas for which measured data were not available.

Model results were compared with 548 water-level measurements at 32 wells in the Santa Rosa Basin and 396 water-level measurements at 21 wells in the San Simeon Basin. Simulated seepage gains and losses along the creeks were compared with gaged flows for 2 downstream locations and with 66 manual flow measurements for 9 other locations.

Additional simulations for January 1976 through March 1977 were done using measured rainfall, streamflow, and municipal pumpage and estimated agricultural pumpage. Soil-moisture budgets and areal recharge were recalculated to reflect the smaller quantity of irrigated area at that time. These simulations were used to verify that model variables calibrated for 1988–89 would correctly simulate the incomplete recovery of ground-water levels during the winter of 1977.

Generally, the San Simeon model proved easier to calibrate than the Santa Rosa model because of the greater variability of aquifer characteristics and the observed emergence of summer streamflow in the Santa Rosa Basin. Abrupt discontinuities in hydraulic conductivity were necessary to simulate subsurface-flow obstructions, and a large degree of anisotropy was necessary to simulate large transverse water-level gradients at some locations in the Santa Rosa Basin. In contrast, the San Simeon Basin was accurately simulated with a nearly homogeneous distribution of aquifer characteristics and only a small degree of anisotropy. Simulating the emergence of ground water into Santa Rosa Creek during the dry season was difficult because it creates two avenues of downvalley water movement. These avenues interact in a complex manner and had to be correctly balanced to achieve an acceptable calibration.

The distributions of calibrated hydraulic conductivity and storage coefficient are shown in figure 23. The calibrated values of *K* parallel to the valley axis are within the range of measured values. The calibrated value for most of the San Simeon Basin (400 ft/d) is higher than most of the measured values. Possible reasons for the discrepancy are that measured values represent an average of *K* along the longitudinal and transverse axes of the valley or that drawdowns inside pumping wells increased at a different rate than in the adjacent aquifer because of partially clogged well screens. Like the measured values, calibrated values of *K* are more variable in the Santa Rosa Basin than in the San Simeon Basin.

Model calibration indicated that *K* is anisotropic in most areas although to different degrees. This is consistent with the results of the drawdown and streamflow-response tests and with the anisotropic continuity of individual layers in the basin fill. Conceptually, the basin fill probably consists of braided strands of highly permeable channel deposits preferentially oriented parallel to the valley axis and embedded in fine-grained, less permeable overbank deposits. High yields result where wells happen to penetrate one of the permeable strands. The exact location and extent of the permeable strands cannot be detected accurately from the land surface. Thus, for practical purposes, the basin fill functions as a locally homogeneous but anisotropic porous medium.

Calibrated storage coefficients are 0.06 throughout the San Simeon Basin and range from 0.045 to 0.10 in the Santa Rosa Basin (fig. 23). These values are larger than those obtained from drawdown tests (table 1) and are at the low end of the range commonly found in unconfined aquifers (Freeze and Cherry, 1979). The smallest calibrated storage coefficients are between the high school and the State Highway 1 bridge in the Santa Rosa Basin, which is the area most likely to have an extensive confining layer. The difference between the measured and calibrated *S* values probably results from delayed-yield storage effects.

Delayed-yield storage effects have been observed in other stream-dominated ground-water systems (Loeltz and Leake, 1983; Yates, 1988). These effects become evident when a larger storage coefficient is needed to simulate long-term storage changes than to simulate short-term ones. Delayed yield probably results from gradual movement of water into and out of fine-grained strata and from vertical movement of water between aquifer layers and the perforated interval of the well casing. Calibrated storage coefficients are larger than the ones calculated from drawdown tests because the models simulate storage responses for periods of days to years, whereas the drawdown tests measured storage responses for periods of minutes to hours. By providing additional water to wells during extended dry periods, delayed yield potentially could be a significant source of water in the Cambria area. However, model results indicate that the additional quantity of water is small for time intervals between 1 week and as much as 1 year. The single set of calibrated storage coefficients adequately simulated the rapid water-level recovery following the onset of winter streamflow and the gradual water-level decline during the 7-month dry season.

Model Results

Water Levels

Hydrographs of simulated water levels for January 1988 through March 1989 are shown with the measured water levels presented earlier (fig. 6). Measured and simulated water levels are for nonpumping conditions, when the well pump has been off for at least several hours.

With several exceptions, the models were able to closely simulate measured water levels. One exception was water levels in well 27S/8E-8R2, which were anomalously high compared with the regional trends indicated by nearby wells. Simulated water levels were still too low when reasonable local variations in hydraulic conductivity and recharge were introduced into the model. Whatever the reason for the anomaly, water levels in the well clearly are not representative of regional conditions, which the model otherwise simulates well. A second exception occurs at a few scattered wells (for example, 27S/8E-10A1 and 26D1), where simulated water levels declined too rapidly at the beginning of the dry season (fig. 6). Finally, simulated water levels at some irrigation wells (for example, 27S/8E-24N2 and 27S/9E-19M3) are irregular in summer. This is an artifact of the process of converting periods of irrigation (calculated on a daily basis) into average monthly pumping rates.

The difference between simulated and measured water levels in the Santa Rosa Creek Basin ranged from -28.6 to 19.9 ft. The median difference for 548 measurements was 0.6 ft; 84 percent of the differences were less than 5 ft. In the San Simeon Creek Basin, differences ranged from -6.0 to 9.0 ft, with a median value of 0.02 ft. For 396 measurements, 83 percent of the differences were less than 2 ft. The absolute value of the mean error was less than 0.3 ft for both basins, which further indicates that simulated water levels are not biased. The accuracy of the model results is good, considering that seasonal water-level fluctuations exceed 30 ft in some locations and that basinwide variation in water levels ranges from -12 to 210 ft.

Flows

Seepage to and from creeks, phreatophyte transpiration, and ground-water flow to the ocean are head-dependent flows that are calculated by the model. The annual quantities of each of these flows during the calibration period were presented earlier in the section "Water Budgets" (see table 4).

The model calculated seepage losses of 91 and 150 acre-ft from Santa Rosa and San Simeon Creeks, respectively, on December 22, 1988, the first day of substantial streamflow in the winter runoff season. These losses correspond to daily average rates of 46 and 76 ft^3/s, respectively, and were the highest rates of the season.

Net seepage loss during the first week of streamflow was 300 and 410 acre-ft for the Santa Rosa and the San Simeon Basins, respectively. The amounts are 82 and 95 percent of estimated ground-water storage increase during that period in the respective basins. These large percentages are consistent with measured water levels. At almost all wells, a large, rapid water-level recovery began abruptly on the first day of streamflow and ceased when the water level reached the approximate altitude of the water surface in the creek. Seepage from the creek is the only plausible source of recharge for this recovery pattern. In terms of surface flow in the creeks, the loss rates are consistent with observed flow losses described earlier in the section "Gains and Losses Within the Ground-Water Basins." These data indicate that the model simulates stream-aquifer interactions reasonably well.

In the Santa Rosa Basin, the model correctly simulated gaining flow during the dry season for three locations. In June 1988, a simulated flow of 0.26 ft^3/s emerged into the creek near well 27S/9E-19H2. Influent seepage of about the same amount emerged into the creek at the narrows upstream of the high school, and a flow of about 0.03 ft^3/s emerged into the creek in the lower part of the basin where the valley becomes narrow upstream of the Windsor Boulevard bridge. Flow gains have been observed at all of these locations. In June, simulated flow was continuous between the upper two locations, which also is consistent with field observations. By August, simulated gains ceased at the lowermost location, and a short dry reach had formed above the middle location. The rate of emerging flow gradually decreased at the upper location to 0.07 ft^3/s in early December 1988.

In the San Simeon Basin, seepage into the creek during the dry season was limited to the reach between the wastewater sprayfield and the ocean, which is consistent with field observations.

About 78 percent of transpiration by phreatophytes was during May through September. Transpiration rates were low in other months because of low residual ET_0 demand in winter and spring and low ground-water levels in autumn at some locations. Transpiration constituted 15 percent of net outflow from the Santa Rosa Basin and 4 percent of net outflow from the San Simeon Basin. Measurements of phreatophyte transpiration are not available to compare with simulated transpiration.

The rate of subsurface outflow to the ocean varied by a factor of only about 2 during the calibration period. Rates were high in late winter when water levels were highest, and rates were low in late autumn. Subsurface outflow was 60 acre-ft (table 4), or about 6 percent of annual net outflow from the Santa Rosa Basin. Subsurface outflow was 320 acre-ft (table 4), or about 43 percent of annual net outflow in the San Simeon Basin. The higher absolute and percentage values in the San Simeon Basin resulted from higher hydraulic conductivity of the alluvial deposits and steeper water-level gradients caused by the wastewater sprayfield.

Sensitivity Analysis

Sensitivity analysis is a systematic evaluation of the effect of small changes in individual variables on model results. Model calibration and sensitivity analysis often provide a great deal of insight into the nature of the hydrologic system. Significant hydrologic effects of the main model variables are discussed below. Unless otherwise noted, the response of both models to input variations is similar, and all changes are with respect to the fully calibrated simulations.

The general effect of hydraulic conductivity (*K*) is to control the downvalley water-level gradient, with smaller values steepening the gradient. At a given location, changes in *K* tend to shift the water-level hydrograph up or down without significantly altering its shape. An exception is near large pumping wells, where a decrease in *K* tends to increase slightly the amount of dry-season drawdown by localizing the cone of depression. Because *K* is a factor of transmissivity (*T*) and hence diffusivity (*T*/*S*), decreases in *K* tend to retard the rate of water-level recovery following the onset of winter streamflow.

The only noticeable effect of mild anisotropy (ratio of transverse to axial *K* between 1.0 and 0.1) is to slow the rate of recovery following the onset of streamflow. More extreme anisotropy (ratio less than 0.1) tends to create noticeable transverse water-level gradients by rising water levels along the sides of the basin throughout the year. A value of 0.05 was needed near well 27S/9E-20E1 in the Santa Rosa Basin to simulate the 8-foot difference in winter water levels between the well and the creek, which is only 225 ft away. Simulation results generally are better when the direction of anisotropy is aligned with the valley axis rather than the local orientation of the creek channel. Finally, by decreasing the overall *K* near a pumping well, anisotropy tends to increase slightly the amount of dry-season drawdown near large wells.

Storage coefficients strongly affect the magnitude of dry-season water-level declines and the rate of water-level recovery in winter. However, they have no effect on the level to which water levels recover. For example, an increase in *S* from 0.09 to 0.12 throughout the area upstream of well 27S/8E-24L1 on Santa Rosa Creek decreases the dry-season drawdown by as much as 5 ft. The increase in storage coefficient also increases the persistence of dry-season streamflow downstream of well 27S/9E-19H2 because base flow is supported by a larger volume of stored ground water. These effects constrain the range of calibrated *S* values. Storage coefficients significantly affect local water supplies because they strongly influence the quantity of ground water available during the dry season.

Streambed leakance strongly affects the rate of seepage between the creek and the ground-water system. Because it affects seepage in both directions, a uniform change in leakance has a relatively small effect on net seepage. For example, decreasing the streambed leakance along Santa Rosa Creek downstream of well 27S/9E-20G3 from 0.5 to 0.3 per day decreases seepage to the creek by 63 acre-ft/yr (10 percent) and decreases seepage from the creek by 57 acre-ft/yr (5 percent). Net seepage from the creek decreases only 6 acre-ft/yr (1 percent).

The effect of streambed leakance on seepage is similar to the effect of diffusivity. A decrease in either variable noticeably retards the rate of water-level recovery following the onset of winter streamflow and makes a more uniform distribution of seepage rates during the first week of recovery. These effects were the primary factors used to calibrate streambed leakance.

Streambed leakance is important to water-resources management because it potentially could limit the percentage of annual stream discharge captured as ground-water recharge during exceptionally dry years. This possibility was investigated using simulations of the 1976–77 drought. When calibrated streambed leakances were decreased by a factor of two, all streamflow during the winter of 1977 was still captured as recharge. This indicates that the calibrated values are not so small that they significantly limit seepage during low-flow periods. Consequently, they probably are not a significant source of error in simulations of drought conditions.

The proportion of ground-water outflow to the ocean that occurs as subsurface underflow instead of as seepage into the creek is largely determined by the balance between streambed leakances and the ocean boundary conductance. Associated changes in water levels and streamflow are too small to allow accurate estimation of the proportion. For example, coastal water levels tend to remain in a narrow range between sea level and the creek thalweg (except, perhaps, if leakances or boundary conductance is very small). Likewise, if all subsurface outflows in the calibrated models were forced into the creeks by decreasing the ocean boundary conductance, streamflow at the coast would increase by an annual average of only 0.08 ft^3/s in Santa Rosa Creek and 0.44 ft^3/s in San Simeon Creek. These increases amount to small changes in streamflow and would be nearly undetectable.

Conductance of the ocean boundary is important to water-resources management because it strongly influences the potential for seawater intrusion. If the conductance is large, high rates of intrusion will occur when ground-water levels near the coast decline below sea level. If the conductance is small, coastal water levels could be drawn down below sea level without incurring large quantities of seawater intrusion. In effect, a low boundary conductance creates a one-way outlet valve for fresh ground water. Ground water can still discharge to the ocean through the creek, but the ocean cannot flow up the creek to intrude the basin.

The effect of a saltwater-freshwater interface near the coast was tested by including a stationary saltwater wedge at the base of the San Simeon Basin near the coast. The wedge was assumed to form a no-flow boundary of the fresh ground-water system. The top of the wedge decreased from a depth of 30 ft at the coastline to a depth of 130 ft near well 27S/8E-9N2, where the wedge was assumed to pinch out against bedrock. The effect of the wedge was to shunt 15 acre-ft/yr (6 percent) of subsurface outflow into the creek. Water levels near the coast were higher by less than 2 ft. These small changes indicate that model results are not strongly affected by the omission of the effects of density difference(s) between the ground water and the seawater.

Irrigation efficiency has almost no effect on the model because it affects pumpage and return flow by equal amounts. A change in irrigation efficiency changes the rate of local cycling of water between the aquifer and field soils. This cycling occurs predominantly in the vertical direction and consequently is not considered in a single-layer model. Exceptions occur if an irrigation well is not located near the fields it serves. For example, fields along Van Gordon Creek primarily are served by wells in the CCSD wastewater sprayfield. Irrigation-return flow exceeds pumpage in the immediate vicinity of the fields, which contributes significantly to the relatively steep water-level gradients from that area southward toward the main part of the San Simeon Basin.

Potential evapotranspiration (ET_0) has indirect and direct effects on model results. By affecting the amount of soil moisture used by plants, it indirectly influences the quantity of irrigation, irrigation-return flow, and recharge from rainfall. In terms of quantities and percentages, changes in ET_0 cause greater changes in irrigation than in recharge from deep percolation through soils. For example, a 10-percent change in ET_0 results in a 9- to 18-percent change in irrigation and a 2- to 13-percent change in recharge. The direction of change is the same for all three variables. The change in recharge from deep percolation is relatively small because it consists of recharge from irrigation-return flow and rainfall, which are oppositely affected by a change in ET_0. That is, an increase in ET_0 causes an increase in irrigation-return flow (because of the concomitant increase in pumpage) but a decrease in recharge from rainfall.

By altering crop water demand, changes in ET_0 influence the quantity of irrigation pumpage and recharge in the model and directly affect the rate of transpiration by phreatophytes. The overall effect of a 10-percent decrease in ET_0 year round in the San Simeon model is a decrease in pumpage by 41 acre-ft/yr and a decrease in areal recharge from soils by 15 acre-ft/yr. These decreases result in a net increase in inflow of 26 acre ft/yr. This is largely offset by a decrease in net seepage from the creek (17 acre-ft/yr), an increase in subsurface outflow to the ocean (6 acre-ft/yr), and a slight increase in phreatophyte transpiration (1 acre-ft/yr). All these changes are less than 6 percent of the calibrated reference values. The effect on water levels is a decrease in the amount of dry-season decline of 2 ft or less.

The effect of changes in rainfall on model results is strongly influenced by the season in which the change occurs. Increased rainfall during the winter generally increases the quantity of rainfall recharge, but this is almost entirely offset by a decrease in net seepage from the creek. Rain occurring during the irrigation season results in a nearly equal decrease in net irrigation pumpage. However, as long as the creek is still flowing, the decrease in net pumpage simply causes a corresponding decrease in net seepage from the creek. For this reason, rain in autumn, prior to the onset of streamflow, is of particular value in increasing the overall annual water supply.

If the amount of rain falling on the San Simeon Basin during April 1988 through March 1989 had been greater by 331 acre-ft (46 percent), total annual rainfall would have equaled the long-term average. Including this additional rainfall in the soil-moisture budget algorithm (assuming no change in the daily distribution of rainfall) results in an increase in areal recharge of 71 acre-ft/yr and a decrease in gross agricultural pumpage of 28 acre-ft/yr. In the model, this combined increase of 99 acre-ft/yr in net inflow is largely balanced by a decrease in net seepage from the creek (78 acre-ft/yr) and increases in subsurface outflow to the ocean (10 acre-ft/yr) and to storage (9 acre-ft/yr). The percentage change in all these items is considerably less than the percentage change in rainfall. Thus, model results generally are less sensitive to total annual rainfall than to the seasonal distribution of rainfall.

The effects of ground-water inflow from bedrock tend to be masked by larger or more variable inflows and outflows except in late autumn, after most irrigation has ceased and before the creeks have started to flow. Water levels in most wells change only slightly during this period. If inflow from bedrock is increased, simulated water levels recover more rapidly than measured levels. On an annual basis, a change in the assumed rate of inflow generally results in an equal and opposite change in the simulated quantity of stream recharge.

Inflow from bedrock is important to water-resources management because it is a more reliable source of water supply than recharge from streamflow or rainfall on the valley floor. The latter sources of recharge can decrease to zero as a result of even a single extremely dry year. In contrast, inflow from bedrock decreases gradually over a period of several years during a prolonged drought.

The assumption that inflow from bedrock is at a constant rate year-round was tested by trying an alternative simulation in which the rate varied seasonally. The rate was assumed to equal the calibrated rate in November and December and twice that rate in April and May with gradual transitions in between. This distribution is an attenuated and slightly delayed replication of the rainfall distribution. The additional ground-water inflow is 73 acre-ft/yr and is largely (81 percent) offset by a decrease in net seepage from the creek. The effect on water levels is a slight decrease in dry-season decline throughout the basin. The assumption of constant ground-water inflow has minimal implications for water-resources management because any seasonal variations would probably add inflow during the streamflow season when water is already abundant.

Initial water levels at the beginning of model simulations have little effect on model results because they adjust rapidly to the new set of conditions imposed for each simulation. Except at the edges of the valleys, water levels adjust to new stresses within 1 month. In areas of low hydraulic conductivity or a large degree of anisotropy, simulated water levels in wells near the edge of the valley (for example, wells 27S/8E-9M1 and 24J2) can take more than a year to adjust to a new set of conditions. Only the final 12 months of the 15-month calibration simulations were used for comparison. The first 3 months of simulation provided sufficient time for the effects of initial conditions to become negligible.

The models were calibrated assuming unconfined conditions; that is, transmissivity was adjusted in each time step to reflect the current saturated thickness of aquifer sediments. The sensitivity of the model results to this assumption was tested with two simulations in which saturated thickness and transmissivity were held constant. In one simulation, relatively large values of thickness and transmissivity were calculated using high winter water levels. In the second simulation, relatively small values were calculated using low autumn water levels. Storage coefficients were not changed for this test.

The effect of confinement was similar in both basins. Effects are largest where seasonal water-level fluctuations are greatest, such as at the upper ends of the basins. When winter transmissivity is used throughout the year, much more water drains downvalley during the dry season. Seasonal water-level declines at the upper ends of the basins increased as much as 12 ft. This additional downvalley drainage caused a 1- to 4-foot decrease in dry-season water-level declines at most wells downstream of well 27S/8E-10G2 in the San Simeon Basin and well 27S/9E-20G3 in the Santa Rosa Basin. There also was a large decrease in seasonal drawdown at the municipal wells in the Santa Rosa Basin (27S/8E-26C5 and 26D1) because transmissivity was much greater in summer and autumn than under unconfined conditions.

When autumn transmissivity is used throughout the year, effects are opposite and slightly smaller. Dry-season water-level declines at the upper ends of the basins decrease by as much as 12 ft and increase by as much as 3 ft farther downstream.

The assumption of constant transmissivity had little effect on the annual water budgets. Winter transmissivity results in increased seepage to and from the creek, but the change in net seepage is an increase of less than 18 acre-ft/yr. Autumn transmissivity results in large decreases in seepage to and from the creek, but the change in net seepage is a decrease of less than 16 acre-ft/yr. Changes in annual net seepage were less than 3 percent in both basins.

The final set of calibrated variables is not necessarily unique. In some cases, the effects of adjusting one variable can be offset by adjusting one or more other variables. For example, the rate of water-level recovery following the onset of winter streamflow is fairly sensitive to *K*, *S*, anisotropy, and streambed leakance; all affect the diffusivity of the flow path perpendicular to the creek. At a given well, the effect of greater anisotropy can be offset by a decrease in storage coefficient or an increase in streambed leakance. The hydraulic characteristics of the streambed and the alluvial deposits result from a combination of flow regime and sediment type at the time and the place of deposition. Although the characteristics are somewhat interrelated, local variations in depositional environment result in a range of possible combinations. Other examples of nonunique calibrated values are tradeoffs between streambed leakance and ocean boundary conductance near the coast and between *K* and *S* near the upper ends of the basins. In all cases, tradeoffs among variables were limited to a fairly narrow range by the noncompensating effects of the variables in other locations or seasons and by the range of physically plausible values.

Limitations of Model

The accuracy of model results and the suitability of the models for addressing certain hydrologic questions are limited by simplifications and assumptions inherent in model design and by the sensitivity of model results to some input variables. Following are some of the more significant limitations of the models.

1. Vertical movement of ground water is not simulated because the ground-water system is simulated as a single layer.

2. The calibration simulations were for a period of only 15 months. Climatic conditions during the calibration period were drier than normal. The ability of the model to accurately simulate wet conditions or extremely dry conditions has not been tested.

3. The accuracy of simulated water levels near the edges of the valleys is not well defined and probably is less than the accuracy in midvalley areas.

4. The coarseness of the model grids precludes simulation of highly localized water-level variations. In general, this includes variations that generally occur over distances less than the node spacing, which ranges from about 90 to 600 ft in the San Simeon model and from about 150 to 1,200 ft in the Santa Rosa model. This effect is particularly noticeable near the creeks. Where well nodes coincide with stream nodes, simulated water-level recoveries during the December 1988 storm were noticeably more abrupt at wells one or more nodes away from the creek.

5. The models do not simulate the effects of different fluid densities where freshwater meets seawater near the coast. The effects of density differences on water levels and ground-water budgets were small in 1988–89. The accuracy of model results for conditions of seawater intrusion is unknown, nor does the model indicate the position of the interface between seawater and freshwater.

6. The proportion of ground-water discharge to the ocean that occurs as subsurface outflow as opposed to surface outflow might not be accurately simulated because neither water levels nor streamflow is sensitive to the proportion.

7. The models might not accurately simulate local variations in streamflow and seepage because they assume that stream-channel geometry is the same

in all reaches and that the distribution of streambed leakances is relatively uniform. The models would not be accurate enough to identify critical riffles for fish migration; but generally, they simulate known gaining and losing reaches accurately.

8. The models cannot accurately determine the separate amounts of seepage to and from the creeks because the seepage rates are sensitive to streambed leakance, which is poorly known. However, the simulated amount of net seepage is much more accurate because it is determined largely by the net balance of other inflows and outflows, which are better known.

9. Seepage from the creek to the ground-water system is assumed to be head-dependent even when the water table is far below the thalweg. In reality, an unsaturated zone probably exists beneath the streambed under those circumstances and seepage might not be head-dependent until that zone becomes fully saturated. Errors resulting from the head-dependent assumption are most likely to occur during rapid water-level recovery following the onset of winter streamflow. However, measured recovery rates at wells close to the creek did not exhibit noticeable delays in recovery that could be attributed to the effects of an unsaturated zone. Any errors resulting from the head-dependence assumption were compensated for by the leakance values, which were calibrated to simulate accurately the measured rates of recovery.

10. Simulated amounts of phreatophyte transpiration are only approximate because the model does not include the details of local topography and root depth distribution.

11. Water levels simulated by the models are equivalent to static water levels measured when wells are not pumping. They reflect the general effects of pumping on basinwide water levels but do not accurately indicate the water level in the immediate vicinity of a pumping well or the water level in the well casing. The amount of local drawdown included in the simulated water levels is affected by the coarseness of the model grid with larger node spacing associated with less simulated drawdown.

SIMULATED RESPONSES TO HYDROLOGIC CHANGES

Effects of Agricultural and Municipal Pumpage

The effects of different types of pumpage on water budgets and on water levels in each basin were investigated by selectively eliminating all pumpage or either municipal or agricultural pumpage from the calibration simulation. The simulated water budgets indicated the sources of recharge for each type of pumpage. For the simulation without agricultural pumpage, areal recharge through field soils was recalculated assuming that the fields contained nonirrigated annual grass. For the simulation without municipal pumpage, recharge from reclaimed wastewater at the CCSD wastewater sprayfield was assumed to continue, as if CCSD had simply switched to an imported water supply. Rural domestic and industrial pumpages also were retained in the simulation. The simulation without any pumpage represents predevelopment conditions, and recharge by reclaimed wastewater was omitted. Areal recharge was recalculated assuming the valley floors were covered with deep-rooted native vegetation.

The simulated effects of pumpage on water levels are indicated by the hydrographs shown in figure 24. Four sets of simulated water levels are shown for each of the 16 wells for 1988–89: calibrated water levels (shown for comparison), water levels without agricultural pumpage, water levels without municipal pumpage, and water levels without any pumpage.

The sources of water that supplied each type of pumpage are shown in table 9. The relative magnitude of each source was obtained by comparing water budgets for simulations with and without each type of pumpage. There are consistent patterns in the sources of each type of pumpage. In both basins, a relatively large percentage (43 to 48 percent) of agricultural pumpage was supplied by an increase in areal recharge, about two-thirds of which was from irrigation-return flow and the remainder was from rainfall that percolated to the water table. A slightly smaller percentage (36 to 45 percent) of agricultural pumpage was supplied by an increase in net recharge from the creek. In both basins, 86 percent of municipal pumpage was supplied by increased recharge from the creek. This percentage is much higher than for agricultural

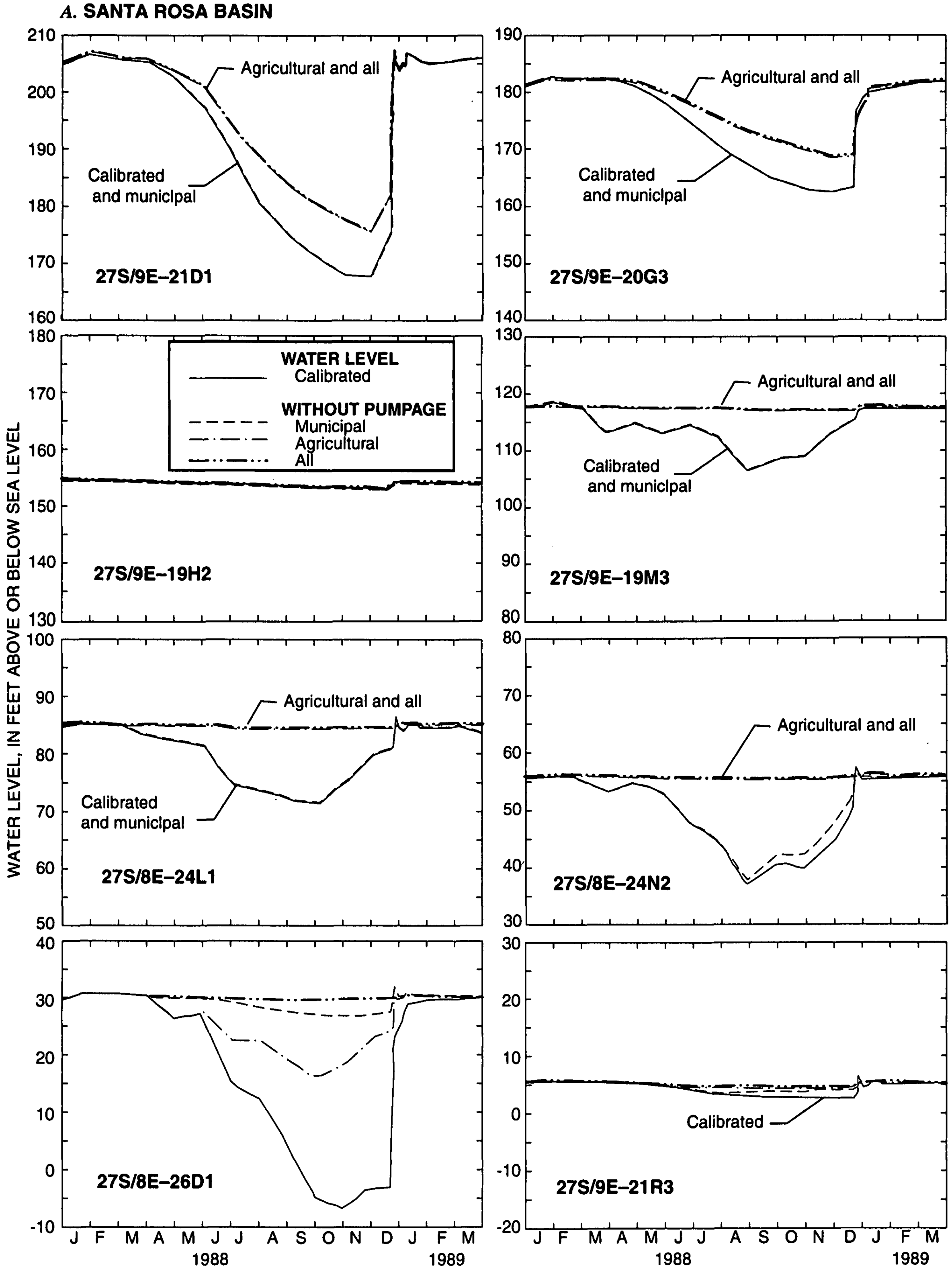


Figure 24. Relative effects of three types of pumpage in (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, San Luis Obispo County, California.

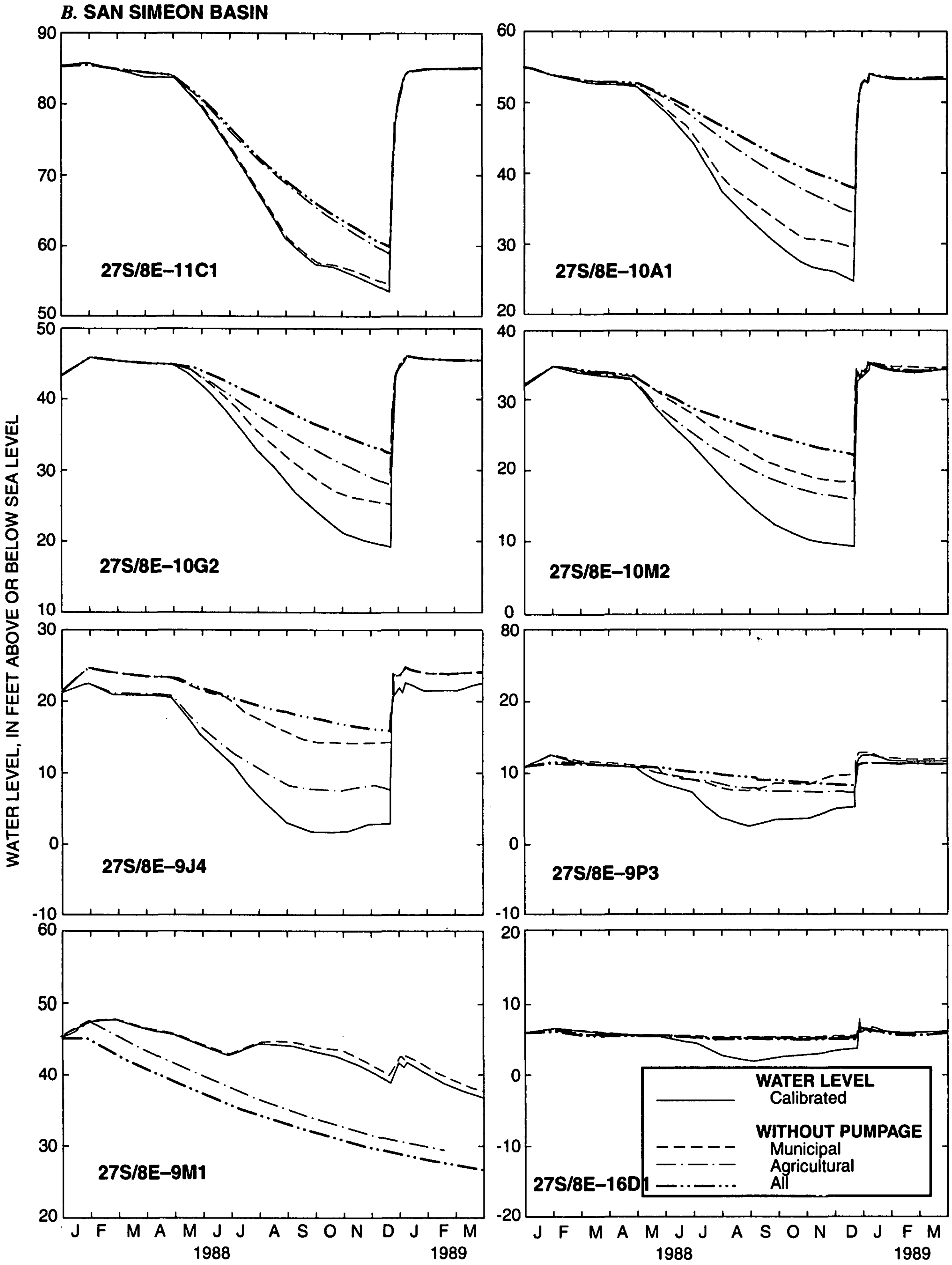


Figure 24. Relative effects of three types of pumpage in (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, San Luis Obispo County, California—Continued.

pumpage because the simulations did not count recharge from the CCSD wastewater sprayfield as a source of municipal pumpage. Although sprayfield recharge does offset the effects of municipal pumpage in the context of basinwide ground-water budgets, health regulations prohibit its use as a significant percentage of recharge for municipal pumpage.

Decreased ground-water outflow to the ocean supplied a relatively small percentage (1 to 3 percent) of all types of pumpage in the Santa Rosa Basin. The percentage was slightly greater (5 to 19 percent) in the San Simeon Basin because a larger percentage of ground-water outflow in that basin occurred as subsurface outflow rather than as seepage into the creek.

Decreases in phreatophyte transpiration supplied a larger percentage of pumpage in the Santa Rosa Basin than in the San Simeon Basin because of the larger area of phreatophytic vegetation. In all cases, however, this source of water supplied less than 12 percent of pumpage (table 9).

The amount of dry-season water-level decline caused by agricultural pumpage in the Santa Rosa Basin (in addition to drawdown from natural downvalley drainage) decreased from about 10 ft near well 27S/9E-21D1 to less than 2 ft at the subsurface flow obstruction near well 27S/9E-19H2. It increased again downstream to about 15 ft at well 27S/8E-24L1. Agricultural pumpage caused as much as 25 ft of dry-season water-level decline downstream of the high school even though there was little agricultural pumpage in that area. This drawdown resulted because agricultural pumpage in the upstream areas intercepted ground water that would have flowed downvalley. Most of this downvalley flow would have occurred as streamflow. In the simulation without agricultural pumpage, the trickle of base flow that emerges near well 27S/9E-19H2 flowed continuously to the ocean in all months except October when a short reach near well 27S/8E-27H1 went dry. In the calibration simulation, base flow was much smaller and the creek was dry between the high school and State Highway 1 from July through mid-December.

Agricultural pumpage caused as much as 10 ft of dry-season water-level decline in the San Simeon Basin. This amount decreased downstream from a maximum of 10 ft near well 27S/8E-10A1 to about 6 ft in the CCSD well field (27S/8E-9J4) and about 3 ft near the coast (27S/8E-16D1). Agricultural water use tends to elevate water levels in the Van Gordon Creek area (27S/8E-9M1), where irrigation water is supplied by off-site wells in the CCSD sprayfield. Agricultural pumpage did not significantly affect water levels in winter.

Municipal pumpage in the Santa Rosa Basin had no effect on water levels upstream of well 27S/8E -24L1, but contributed a maximum of about 33 ft of dry-season water-level decline near well 27S/8E-26D1. The drawdown decreased upstream to about 2 ft at well

Table 9. Quantities and sources of three types of ground-water pumpage in the Santa Rosa and the San Simeon ground-water basins, San Luis Obispo County, California, April 1988 through March 1989

Item	Santa Rosa Basin			San Simeon Basin		
	Municipal	Agricultural	All	Municipal	Agricultural	All
Pumpage (acre-feet)	254	893	1,159	556	451	1,013
Source (percent)[1]						
Increase in areal recharge	0	48	41	0	43	23
Increase in net recharge from creek	86	45	53	86	36	25
Decrease in recharge from reclaimed water	0	0	0	0	0	45
Decrease in outflow to ocean	3	1	1	12	19	5
Decrease in phreatophyte transpiration	11	6	5	2	2	2

[1] Source of given type of pumpage is indicated by the change in water budget with respect to a simulation without that pumpage.

27S/8E-24N2 and decreased downstream to about 2 ft at well 27S/8E-21R3.

Municipal pumpage decreased dry-season water levels throughout the San Simeon Basin by quantities ranging from 1 ft at the upper end of the valley (27S/8E-11C1) to 7 ft in the CCSD well field (27S/8E -9J4). Unlike agricultural pumpage, municipal pumpage also affected winter water levels, at least in the well field. Municipal pumping rates that remained high in winter prevented ground-water levels from recovering completely. The water levels remained about 3 ft below the level of the creek throughout the winter of 1989.

A significant amount of dry-season water-level decline is not the result of pumpage but of natural drainage processes. Winter water levels at the upper ends of the valleys cannot be maintained without continued recharge from the creeks. As soon as the creeks dry up in summer, ground water in those areas drains downvalley. In the simulation with no pumpage, these natural dry-season water-level declines were between 21 and 25 ft, or about 75 percent as large as the declines that occurred with pumping in 1988 (fig. 24). In the Santa Rosa Basin, much of the water draining out of the upper end of the valley seeped into the creek and became available to offset dry-season declines in downvalley areas. Consequently, there was almost no dry-season water-level decline under predevelopment conditions downstream of about well 27S/9E-19H2. In the San Simeon Basin, there were natural dry-season water-level declines throughout the valley because water moved downvalley only as subsurface flow.

Occurrence and Effects of Drought

The water supply for the Cambria area is vulnerable to drought because the ground-water basins provide the only supply of water during the dry season and because ground-water storage capacity is small relative to the demand for water. The amount of usable ground-water storage capacity above sea level is about 3,800 acre-ft in the Santa Rosa Basin and 1,000 acre-ft in the San Simeon Basin. Total annual pumpage during 1988–89 was about 30 and 101 percent of the storage capacity in the two basins, respectively. Data for Pico Creek (Cleath, 1986) indicate that total annual pumpage was about 230 percent of storage.

For the purpose of water-supply evaluation, droughts were grouped into three categories: (1) a long dry season between two winters in which the basins are completely recharged, (2) a single winter during which the basins are not fully recharged, and (3) two or more successive winters of incomplete recharge.

Single Long Dry Season

In most years, the creeks stop flowing in summer. When flow stops, the quantity of water available until the following winter is limited to the quantity of ground water stored in the basins plus a slow but steady inflow of ground water from bedrock. The quantity of water in storage at the beginning of the dry season usually is about the same each year, but the length of the dry season is quite variable. If the dry season were exceptionally long and pumping continued unabated, wells could go dry or subsidence or seawater intrusion could occur before recharge begins the following winter. Partly for these reasons, there are legal limitations on annual and seasonal quantities of municipal pumpage for both basins.

The frequency distribution of the duration of the summer dry season was estimated from streamflow records for Santa Rosa Creek near Cambria and San Simeon Creek at Palmer Flats. A persistent trickle of summer base flow in Santa Rosa Creek resulted in a non-normal distribution of dry-season duration. This trickle, which is relatively insignificant from a water-supply standpoint, was omitted from the analysis by counting days in which streamflow was less than 0.5 ft^3/s as days of no flow. The resulting frequency distribution for 1959–89 could be adequately approximated by a normal distribution with a mean of 146 days and a standard deviation of 69 days. Normality was tested using the probability plot correlation coefficient test (Looney and Gulledge, 1985). The probability distribution indicated that the 100-year maximum dry-season duration (that is, the maximum dry-season duration likely to occur once in 100 years) is 307 days. For comparison, the longest dry season in the streamflow record for Santa Rosa Creek (289 days in 1977) has an estimated recurrence interval of about 52 years.

Summer base flow is less persistent in San Simeon Creek and was not omitted from the analysis. For the period of streamflow record (1971–89), the average duration of the dry season was normally distributed with a mean of 164 days and a standard deviation of 64 days. The 100-year dry-season duration is 312 days; the longest dry season on record for San Simeon Creek (269 days in 1977) has an estimated recurrence level of about 20 years.

These estimates almost certainly underestimate the actual mean and 100-year dry-season durations because the periods of record for both stream-gaging stations were wetter than average. This is evident from the cumulative departure diagram for annual rainfall at the San Luis Obispo-Poly station (fig. 13). Average rainfall during the 120-year record was 21.79 in., whereas average rainfall during 1959–89 and 1971–89 was 23.56 and 24.55 in., respectively. Bianchi and Hanna (1988) developed an empirical equation relating the length of the dry season in San Simeon Creek to monthly rainfall in San Luis Obispo. Using 115 years of rainfall data for San Luis Obispo, they estimated that the long-term average duration of the dry season is 200 days, or 36 days longer than the estimate obtained directly from the streamflow data.

The probable duration of the dry season can be estimated as soon as it has begun, allowing water-conservation measures to be implemented if necessary. Figure 25 shows the relation between the duration of the dry season and the date streamflow ceases (or becomes less than 0.5 ft^3/s in the case of Santa Rosa Creek). The relation is not exact because of variability of the date streamflow resumes the following winter. Nevertheless, the relation can give a general indication of probable dry-season duration.

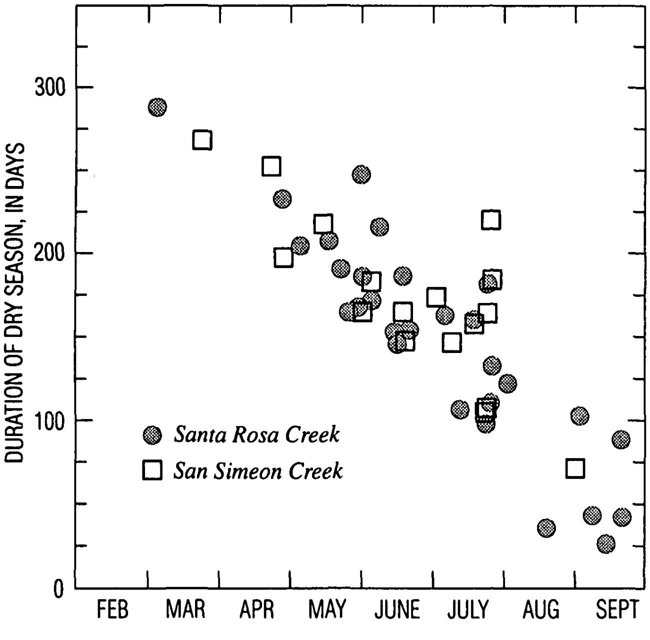


Figure 25. Relation of dry-season duration and date on which streamflow ceases in the Santa Rosa and the San Simeon ground-water basins, San Luis Obispo County, California.

The effect of a prolonged dry season was investigated using the ground-water-flow models. The duration of the summer dry season in the calibrated simulations for 1988–89 was increased to two longer durations by shifting the end of the preceding winter to earlier dates, 1 month at a time. In the Santa Rosa Basin, the duration was increased from 204 to 235 and 266 days, which correspond to estimated recurrence intervals of about 5, 10, and 24 years. In the San Simeon Basin, the duration was increased from 235 to 266 and 296 days, which correspond to estimated recurrence intervals of about 8, 18, and 52 years. Agricultural pumpage was recalculated for the longer dry season using the soil-moisture budget algorithm. Rainfall and ET_0 were adjusted to reflect dry conditions, but cropping patterns and planting dates were left unchanged. Gross pumpage for irrigation increased by about 170 and 43 acre-ft per additional month of dry season in the Santa Rosa and the San Simeon Basins, respectively. This rate of increase became smaller as the dry season became longer because the additional dry days occurred in late winter when the demand for irrigation water was relatively small. Municipal pumpage was assumed to be unaffected by the duration of the dry season because only a small percentage of it is was used for landscape irrigation in late winter.

Figure 26 shows hydrographs for selected wells in the Santa Rosa and the San Simeon Basins for three different dry-season durations. Increasing dry-season duration significantly lowered water levels at the upper ends of the valleys because there was more time for downvalley ground-water flow during the dry season. For example, the minimum water level at well 27S/9E -21D1 decreased about 5 ft for every additional month of dry season. Effects farther down the valley were smaller because the lack of recharge from rainfall and streamflow was partly offset by ground-water flow from farther up the valley. Also, much of the pumping at the lower ends of the valleys is for municipal purposes and does not increase under dry conditions to the extent that agricultural pumping does.

The cumulative dry-season storage deficit increased as the duration of the dry season increased. In the Santa Rosa Basin, the storage deficit increased by about 96 acre-ft for each additional dry-season month. In the San Simeon Basin, the increase was about 28 acre-ft/mo. The percentage increase in storage deficit generally was less than or equal to the percentage increase in dry-season duration.

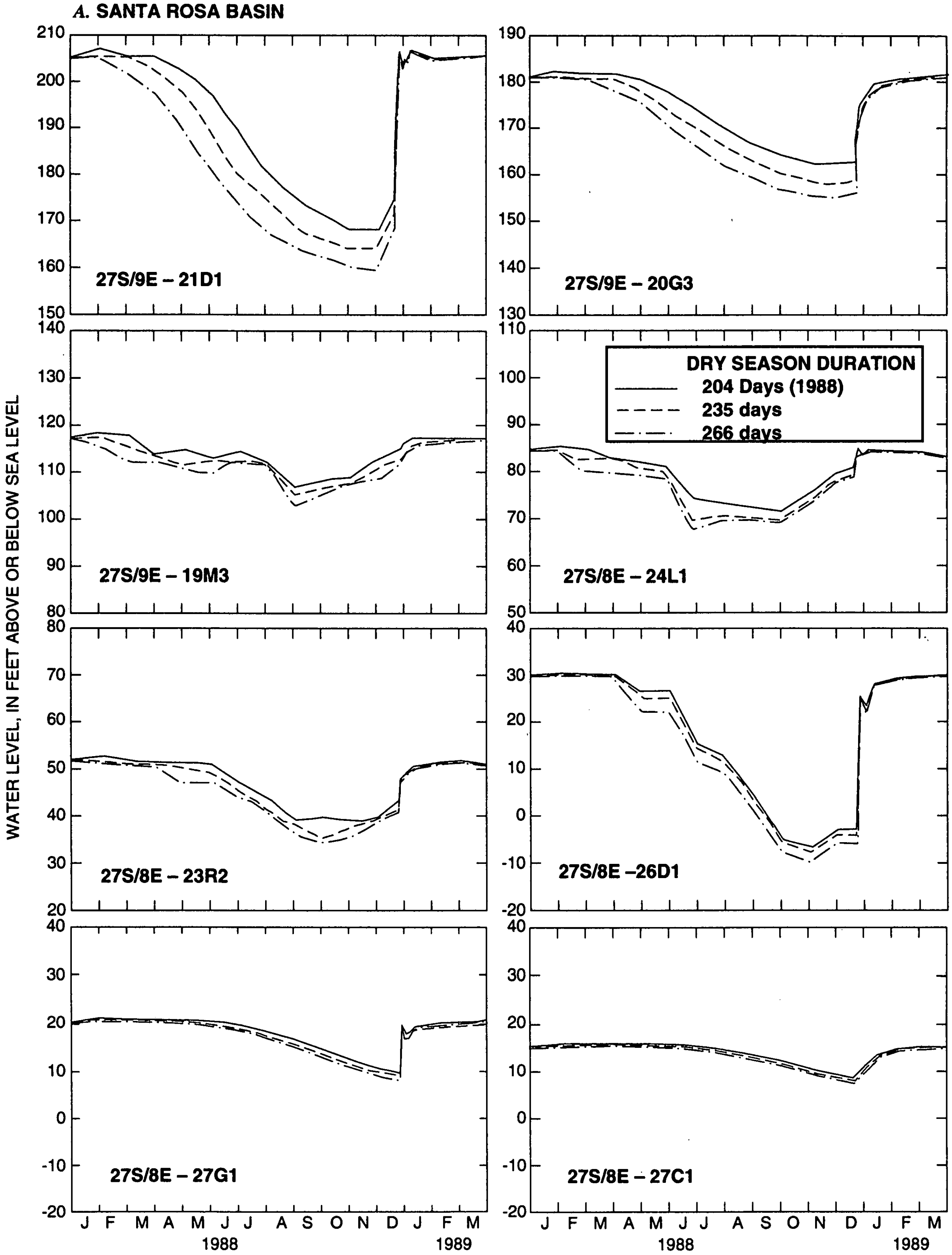

A. SANTA ROSA BASIN

Figure 26. Effects of dry-season duration on simulated ground-water levels for the Santa Rosa and the San Simeon ground-water basins, San Luis Obispo County, California, 1988–89.

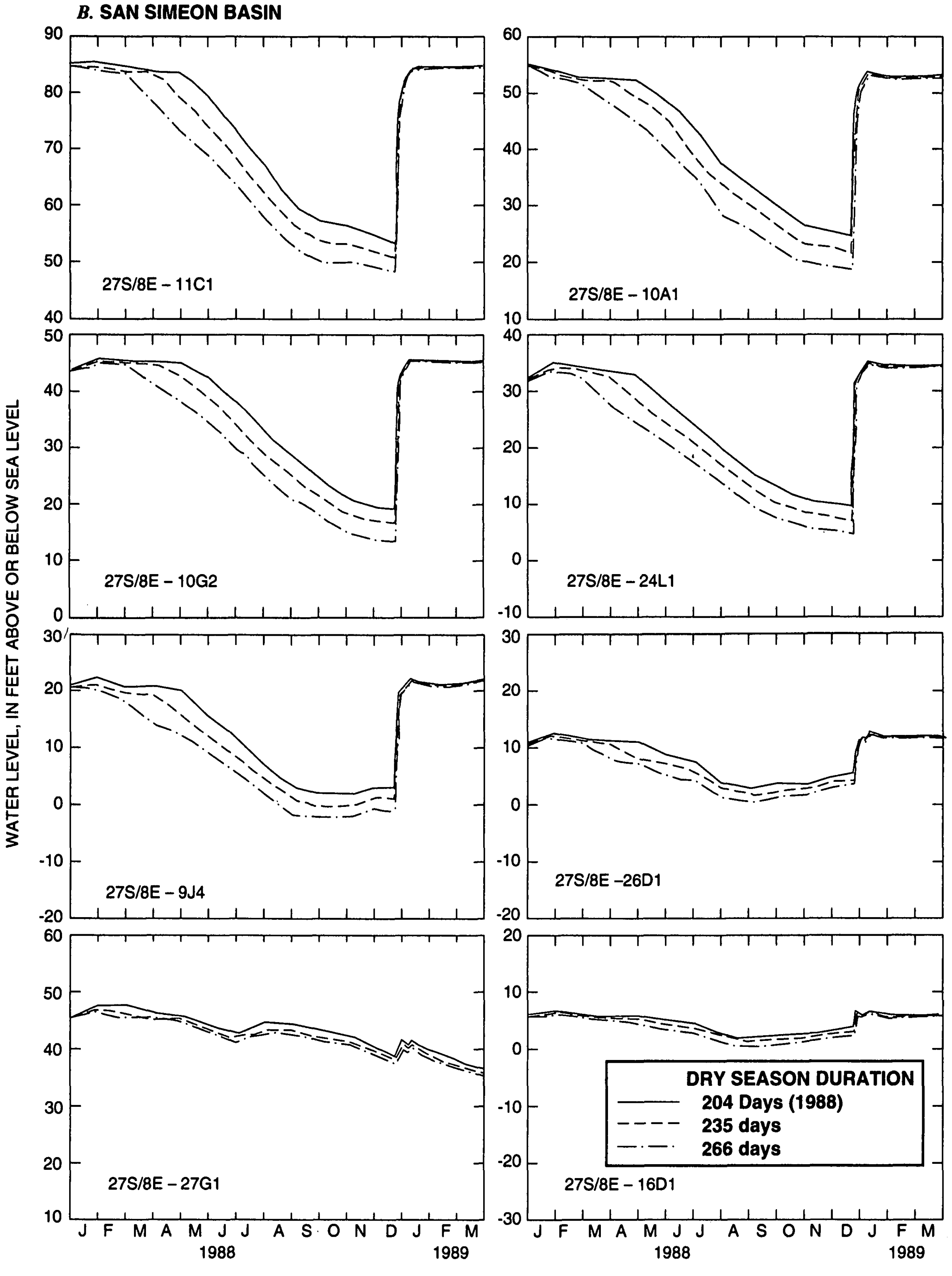


Figure 26. Effects of dry-season duration on simulated ground-water levels for the Santa Rosa and the San Simeon ground-water basins, San Luis Obispo County, California, 1988–89—Continued.

Dry Wells

Some wells are likely to go dry during a long dry season. Wells at greatest risk of going dry are shallow wells and wells at the upper ends of the valleys. Well 27S/9E-21C1 in the Santa Rosa ground-water basin did go dry in mid-September 1988. Similarly, the pumping water level in irrigation well 27S/8E-11C1 in the San Simeon ground-water basin reached the pump intake in October 1988, forcing the farmer to switch to well 27S/8E-10A3. Simulated water levels are not accurate indicators of potential pumping difficulties because they represent static (nonpumping) water levels. Potential difficulties could be evaluated on a well-by-well basis by using the specific capacity of a given well to convert the static water level to a pumping water level. The pumping water level could then be compared with the depth of the pump intake and well screen. Pumping problems are most likely to result when pumping water levels reach the pump intake. Simulated water levels were at depths below the top of the casing perforations at many wells near the upper ends of the valleys in all simulations of long dry seasons. This occurred at wells as far downstream as well 27S/9E-20G3 in the Santa Rosa Basin even for the shortest simulated dry-season duration (calendar year 1988). In the San Simeon Basin, this occurred at wells as far downstream as well 27S/8E-10M2. However, the incremental water-level decline for each additional month of dry season is a small fraction of the total perforated interval of most wells.

Subsidence

Land subsidence and ground deformation occurred in Cambria in the summer of 1976 and could occur again if the minimum dry-season water level is close to or less than the record low level reached that year. A series of ground fractures developed on the north side of Santa Rosa Creek in the commercial district near Burton Avenue (fig. 2). The greatest amount of movement, which probably occurred between early August and mid-September 1976, caused breaks in utility pipelines and cracks as much as 4 in. wide in structures and road surfaces. Cleveland (1980) attributed the subsidence to a trend of increasing water use and below-average recharge in the early 1970's combined with the short-term effects of the drought of 1975–76. No subsidence has ever been reported in the San Simeon Basin.

Other factors might have contributed to the subsidence in 1976. Individual septic systems in Cambria were replaced with a central sewer system in late 1972, which decreased the quantity of local ground-water recharge. Minor amounts of ground settling were noticed in scattered locations each year between 1972 and 1975 (Cleveland, 1980). Some of this movement could have resulted from desaturation of surficial deposits. However, some of the movement also could have resulted from exceptionally low water levels in 1972 (27S/8E-26C5 in fig. 8).

Widespread subsidence in 1976 was more clearly associated with record low water levels. The effect of sewering on subsidence in 1976 might have been largely indirect. By decreasing the quantity of local recharge, sewering caused water levels to decrease faster in response to pumping than they would have otherwise.

Subsidence in alluvial ground-water basins usually is caused by low water levels that decrease the buoyant effect of hydrostatic pressure in the ground-water system. This increases the effective load of the overburden and causes a slight but largely permanent compaction in montmorillonitic clay strata (Lofgren, 1968). In August 1976, water levels in municipal well 27S/8E-26D1 and the now-abandoned well 27S/8E-26C3 reached record low levels of about 60 and 72 ft below land surface (14 and 20 ft below sea level), respectively. The low water levels coincided with the onset of ground deformation.

The potential for additional subsidence in Cambria owing to ground-water pumping can be estimated from studies of subsidence in other areas and from the relation between water levels and pumpage. Ground-water pumping in the San Joaquin and the Santa Clara Valleys in California has caused as much as 29 ft of subsidence over periods of several decades (Poland, 1969; Riley, 1969; and Bull and Poland, 1975). The amount of compaction of clay strata—which is about one-half the total alluvial thickness in these areas—was between 0.00001 and 0.00016 ft per foot of water-level decline per foot of clay thickness. Ground surveys in Cambria were begun too late to record the full amount of subsidence. As much as 0.14 ft of subsidence was measured between late September and December 1976. However, subsidence potential can be estimated by applying the compressibilities measured in other areas to the 140-foot-thick alluvial deposits in Cambria. Assuming 50 percent of the thickness is compressible clay, a 10-foot decrease in the record low water level in Cambria would cause between 0.007 and 0.110 ft of subsidence.

Duration of stress is another factor in subsidence. Compaction can take years to equilibrate to a sudden increase in stress, and subsidence can continue even after water levels rise above their record low levels (Helm, 1978). Similarly, subsidence can resume when water levels are at or slightly above their record low levels if compaction had not fully equilibrated to the amount of stress during the previous period of low water levels. Thus, subsidence near well 27S/8E-26D1 could resume any time water levels are near or below the record low levels of 1976. In 1988, for example, the minimum water level in well 27S/8E -26D1 at the end of the dry season was 12 ft below sea level, which is only 2 ft higher than the minimum level in August 1976. Subsidence could have occurred in 1988, although none was reported.

Minimum water levels during the dry season are determined more by the cumulative quantity of dry-season pumpage than by the duration of the dry season. In 1976, the minimum water level in well 27S/8E-26D1 occurred in late August after a total of about 226 acre-ft of pumpage since the beginning of May. In 1988, the minimum water level did not occur until mid-December, after a total of 238 acre-ft of pumpage since the beginning of May. In both years, streamflow at the gaging station at State Highway 1 ceased in May and a rapid dry-season water-level decline began in June. Although the relation between cumulative pumpage and water-level decline seems similar for both years, other factors could cause changes or variations in the relation. For example, long-term changes could have resulted from the subsidence in 1976 and from decreases in water main leak rates. Subsidence causes an irreversible decrease in the storage capacity of the basin. As a result, less pumpage is needed to return water levels to their previous low levels. The municipal water system leaked about 20 percent less water in 1988 than in 1976 as a result of extensive pipe repairs in late 1970's. Some of the water that leaks from pipes returns to the ground-water basin and offsets pumping withdrawals. Thus, although the gross dry-season pumpages were similar in 1976 and 1978, net pumpages might have been different. Under a permit from the California State Water Resources Control Board (Decision 1624, April 1989), the CCSD is authorized to pump a maximum of 260 acre-ft of water from the Santa Rosa Basin between May 1 and October 31.

In the early 1970's (prior to the occurrence of subsidence in Cambria), the dry-season safe yield of the "downtown area" was assumed to equal 260 acre-ft, apparently for no other reason than that this was the quantity of dry-season pumpage in 1972 (Coastal Valley Engineering, Inc., 1976). Water-level declines in 1988 indicate that 260 acre-ft of pumpage during the dry season can bring water levels close to the threshold at which subsidence will resume. Simulation results indicate that under the pumping conditions that existed in 1988, the minimum dry-season water level in Cambria decreased by 1 to 2 ft for each additional month of dry-season duration.

Single Winter with Incomplete Recharge

If streamflow is insufficient during winter, ground-water recharge will be incomplete and water levels will not return to the levels of the preceding winter. As an extreme example, the hydrographs in figure 27 show simulated water levels for 1988–89 that resulted from omitting all streamflow and rainfall recharge during the winter of 1989. In the Santa Rosa Basin, water levels declined continuously during winter at wells upstream of well 27S/9E-19M3 and downstream of 27S/8E-27G1, but at wells in the intervening reach, water levels recovered as much as 25 ft. The recovery was a result of small storage coefficients, redistribution of water within the basin, and sufficient inflow from bedrock to cause a basinwide storage increase of 57 acre-ft. By the end of the second dry season, all wells upstream of well 27S/9E-20G3 were dry, and water levels in wells 27S/9E-20G3 and 27S/8E-26C5 were low enough to probably cause pumping difficulties.

Seawater intrusion did not occur during the second simulated dry season in the Santa Rosa Basin, but the rate of subsurface outflow to the ocean was only about one-third the rate during the first dry season. Subsidence probably occurred near wells 27S/8E -26C5 and 26D1, where simulated water levels at the end of the second dry season were 2 to 18 ft below the record low levels in 1976.

In the San Simeon Basin, effects were more severe. Water-level recovery was minimal during winter, and basinwide storage did not increase even though inflow from bedrock and recharge from the CCSD wastewater sprayfield were the same as in the calibration simulation. A water-level recovery of 1 to 2 ft in wells in the CCSD well field resulted from ground-water movement from other parts of the basin. One reason winter recovery was much less than in the Santa Rosa Basin is that municipal pumping rates do not

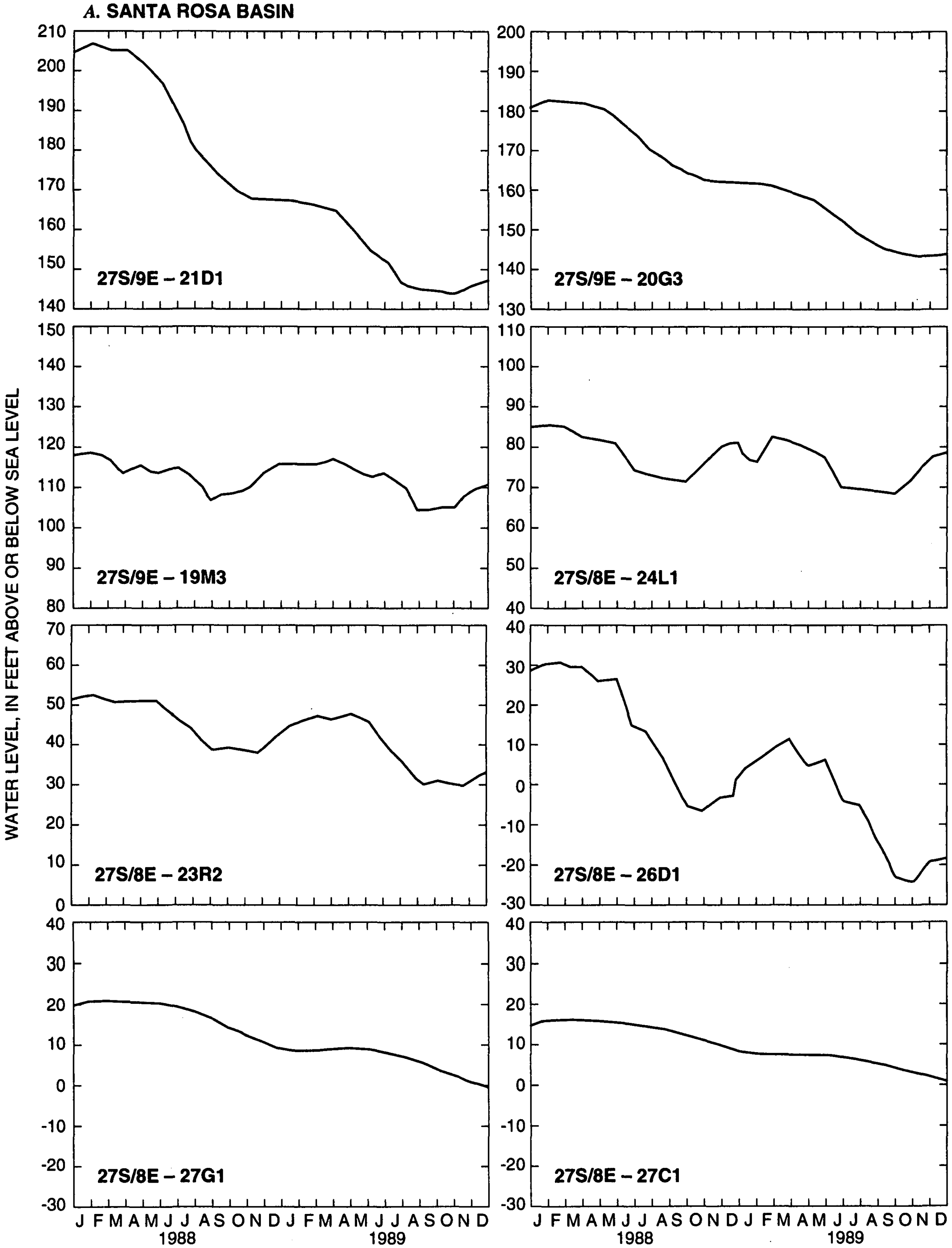


Figure 27. Simulated effects of a single winter without recharge on ground-water levels for 1988–89 for (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, assuming normal pumping rates, and effects of selected decreases in agricultural pumping for the San Simeon Basin for 1989, San Luis Obispo County, California.

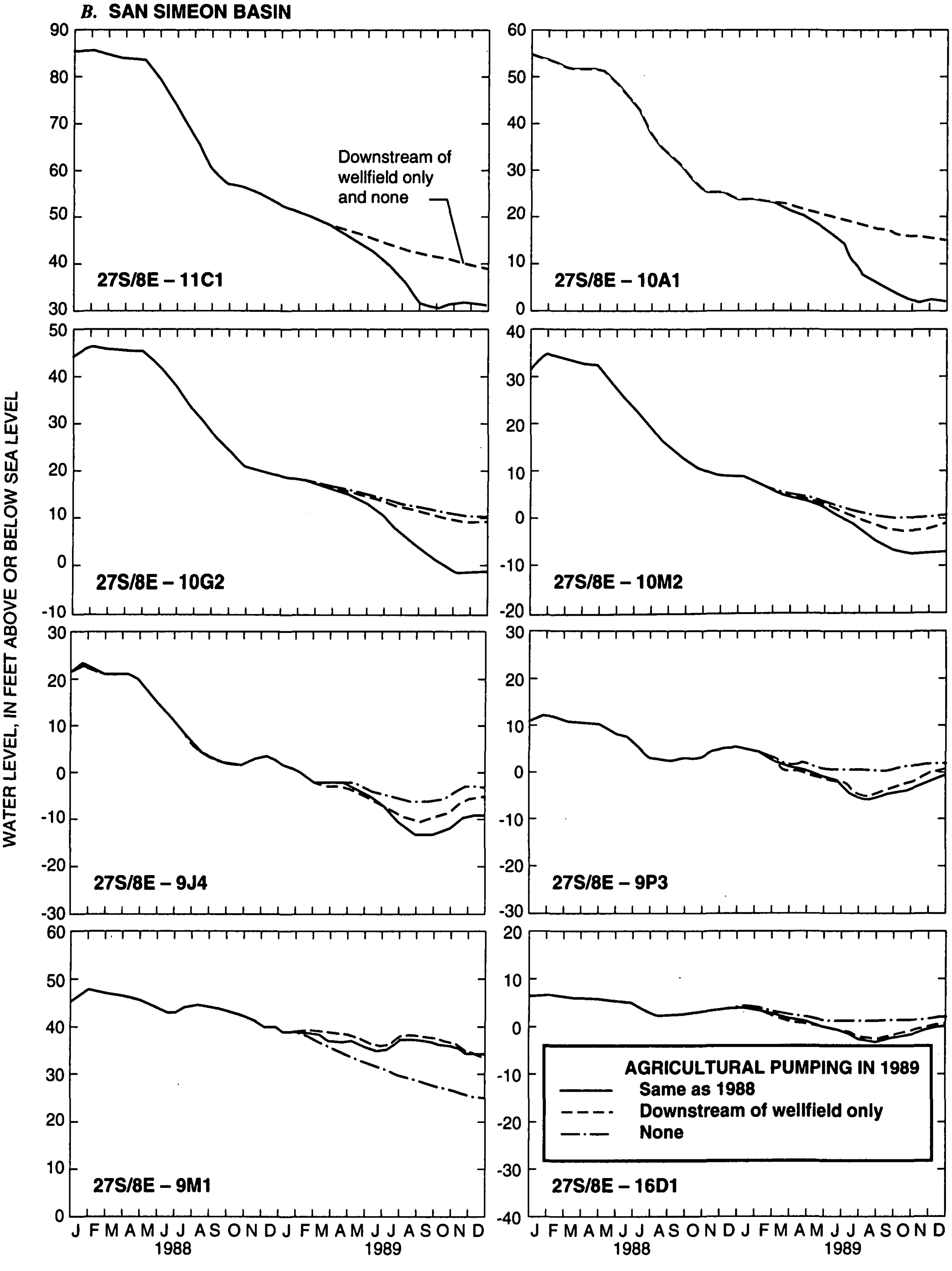


Figure 27. Simulated effects of a single winter without recharge on ground-water levels for 1988–89 for (*A*) the Santa Rosa and (*B*) the San Simeon ground-water basins, assuming normal pumping rates, and effects of selected decreases in agricultural pumping for the San Simeon Basin for 1989, San Luis Obispo County, California—Continued.

decrease in winter as much as do agricultural pumping rates. Water-level declines during the second dry season were about the same as during the first dry season. Water levels in the CCSD well field and wastewater sprayfield declined to below sea level during the second dry season, resulting in 48 acre-ft of seawater intrusion. Static water levels were near or below the pump intake at all wells upstream of well 27S/8E-10F2. By the end of the second dry season, static water levels were below the tops of the perforated intervals at all wells between wells 27S/8E-10F2 and 9K3. These wells might have pumped air or experienced a decline in yield. Simulated conditions during the second dry season were somewhat more severe than those that would actually occur because simulated pumpage was not decreased as wells went dry. If pumpage had been discontinued at dry wells, water-level declines in the middle and lower parts of the valley would not have been as large, but crop losses caused by lack of irrigation water in the upper part of the valley probably would have been large.

Recharge of the ground-water basins will be incomplete if stream discharge during winter is less than the cumulative storage deficit of the preceding dry season. Even if total stream discharge exceeded the deficit, recharge could be incomplete if the daily distribution of streamflow were such that some of it flowed out to the ocean. Dry-season storage deficits have been increasing in recent years because of increases in dry-season pumpage. For the following discussion on stream recharge, the deficit is assumed to equal the deficit from April 1 through December 20, 1988. This deficit was 660 acre-ft in the Santa Rosa Basin and 500 acre-ft in the San Simeon Basin.

These deficits equal the minimum quantity of stream discharge needed for complete basin recharge and are the threshold at which detrimental effects of drought conditions will begin to appear. For quantities of discharge less than this, the severity of the effects increases until the extreme case of zero discharge is reached. These minimum quantities of stream discharge are small compared with the total annual discharge in most years. For the Santa Rosa and the San Simeon Basins, the quantities are only 12 and 5 percent of the long-term median discharge, respectively.

The critical management issue associated with dry winters is the probability of a winter in which streamflow is insufficient to recharge the ground-water basins completely. This occurred most recently during the winter of 1977. The probability of a winter with incomplete ground-water recharge was estimated from the distribution of annual stream discharge and the sequence of daily flows in each year. Using the relation between annual discharge and annual rainfall in San Luis Obispo (fig. 15), the probability of low flows was estimated from the probability of periods of low rainfall. The probability distribution of rainfall at San Luis Obispo for 1870–1989 is shown on a log-normal probability plot in figure 28. The linear pattern formed by the data indicates that annual rainfall is approximately log-normally distributed. The mean and standard deviation are 21.74 and 8.5 in., respectively. For comparison, a log-Pearson Type III distribution also was fit to the data, and the maximum difference

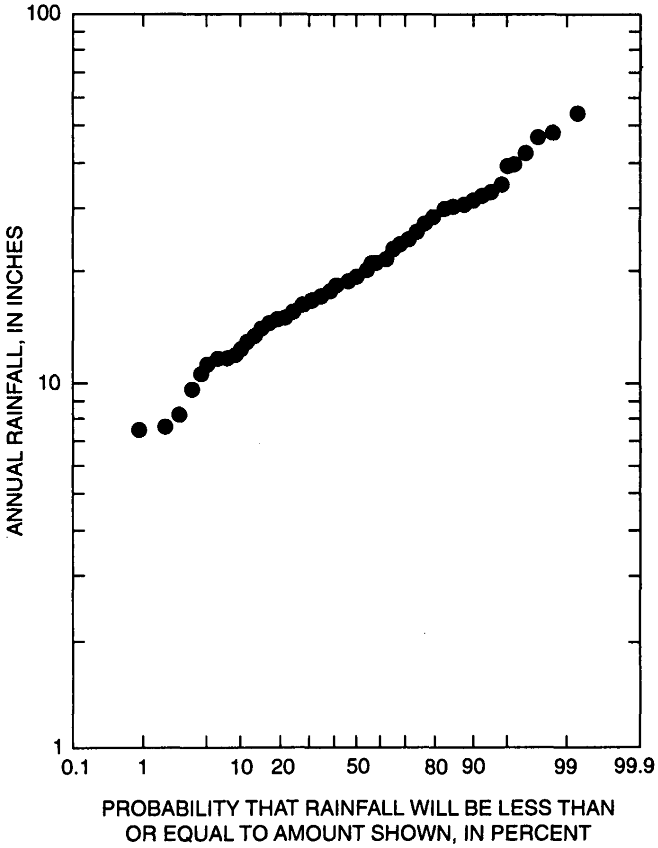


Figure 28. Probability distribution of annual rainfall at the San Luis Obispo-Poly station, San Luis Obispo County, California, 1870–1989.

between the two distributions is about 0.2 in. of rainfall for probabilities in the range 0.01 to 0.99. The log-Pearson Type III distribution is widely used for low flows (Tasker, 1987).

Table 10 shows the recurrence intervals of selected low annual rainfall and stream discharge. The recurrence intervals were calculated using the fitted log-Pearson Type III distribution. Back-transformation of the logarithms to inches of rainfall was done using frequency factors, as explained by Haan (1977). A year with less than the minimum amount of stream discharge necessary to completely recharge the ground-water basin is likely to occur once in 18 years in the Santa Rosa Basin and once in 25 years in the San Simeon Basin. A winter as dry 1976 or 1977, when basin recharge did appear to be incomplete, is likely to occur once in about 25 to 26 years.

The recurrence intervals and stream discharges shown in the table are only approximate because large uncertainties result from scatter in the data. The log-Pearson Type III distribution does not fit the data perfectly. The 95-percent confidence interval for recurrence intervals between 5 and 500 years corresponds to about ±1 in. of rainfall. This in turn corresponds to an uncertainty in annual stream discharge of ±560 acre-ft for Santa Rosa Creek and ±1,100 acre-ft for San Simeon Creek. In terms of recurrence intervals, the 95-percent confidence interval for a winter with incomplete recharge is about +18 years and about –9 years. The uncertainty in the stream discharge is even greater if uncertainties inherent in the regression equations are included. For example, the uncertainties in the expected quantity of stream discharge associated with a 20-year period of rainfall

Table 10. Recurrence intervals of low annual rainfall at San Luis Obispo and stream discharge at upstream gaging stations on Santa Rosa and San Simeon Creeks, San Luis Obispo County, California

[In each row, the underlined item is measured or assumed, and the remaining items are calculated from the rainfall probability distribution (fig. 28) and the rainfall-discharge regressions (fig. 15). na, not applicable]

Item	Recurrence interval (years)	Annual rainfall at San Luis Obispo (inches)	Annual discharge at upstream gaging station (acre-feet)	
			Santa Rosa Creek	San Simeon Creek
Minimum amount likely to occur once in				
100 years	100	8.20	0	0
50 years	50	9.15	0	0
20 years	20	10.80	580	1,040
10 years	10	12.41	1,490	2,810
Zero discharge in				
Santa Rosa Creek	32	9.78	0	0
San Simeon Creek	31	9.85	40	0
Minimum discharge for complete basin recharge in[1]				
Santa Rosa basin	18	10.95	660	1,200
San Simeon basin	25	10.31	300	500
Minimum recorded stream discharge				
Santa Rosa (1977)	26	10.21	240	na
San Simeon (1976)	25	10.29	na	480

[1] Assuming dry-season ground-water storage deficits equal to those in 1988.

become ±1,620 acre-ft for Santa Rosa Creek and 1,880 acre-ft for San Simeon Creek. These large uncertainties result from variations in the data not accounted for by the log-linear model. Nevertheless, the data do not show systematic departures from the assumed distribution and calculated regression lines. For the purpose of water-supply planning, the relations between stream discharge and recurrence interval indicated in table 10 should be considered most likely rather than worst case. Even allowing for uncertainty, the recurrence interval of incomplete recharge is clearly short enough to warrant consideration during water-supply planning.

The recurrence interval for a year with zero discharge is 32 years for Santa Rosa Creek and 31 years for San Simeon Creek (table 10). The linear regressions indicate that discharge is zero in Santa Rosa Creek when annual rainfall in San Luis Obispo is less than 9.78 in. (9.85 in. for San Simeon Creek). Since 1870, rainfall was less than these threshold amounts in 1877, 1898, 1913, and 1924. These were the 4 driest years on record, with rainfall ranging from 7.33 in. in 1898 to 9.52 in. in 1913. For comparison, 1977 was the seventh driest year on record, with 11.53 in. of rainfall. The recurrence interval for the amount of rainfall in 1977 is about 15 years. A longer recurrence interval is indicated in table 10 because the linear regressions predicted that a smaller amount of rainfall would be associated with the measured stream discharges in 1976 and 1977.

Tree-ring data indicate that climatic conditions during the period of record for rainfall for 1870–1989 were similar to those during the preceding several centuries. Growth rings of trees along the central coast of California have been used to estimate rainfall since about 1593 (Michaelson and others, 1987). These data include individual years of more extreme climatic conditions than have occurred during the period of record for rainfall measurements in San Luis Obispo. In the extended record, 1898 is only the third driest year. Furthermore, climatic variability seems to be about as great in recent years as it has been in general throughout the last 400 years. The tree-ring data give no indication that extremely dry years will be any less likely to occur in the future.

Some of the variability in the relation between annual rainfall and annual stream discharge results from different temporal patterns of rainfall within each year. A small number of large storms will generate larger peak flows and greater total discharge than a large number of small storms. Peak flows often exceed the rate at which water can percolate through the creekbed and become ground-water recharge; thus, even in a year when total stream discharge exceeds the dry-season storage deficit, recharge can be incomplete if much of the discharge is during brief periods of peak flows. Test simulations indicated that daily mean flows of as much as 35 ft^3/s in Santa Rosa Creek and 50 ft^3/s in San Simeon Creek could be completely captured as recharge on the first day of the flow season.

The maximum streamflow that can be completely captured as ground-water recharge decreases as the basin gradually fills during the winter. The maximum streamflow (expressed as daily mean flow) during a low-flow year is roughly proportional to total annual discharge. Figure 29 shows the relation for annual discharges of less than 5,000 acre-ft. The relation indicates that in a year with the minimum discharge needed for complete basin recharge (about 662 acre-ft for Santa Rosa Creek and 503 acre-ft for San Simeon Creek), the maximum daily mean flow for any day during the flow season is likely to be between 20 and 80 ft^3/s. This means that even if total annual discharge is low, it is possible that some of the stream discharge will flow out to the ocean and not be captured as recharge. In 1976, for example, annual discharge at the upstream gaging station on Santa Rosa Creek was 323 acre-ft. Discharge at the downstream gaging station

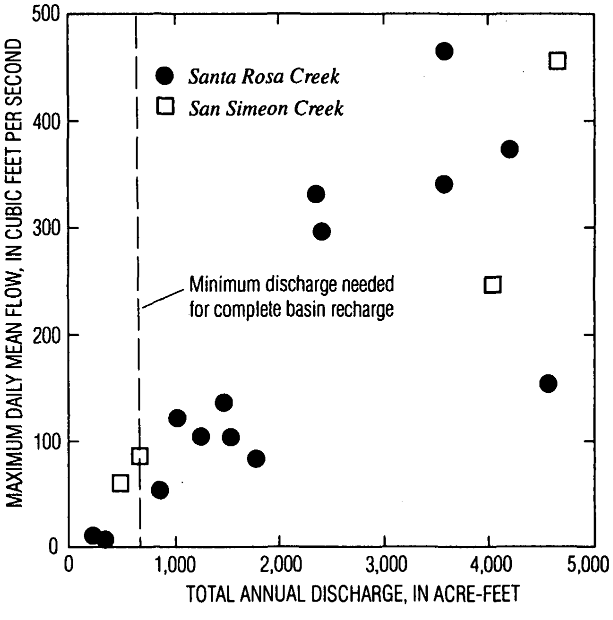


Figure 29. Relation of maximum daily mean flow and annual discharge in Santa Rosa and San Simeon Creeks, San Luis Obispo County, California.

was about one-half that amount, although much of the flow probably was reemerging base flow derived from ground water in the basin rather than through flow of water from the upstream gaging station. In 1977, there was no flow at the downstream gaging station even though discharge at the upstream gaging station was only 25 percent less than in 1976. Because of the variability in the daily sequence of streamflow, annual stream discharge is a good but not perfect indicator of ground-water recharge in dry years.

Successive Winters with Incomplete Recharge

Given that the consequences of even a single winter with incomplete recharge can be fairly severe, the consequences of two successive winters with incomplete recharge could be devastating. The likelihood of this occurrence would be an important factor in designing water storage facilities. Annual stream discharge was tested for serial correlation to determine whether amounts in 1 year are related to amounts in the following year. The 1-year serial correlation coefficients of annual discharge at the upstream gaging stations on Santa Rosa and San Simeon Creeks are less than 0.07, which is not significant according to the a test developed by Anderson (1962). This indicates that the probability of an exceptionally dry year can be assumed to be the same each year and to be independent of streamflow during the previous year.

The periods of record for streamflow in Santa Rosa and San Simeon Creeks are both fairly short for accurate estimation of serial correlation. However, the 120-year record of annual rainfall at San Luis Obispo also does not indicate significant serial correlation. Consequently, the probability of 2 successive years of incomplete recharge is the product of their individual probabilities, or about 0.0028 for Santa Rosa Creek and 0.0014 for San Simeon Creek. These probabilities correspond to recurrence intervals of about 360 and 730 years, respectively. Similarly, the recurrence intervals of 2 successive years of zero discharge are about 1,370 and 1,225 years.

The 400-year tree-ring record analyzed by Michaelson and others (1987) shows a small amount of serial correlation, even after correcting for a large correlation effect related to tree-growth processes. They defined an extremely dry year as having a probability of 0.1 and calculated that the probability of 2 extremely dry years in a row is 0.017. This probability is 1.7 times greater than if there were no serial correlation. If annual stream discharge exhibited the same degree of serial correlation as extremely dry years in the tree-ring record, the recurrence interval for 2 successive years with incomplete recharge would be about 210 years for Santa Rosa Creek and about 430 years for San Simeon Creek.

The driest 2-year drought in the streamflow record was in 1976–77. Average annual rainfall at San Luis Obispo for those 2 years was 13.61 in., which was the sixth driest 2-year period in rainfall record. The driest 2-year period in rainfall record was in 1898–99, which had an average annual rainfall of 12.23 in. This average is greater than the amount of rainfall in the 11 driest single years. Basin recharge would have been complete in at least 1 year of every 2-year drought since 1870. Similarly, 1987–90 was the sixth driest 4-year period since 1870, with an average rainfall of 16.16 in. In summary, recent multiple-year droughts have not been particularly severe, and 2 or more consecutive years of incomplete basin recharge are not likely to occur more often than once in 100 years or more.

Evaluation of Water-Resources Management Alternatives

To help resolve concerns and questions expressed by citizens and public agencies responsible for managing local water resources, ground-water-flow models were used to evaluate the effects of four water-resources management alternatives. The first simulation was of fully irrigated conditions, which could occur as the combined result of management decisions made by individual farmers. The final three simulations explored alternatives that could be pursued by CCSD to augment the municipal water supply under normal or drought conditions.

Increased Agricultural Water Use

The quantity of water available for municipal use could decrease if there were an increase in agricultural water use. Increased agricultural pumping could result from an increase in irrigated area, an increase in cropping intensity, or a conversion to crops with greater irrigation requirements. Hypothetical water-intensive cropping patterns were developed for both basins by modifying the actual cropping patterns of 1988–89. Irrigated crops were substituted for nonirrigated ones and extended fallow periods were filled with additional irrigated crops. Numerous fields throughout both basins were affected by these changes. The number and size of fields were not changed. Many of the irrigated crops presently grown already have moderate or high water requirements, and this crop mix was assumed to continue. Short fallow periods were retained in the hypothetical data set. Overall, the hypothetical cropping pattern and its irrigation requirements represent a high but plausible agricultural water demand.

Agricultural pumping requirements for the hypothetical cropping patterns were estimated using the soil-moisture budget algorithm. These estimates were greater than actual pumpage during 1988–89 by 310 acre-ft (35 percent) in the Santa Rosa Basin and by 120 acre-tt (26 percent) in the San Simeon Basin. The hypothetical pumping rates were substituted into the calibrated simulations for the 1988–89 period by increasing the pumpage at existing wells serving the fields where irrigation demand increases. Municipal pumpage was not changed. In both basins, about 37 percent of the pumpage increase was offset by irrigation-return flow. In the Santa Rosa Basin, almost all the remainder was balanced by an increase in net seepage from the creek. In the San Simeon Basin, the remainder was balanced by increased rainfall recharge, increased net seepage from the creek, and decreased underflow to the ocean. Net storage also increased slightly because of additional irrigation-return flow in the Van Gordon Creek area. Overall, increased agricultural pumpage increased the cumulative dry-season storage deficit and consequently decreased the recurrence interval of a year with incomplete recharge (from 18 to 16 years in the Santa Rosa Basin). No seawater intrusion occurred and stream discharge was sufficient to recharge the basins fully.

Increased agricultural pumping generally increased dry-season water-level declines as shown in figures 30 and 31. The amount varied locally, depending on the amount of pumpage increase at each irrigation well. In the Santa Rosa Basin, dry-season water-level declines increased as much as 10 ft near wells 27S/9E-19M3 and 27S/8E-26D1. The latter well is a municipal well, and the increased water-level decline was largely the result of irrigation at a nearby 33-acre field that was nonirrigated during 1988–89. This well is in the area where subsidence occurred in 1976. In this simulation, the water level at the end of the dry season (18 ft below sea level) was 4 ft lower than the minimum water level in 1976. This low level could result in a small amount of renewed subsidence.

In the San Simeon Basin, the increase in dry-season water-level declines was less than 3 ft in all areas along San Simeon Creek. Water levels were higher by as much as 7 ft along Van Gordon Creek.

Additional Municipal Well in the Santa Rosa Basin

During 1988–89, ground-water pumping was minimal downstream of well 27S/8E-26D1 in the lower part of the Santa Rosa Basin. Although water levels near the well declined to below sea level in 1988, water levels between the well and the coast remained above sea level. One possibility for increasing the municipal water supply would be to install an additional municipal well between well 27S/8E-26D1 and the coast. The effects of this alternative were explored by adding a new well at the present location of well 27S/8E-27G1 (fig. 2). The well arbitrarily was assumed to produce 100 acre-ft/yr, which represents a 12-percent increase in total municipal pumpage. The monthly distribution of this pumpage was assumed to be the same as the monthly distribution of municipal water use and ranged from 6.1 acre-ft in February to 11.0 acre-ft in July and August. All other model input was the same as the input for the calibrated simulation for 1988–89.

The simulated water budget indicated that 90 percent of the additional pumpage was supplied by increased net seepage from Santa Rosa Creek. The remainder was supplied equally by decreased underflow to the ocean and decreased phreatophyte transpiration. No seawater intrusion occurred. The effects of the additional well on ground-water levels are indicated by the hydrographs in figure 30. Water levels upstream of the high school (well 27S/8E-23R2) were unaffected. The minimum dry-season water level near the new well was lower by 13 ft but was above sea level between the well and the coast. The minimum dry-season water level at municipal well 27S/8E-26D1 was lower by 3 ft and was 1 ft below the historical minimum water level. A small amount of renewed subsidence could result from these low levels.

Redistribution of Treated Municipal Wastewater

If municipal wastewater were treated to higher standards, it could be used for artificial ground-water recharge in areas upgradient of the municipal wells. This would increase the quantity of water available for

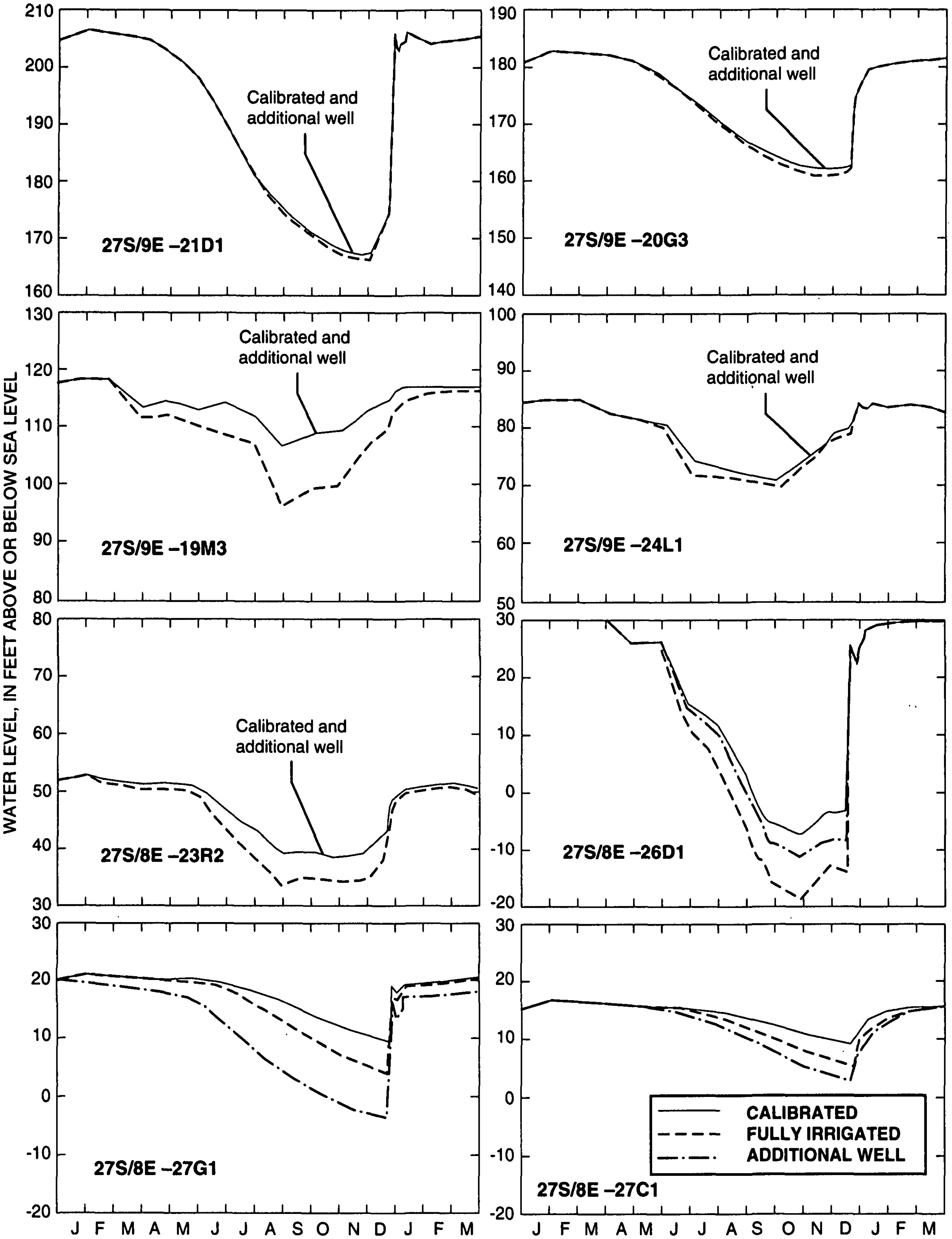


Figure 30. Effects of increased agricultural pumpage and pumpage from an additional municipal well on water levels in the Santa Rosa ground-water basin, San Luis Obispo County, California.

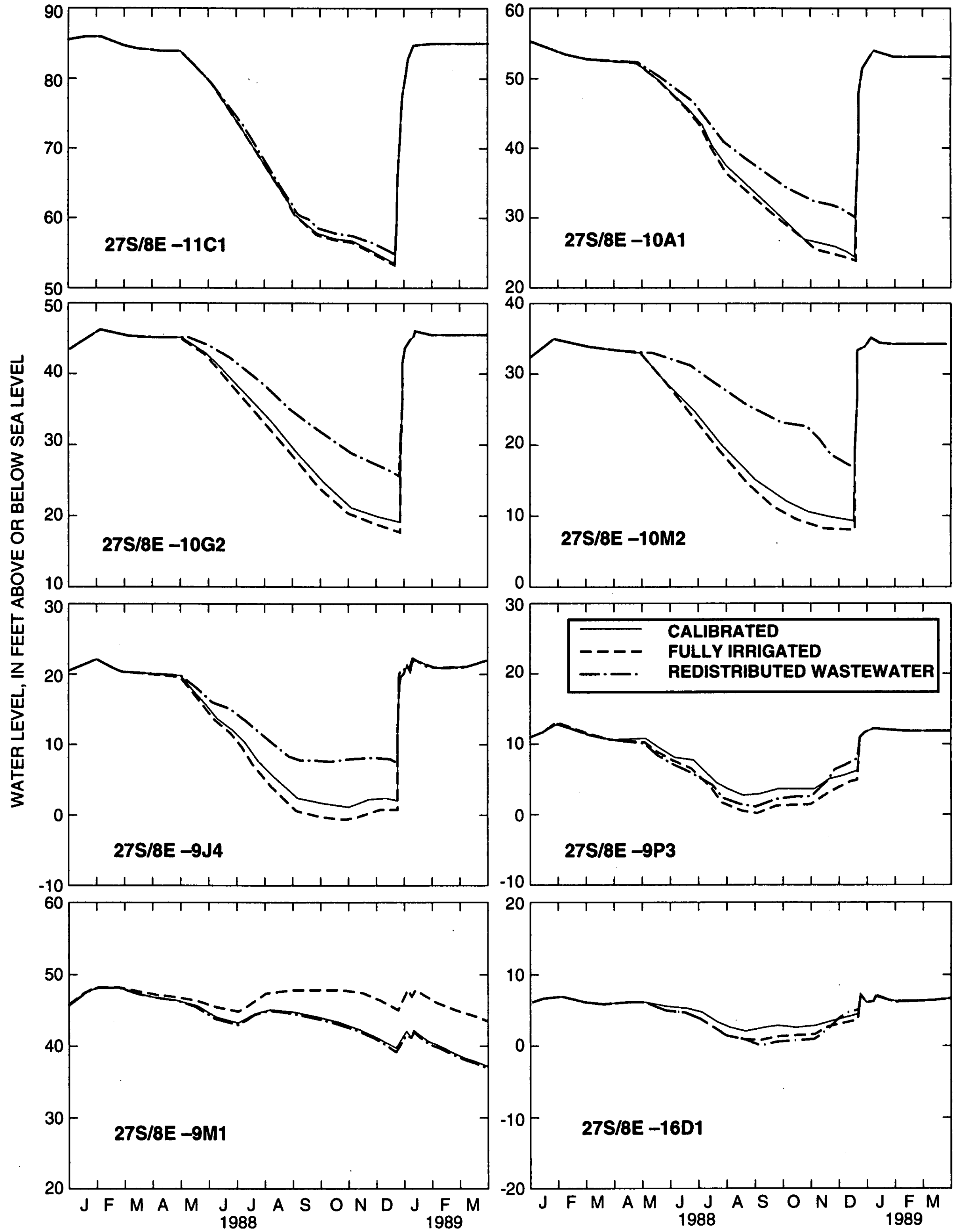


Figure 31. Effects of increased agricultural pumpage and redistributed wastewater recharge on water levels in the San Simeon ground-water basin, San Luis Obispo County, California.

municipal use during the dry season. A project has been proposed to pump ground water from the CCSD wastewater sprayfield, treat it, and deliver it to percolation ponds upstream of the CCSD well field (Steven Swanback, Carollo Engineers, written commun., September 1990). Possible locations for two off-channel percolation ponds with a combined area of 0.80 acre are shown in figure 2. A total of 270 acre-ft of ground water would be transferred at a uniform rate over a 6-month period during the dry season.

The effects of this alternative were simulated by including the proposed wells and percolation ponds in the calibrated simulation for 1988–89 and by assuming that water was transferred during the months of May through October 1988. Pumpage from the sprayfield was assumed to occur at wells 27S/8E-9N2 and 9P2. The ponds were simulated as if they were recharge wells injecting specified quantities of water into the ground-water basins. The transfer operation caused a decrease of 74 acre-ft/yr (23 percent) in ground-water outflow to the ocean, which was largely offset by a decrease of 70 acre-ft/yr (13 percent) in net seepage from the creek. However, simulated water levels in the western part of the sprayfield that declined slightly below sea level during August resulted in a small amount of seawater intrusion (2 acre-ft) during that month. In a second simulation, pumpage in the sprayfield was shifted slightly farther inland, near wells 27S/8E-9N4 and 9P3. Results were similar except that seawater intrusion did not occur.

The effect of the transfer on water levels in the San Simeon ground-water basin is shown in figure 31. Dry-season water-level declines were smaller at all wells upstream of the CCSD wastewater sprayfield. The change in cumulative decline decreased from 12 ft at well 27S/8E-10M2 (located between the two percolation ponds) to about 1 ft at the upper end of the valley (well 27S/8E-11C1). Percolation from the ponds did not create a significant water-level mound even in the first month of the dry season (May 1988). The general water-level gradient was continuously downvalley through the pond area in all months, and there was no emergent seepage into the creek near the ponds. The model grid is too coarse to determine whether water-logged soils or a small water-table mound might occur in the immediate vicinity of the percolation ponds.

Overall, the transfer of 270 acre-ft of ground water from the sprayfield area to the percolation ponds significantly decreased the amount of dry-season water-level decline upstream of the sprayfield without exceeding the capacity of the aquifer to accept or transmit the infiltrated water. A small amount of seawater intrusion occurred when transfer wells were assumed to be located near the western end of the sprayfield.

Water Marketing

The effects of a dry winter on municipal water supply during the following dry season could be lessened if farmers agreed to decrease their pumpage that year by use of a water-marketing agreement. Two simulations representing different arbitrary amounts of farmer participation were made for the San Simeon Basin. The reference simulation was a 2-year simulation of calendar years 1988 and 1989, assuming no rainfall or streamflow recharge during the winter of 1989 and no change in water use from 1988 to 1989. Water budgets and water levels for this simulation were previously described in the section on droughts.

To simulate the first level of farmer participation, agricultural pumpage was omitted for wells upstream of the CCSD well field from February through December 1989, and fields in that area were assumed to lie fallow. Agricultural pumpage in the sprayfield was assumed to be the same as in 1988. The total decrease in agricultural pumpage during 1989 was 265 acre-ft. Water levels resulting from this simulation are shown in figure 27. The largest changes were near the wells where pumping was omitted. Dry-season water-level declines were smaller by as much as 12 ft near well 27S/8E-10A1 (fig. 27*B*). This effect decreases downstream to a change of about 3 ft at the CCSD well field (27S/8E-9J4). Water levels in the CCSD wastewater sprayfield (27S/8E-9P3 and 16D1) were higher by as much as 1 ft but were still below sea level for several months during 1989. The decrease in agricultural pumping resulted in a decrease of only 14 acre-ft (29 percent) in the amount of seawater intrusion.

To simulate the second level of farmer participation, agricultural pumping during 1989 also was omitted for wells in the sprayfield area, where two wells (27S/8E-9N4 and -9P2) commonly are used to irrigate fields farther north along Van Gordon Creek. The additional decrease in agricultural pumpage during 1989 was 206 acre-ft. The resulting water levels are shown in figure 27. The additional decrease in pumpage had minimal effects upstream of the CCSD wastewater sprayfield. In the sprayfield area, however, it elevated summer water levels enough to keep them above sea level and to prevent seawater intrusion.

These simulations show that transfer of water from agricultural to municipal use by means of a water-marketing agreement could allow normal municipal pumping in the San Simeon Basin during an extremely dry year without causing seawater intrusion. The simulations also demonstrated that pumpage decreases near the coast are more effective than pumpage decreases farther inland for preventing seawater intrusion.

SUMMARY

Thin, narrow ground-water basins underlie the final 3 to 5 mi of Santa Rosa and San Simeon Creeks before the creeks reach the Pacific Ocean. The creeks are near the town of Cambria in San Luis Obispo County. The basin fill consists of unconsolidated alluvial and stream-terrace deposits. The bottoms and sides of the basins are bounded by bedrock consisting primarily of the Franciscan Complex and a Cretaceous marine sandstone. Although some ground water is stored in bedrock and transmitted through its fractures, bedrock is much less porous and permeable than the basin fill.

Basin-fill deposits are heterogeneous, with grain sizes ranging from clay to gravel. Individual layers are discontinuous, although continuity generally is greatest in the direction parallel to the valley axis. A continuous clay layer underlain by sand and gravel might exist in the Santa Rosa Basin between Coast Union High School and a point about 1 mi downstream.

Hydraulic characteristics of the basin fill were measured or estimated by several methods and were highly variable. Drawdown tests and streamflow-response tests provided estimates of transmissivity ranging from 718 to 44,200 ft^2/d and estimates of storage coefficient ranging from 0.0022 to 0.0400. Calibration of ground-water-flow models yielded estimates of hydraulic conductivity ranging from 1.6 to 400 ft/d and estimates of storage coefficient ranging from 0.045 to 0.10. The calibrated storage coefficients are more accurate for long-term storage responses (days to years) than for short-term responses. Test results and model results indicated that hydraulic conductivity generally is greatest parallel to the valley axis and that hydraulic conductivity is greater and more uniform in the San Simeon Basin than in the Santa Rosa Basin. Zones of extremely low hydraulic conductivity in the Santa Rosa Basin were used to simulate areas where subsurface flow obstructions block the normal downvalley flow of ground water and force it to emerge as surface flow in the creek. The obstructions probably are caused by buried bedrock ridges that decrease the cross-sectional area of the basin.

Ground-water levels in most parts of the basins follow a seasonal pattern of gradual decline during the summer dry season followed by rapid recovery when the creeks start flowing in winter. In most years, the basins are fully recharged within a few weeks following the onset of streamflow, and additional recharge is rejected. In exceptionally dry years, stream discharge is too small to recharge the basins fully. The most significant long-term trend in water levels has been a gradual increase in the amount of dry-season water-level decline in the San Simeon Basin. This change is the result of increases in municipal and agricultural pumpage during the dry season. Large water-level declines during longer-than-average dry seasons have caused pumping difficulties in wells at the upper ends of the basins and probably were the principal cause of subsidence near Burton Avenue in the Santa Rosa Basin.

Water-quality samples collected for this study indicated that water in San Simeon Creek is of higher quality than water in Santa Rosa and Perry Creeks. Hardness and concentrations of sodium, chloride, dissolved solids were lowest in San Simeon Creek. Connate seawater released from marine sediments decreases the quality of water in Perry Creek. The effect is smaller but measurable in Santa Rosa Creek downstream of the confluence with Perry Creek.

Similar water-quality patterns exist in ground water. Data from samples collected for this study were combined with historical data to identify five subareas of uniform water quality: the Perry Creek area and the upper and lower parts of the Santa Rosa and the San Simeon Basins. Again, concentrations of most ions were lowest in the upper San Simeon Basin. Salinity is higher in the lower basins than in the upper basins. Salinity levels were highest (1,240 to 1,520 mg/L of dissolved solids) in deep observation wells installed near the coast for this study. Salinity in the lower basins is almost certainly derived primarily from the ocean rather than from an onshore source. However, overdraft probably is not the cause of the saline water in the observation wells. In the San Simeon Basin, the saline water seems to be associated with a stable saltwater wedge that forms naturally at the base of the basin near the coast. In the Santa Rosa Basin, the observation well is too far inland and its water level is too high for the brackish water to reasonably be attributed to a natural saltwater wedge or to ground-water overdraft. The cause of the high salinity in that well is not precisely known, but probably is related to historical changes in sea level. Brief occurrences of seawater intrusion previously have been measured in the Santa Rosa and the Pico Basins. In the latter case, the intrusion almost certainly was caused by ground-water overdraft.

Salinity, hardness, and high concentrations of iron and manganese limit the use of ground water in parts of the basins. The concentration of dissolved solids in the aforementioned observation wells exceeded the maximum concentration recommended for drinking water. Concentrations of iron and manganese exceed the drinking-water standards. Available data indicate no gradual, long-term changes in ground-water quality.

Major components of the hydrologic system were investigated to develop accurate ground-water budgets. Budget items were estimated by analysis of new and existing field data. In some cases, estimates were revised during the calibration of digital ground-water-flow models developed for each basin. The three-dimensional, finite-element models each contained several hundred nodes and elements. The models were calibrated to match measured water levels and streamflow for April 1988 through March 1989. The models accounted for anisotropy in aquifer characteristics and mass balance between streamflow and ground-water flow.

Average annual rainfall increases from about 20 in. at the coast to about 26 in. at the inland ends of the ground-water basins and more than 40 in. at the headwaters of the creek drainage areas. Rainfall in 1988 and 1989 was about 71 and 62 percent of the long-term average, respectively.

Streamflow at the upper ends of the ground-water basins has been measured since 1959 on Santa Rosa Creek and since 1971 on San Simeon Creek. Both of these periods of record are wetter than average, as indicated by cumulative departures of annual rainfall in San Luis Obispo during 1870–1989. Annual discharge in Santa Rosa and San Simeon Creeks was related to annual rainfall in San Luis Obispo using ordinary least-squares regression. These relations were used to estimate long-term mean and median discharge in the two creeks. Mean annual discharge in Santa Rosa and San Simeon Creeks is 6,800 and 13,100 acre-ft, respectively. Median annual discharges are 5,700 and 10,900 acre-ft, respectively. Two years of discharge data for Perry Creek indicated that daily mean flow is on average only 18 percent as large as flow in Santa Rosa Creek. Although Santa Rosa and San Simeon Creeks usually dry up in summer, base flow is more persistent in Santa Rosa Creek.

Santa Rosa and San Simeon Creeks gain and lose water as they flow across the ground-water basins. In winter, seepage from the creeks provides the largest source of ground-water recharge. Net seepage loss rates of 20 to 40 ft^3/s between the upstream and downstream gaging stations are common during the first few weeks of streamflow. As ground-water levels rise, these rates decrease and eventually approach zero. In summer, ground water emerges into Santa Rosa Creek near well 27S/9E-19H2 and creates surface flow of several cubic feet per second along about a 2-mile reach of the creek. Both creeks gain a small quantity of water near the coast. The best estimates of annual net ground-water recharge from the creeks were obtained from the ground-water-flow models. These estimates indicated that net recharge during 1988–89 was about 470 and 540 acre-ft in the Santa Rosa and the San Simeon Basins, respectively.

Areal recharge was estimated using a soil-moisture budget algorithm that balanced daily rainfall, irrigation, runoff, evaporation, transpiration, deep percolation, and storage change in the soil zone. The algorithm was applied to 119 zones of uniform vegetation overlying the ground-water basins. Local reference evapotranspiration was estimated by comparing short-term field measurements with longer term records from other coastal stations. Both Penman and eddy-correlation methods were used. Annual reference evapotranspiration in Cambria averages about 38 in. and was several inches above average in 1988. Local temperature data confirmed that coastal fog results in lower evapotranspiration rates at the coast than at locations a few miles inland. Root depths and monthly crop coefficients were estimated for each crop and vegetation type. Areal recharge to the ground-water basins was assumed to occur whenever the cumulative amount of soil moisture exceeded the field capacity of the root zone. Areal recharge from rainfall and irrigation-return flow for April 1988 through

March 1989 totaled 460 acre-ft in the Santa Rosa Basin and 220 acre-ft in the San Simeon Basin.

Transpiration by phreatophytes is strongly affected by ground-water levels, and estimates of transpiration rates were obtained from the ground-water models. Transpiration by phreatophytes during 1988–89 was about 160 and 30 acre-ft in the Santa Rosa and the San Simeon Basins, respectively.

Agricultural pumpage and irrigation efficiency were estimated by comparing crop water demand estimated by the soil-moisture budget algorithm with measured electricity consumption by irrigation wells. Electricity consumption was converted to pumpage estimates by means of well efficiency tests. Calculated irrigation efficiencies ranged from 53 to 80 percent, with a median value of 66 percent. Agricultural pumpage from April 1988 through March 1989 was 890 acre-ft in the Santa Rosa Basin and 450 acre-ft in the San Simeon Basin.

Municipal pumpage has increased dramatically in recent decades, from 130 acre-ft in 1956 to 820 acre-ft in 1988. Curve separation of monthly municipal water use indicates that about 83 percent of the annual total is used indoors. Net unaccounted-for losses from water and sewer pipes during 1988 were less than 10 percent.

The quantity of subsurface inflow entering the ground-water basins from adjacent bedrock areas was initially estimated using soil-moisture budgets. These estimates were highly uncertain, however, and were later revised during calibration of the ground-water models. The revised estimates were 370 and 150 acre-ft/yr for the Santa Rosa and the San Simeon Basins, respectively. These rates probably do not fluctuate much seasonally or annually.

Subsurface outflow from the ground-water basins to the ocean was difficult to estimate because ground water also can reach the ocean by seeping into the lower reaches of the creeks. Calibration of the ground-water models indicated that the proportion of total outflow that occurs as subsurface outflow is larger in the San Simeon Basin than in the Santa Rosa Basin. Subsurface outflow during 1988–89 was about 60 and 320 acre-ft/yr in the Santa Rosa and the San Simeon Basins, respectively.

Net ground-water storage changes from year to year are negligible in all but extremely dry years because the creeks usually replenish the water withdrawn during the dry season.

The accuracy of the calibrated models is good, although the data used for calibration were limited to relatively dry climatic conditions and to locations near the center of the valleys. The principal limitations of the model are its inability to simulate flow in the vertical direction, its omission of effects related to the saltwater wedge near the coast, and its inability to simulate pumping water levels in wells.

The models were used to simulate the effects of pumpage, drought, and several water-resources management alternatives. The effects of pumpage were investigated in a series of simulations in which all pumpage or either agricultural or municipal pumpage were eliminated. Agricultural pumpage increases dry-season water-level declines everywhere except in the Van Gordon Creek area. In the San Simeon Basin, the effect decreases uniformly downstream from a maximum of about 10 ft. The effect is more variable (from less than 2 to 25 ft) in the Santa Rosa Basin because agricultural pumpage interacts with baseflow in the creek.

Municipal pumpage affects water levels throughout the San Simeon Basin, with effects ranging from 1 ft at the upper end of the valley to 7 ft at the CCSD well field. Municipal pumpage does not affect water levels in the upper one-half of the Santa Rosa Basin but contributes up to 33 ft of dry-season water-level decline near well 27S/8E-26D1. Even with no pumpage at all, large dry-season water-level declines occur at the upper ends of the valleys because ground water naturally drains from those areas to downvalley areas. In years with long dry seasons (such as 1988), these natural dry-season water-level declines are about 75 percent as large as declines that occur with pumping.

Three types of drought were investigated: a long dry season, a winter with incomplete basin recharge, and two successive winters with incomplete recharge. Statistical analysis of streamflow records indicated that the average duration of the dry season is about 146 days in the Santa Rosa Basin and 164 days in the San Simeon Basin. However, the streamflow record is short and spans a relatively wet period. Longer estimates of dry-season duration result if streamflow data are adjusted according to long-term rainfall patterns. Simulations of progressively longer dry seasons (up to 266 days for Santa Rosa Creek and 296 days for San Simeon Creek) indicated that with present (1988) agricultural and municipal pumping rates, dry-season water-level declines increase as much as 5 ft and dry-season storage deficits increase as much as 96 acre-ft for every additional month of dry season. These rates decrease slightly as the duration of the dry season increases. The effects on water levels are greatest near the upper ends of the basins and can cause some wells to go dry, as happened in 1988. Incremental water-level declines are not large near the coast, and seawater intrusion did not occur in any of the simulations. However, water levels decline almost to the threshold at which some subsidence could occur in the Santa Rosa Basin even during dry seasons with a recurrence interval of only 5 years.

If insufficient streamflow occurs during winter, ground-water basins will not be fully recharged. The minimum amount of stream discharge required to completely recharge the basins equals the storage deficit accumulated during the preceding dry season. In 1988, this deficit was about 660 and 500 acre-ft in the Santa Rosa and the San Simeon Basins, respectively. The likelihood that stream discharge would be less than these amounts was estimated from the probability distribution of annual rainfall and the regression equations relating annual stream discharge to annual rainfall. This procedure indicated that the recurrence interval of a year with incomplete recharge is about 18 years in the Santa Rosa Basin and 25 years in the San Simeon Basin. The recurrence interval of a winter with no streamflow at all is about 32 years for both basins. There is considerable uncertainty in these estimates, but the recurrence intervals are short enough to warrant consideration during water-supply planning.

The ground-water models were used to investigate the effects of a winter without streamflow or rainfall recharge. In the simulations, numerous wells in both basins went dry by the end of the subsequent dry season; subsidence occurred in the Santa Rosa Basin, and seawater intrusion occurred in the San Simeon Basin. These simulations probably overestimate the water-level declines because pumping was maintained at 1988 rates and was not decreased as wells went dry.

The probability of the third type of drought—two successive winters of incomplete recharge—was estimated from rainfall and tree-ring data. Records of rainfall (120 years) and tree growth rings (about 400 years) showed little or no serial correlation from year to year. Two successive years of incomplete recharge are therefore likely to occur only once in 360 years or more. Even allowing for a small amount of serial correlation, the recurrence interval probably is greater than 100 years.

The first water-resources management alternative explored with the ground-water models was the possibility of increased agricultural pumpage. Cropping patterns representing reasonable but fully irrigated conditions were devised. The corresponding increases in agricultural pumpage was 310 and 120 acre-ft (35 and 26 percent) in the Santa Rosa and the San Simeon Basins, respectively. The effect of the increase on pumpage was to increase simulated dry-season water-level declines by less than 3 ft in the San Simeon Basin and by as much as 10 ft in the Santa Rosa Basin. In the simulation, no wells went dry, but a small amount of subsidence could have occurred in the Santa Rosa Basin. The larger dry-season storage deficits in this simulation would increase the likelihood of incomplete recharge in winter.

The second alternative considered was the addition of a new municipal well near well 27S/8E -27G1. A well pumping 100 acre-ft/yr was added to the calibration simulation for this location. Pumpage from an additional well pumping 100 acre-ft/yr would increase the municipal water supply by 12 percent. The resulting minimum dry-season water level in that area was lower by about 13 ft. This level is very close to the level at which subsidence could resume. Simulated water levels between the new well and the coast remained above sea level, and there was no seawater intrusion.

The third simulated alternative was a redistribution of treated municipal wastewater in the San Simeon Basin. In this simulation, 270 acre-ft of ground water was pumped during the dry season from wells in the CCSD wastewater sprayfield. After treatment, the water was recharged to the ground-water basin by means of two percolation ponds located upstream of the CCSD well field. Results indicated that dry-season water-level declines upstream of the well field were smaller by as much as 12 ft. A small amount of seawater intrusion occurred when the extraction wells were assumed to be located toward the western end of the sprayfield, but none occurred when their locations were farther inland. There was no evidence of water-table mounding or emerging streamflow near the percolation ponds.

The final alternative was a hypothetical water-marketing agreement that would decrease agricultural water use in order to maintain municipal water use in the event of a winter with no recharge from streamflow or rainfall. The effects of omitting agricultural pumpage upstream and downstream of the CCSD well field were evaluated separately. Seawater intrusion decreased by only 29 percent when pumpage was omitted upstream of the well field. In contrast, seawater intrusion was completely eliminated when pumpage also was omitted downstream of the well field, even though the incremental pumpage change was smaller.

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CALIFORNIA
Water Boards

GAVIN NEWSOM
GOVERNOR

JARED BLUMENFELD
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

MAR 14 2019

In Reply Refer to:
SMC:25002 & 28158

Cambria Community Services District
P.O. Box 65
Cambria, CA 93428-0065

Ladies & Gentlemen:

ISSUANCE OF WATER RIGHT LICENSES 13916 AND 13917 (APPLICATIONS 25002 AND 28158) TO APPROPRIATE WATER FROM SAN LUIS CREEK AND SAN SIMEON CREEK UNDERFLOWS IN SAN LUIS OBISPO COUNTY

The purpose of this letter is to inform you that the State Water Resources Control Board (State Water Board) has issued the enclosed water right licenses. You should carefully read the water right license to ensure that you understand and comply with any requirements for diversion and beneficial use of water.

The State Water Board maintains the electronic Water Rights Information Management System (eWRIMS), a computer database where you may view the current information related to your water rights. The database can be accessed at the following website:

http://www.waterboards.ca.gov/ewrims

If you have any questions, please contact me at scott.mcfarland@waterboards.ca.gov or (916) 341-5390. Written correspondence or inquiries should be addressed as follows: State Water Resources Control Board, Division of Water Rights, Attn: Scott McFarland, P.O. Box 2000, Sacramento, CA, 95812-2000.

Sincerely,

Scott McFarland

Scott McFarland, P.E.
Senior Water Resource Control Engineer
Petition and Licensing Unit
Division of Water Rights

Enclosures: 1) Licenses
2) Maps

cc: See next page.

cc (w/o enclosures):
Annette Tenneboe
Central Region
California Department of Fish and Wildlife
1234 E. Shaw Ave.
Fresno, CA 93710

cc (w/enclosures):
Cambria Community Services District
P.O. Box 65
Cambria, CA 93428-0065

ec (w/enclosures):
Annette Tenneboe
Central Region Region
California Department of Fish and Wildlife
Annette.tenneboe@wildlife.ca.gov

Sean Wendell
Water Branch
California Department of Fish and Wildlife
Sean.wendell@wildlife.ca.gov

STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

DIVISION OF WATER RIGHTS

RIGHT TO DIVERT AND USE WATER

APPLICATION 25002 PERMIT 17287 LICENSE 13916

Right Holder:

Cambria Community Services District
P.O. Box 65
Cambria, CA 93428-0065

The State Water Resources Control Board (State Water Board) authorizes the diversion and use of water by the right holder in accordance with the limitations and conditions herein SUBJECT TO PRIOR RIGHTS. The priority of this right dates from **February 23, 1976**. This right is issued in accordance with the State Water Board delegation of authority to the Deputy Director for Water Rights (Resolution 2012-0029) and the Deputy Director for Water Rights redelegation of authority dated October 19, 2017. This right supersedes any previously issued right on **Application 25002**. The right holder has made proof, to the satisfaction of the State Water Board, of the quantities of water put to beneficial use during the authorized development schedule.

Right holder is hereby granted a right to divert and use water as follows. No water shall be diverted or used under this water right unless right holder is in compliance with the terms and conditions herein:

1. Source of water: **San Simeon Creek Underflow**

   tributary to: **Pacific Ocean**

   within the County of **San Luis Obispo**

2. Location of points of diversion

By California Coordinate System of 1983 in Zone 5	40-acre subdivision of public land survey or projection thereof	Section (Projected)*	Township	Range	Base and Meridian
Well SS1 **(1) North 2,419,152 feet and East 5,637,517 feet**	**NE¼ of SE¼**	**9***	**27S**	**8E**	**MD**
Well SS2 **(2) North 2,419,397 feet and East 5,637,463 feet**	**NW¼ of SE¼**				
Well SS3 **(3) North 2,419,439 feet and East 5,636,957 feet**	**NW¼ of SE¼**				

3. Purpose of use	4. Place of use		
	Townships	Range	Base and Meridian
Municipal	**27S & 28S**	**8E**	**MD**
	Within the Cambria Community Services District as shown on map.		

The place of use is shown on map filed on February 4, 1976 with the State Water Board.

5. The water appropriated under this right shall be limited to the quantity which can be beneficially used and shall not exceed **1.43 cubic feet per second** by direct diversion to be diverted from January 1 to December 31 of each year. The maximum amount diverted under this right shall not exceed **799 acre-feet per year.** The maximum amount diverted under this right shall not exceed 370 acre-feet between the date that surface flow ceases at Palmer Flats (where San Simeon Creek Road crosses San Simeon Creek - CCS83, Zone 5, N. 2,421,503 ft. and E. 5,643,001 ft.) and October 31 of each year. As used in this right, "the date when surface flow ceases" refers to the date of cessation of seasonal run-off during the winter or spring months. Any question regarding the date of cessation of seasonal run-off in a particular year shall be resolved by the Deputy Director for the Division of Water Rights upon request of any legal user of water from San Simeon Creek. Licensee shall monitor and document the day water ceases to flow in San Simeon Creek at the above referenced location and report that date to the Division of Water Rights in the annual report of licensee. Any water supplied for satisfaction of riparian rights on San Simeon Creek shall not be considered as water appropriated under this license.

(0000005A)

6. The equivalent of such continuous flow allowance for any 30-day period may be diverted in a shorter time provided there is no interference with other rights and instream beneficial uses and provided further that all terms or conditions protecting instream beneficial uses are observed.

(0000027)

7. No water shall be diverted under this right unless right holder is operating in accordance with a compliance plan, satisfactory to the Deputy Director for Water Rights. Said compliance plan shall specify how right holder will comply with the terms and conditions of this right. Right holder shall comply with all reporting requirements in accordance with the schedule contained in the compliance plan.

(0000070)

8. Right holder shall comply with the measuring and monitoring requirements as specified in the terms of this right or any reporting requirements by statute, order, policy, regulation, decision, judgment or probationary designation. The more stringent requirement shall control in each instance where there is a conflict or inconsistency between the requirements. Right holder shall comply with the measuring and monitoring requirements of chapter 2.8, title 23, California Code of Regulations.

(000000R)

9. No water shall be diverted or used under this right for commercial and applicable personal medical use cannabis cultivation unless the water right holder is in compliance with all applicable conditions, including the numeric and narrative instream flow requirements, of the current version of the State Water Board's *Cannabis Cultivation Policy – Principles and Guidelines for Cannabis Cultivation,* which is available online at: https://www.waterboards.ca.gov/water_issues/programs/cannabis/docs/policy.pdf

(0000120)

10. Licensee shall maintain water levels in the lower basin to sustain stream flow to the lagoon at the mouth of San Simeon Creek to maintain fish and wildlife habitat.

(0500014)

11. Licensee shall provide and operate as necessary, irrigation facilities to maintain riparian vegetation within the district owned properties.

(0500040)

12. This water right is specifically subject to the diversion of water by Jon Pedotti, Willis Warren, Susan Keller, and Clyde Warren and their successors in interest under valid claim of riparian right in accordance with the following conditions:

    a. At such time as licensee is diverting water authorized under this water right and the water level in well 9K1 reaches a depth which renders the well unusable, licensee shall deliver water from its point of diversion to the riparian place of use served by well 9K1 in amounts necessary to meet the reasonable riparian needs of Warren and his successors in interest.

    b. At such time as licensee is diverting water authorized under this water right and the water in any replacement well for well 10F1 reaches a depth which renders the well unusable, licensee shall, at its option, take one or more of the following actions to supply water to the riparian place of use served by well 10F1 in amounts to meet the reasonable riparian needs of Warren and his successors in interest:

        (1) Make improvements to well 10F1 or its replacement well;
        (2) Install a new well;
        (3) Deliver water from licensee's point of diversion to the riparian place of use served by well 10F1.

    c. At such time as licensee is diverting water authorized under this water right and the water level in well 10G1 reaches a depth which renders the well unusable, licensee shall, at its option, take one or more of the following actions to supply water to the riparian place of use served by well 10G1 in the amounts necessary to meet the reasonable riparian needs of Pedotti and his successors in interest:

        (1) Install a new well;
        (2) Deliver water from licensee's point of diversion to the riparian place of use served by well 10G1.

       This requirement shall apply only in the event that the owner of the well 10G1 has cleaned the well perforations using an acid wash and has lowered the level of the pump intake to as near the bottom of the well as feasible.

    d. At such time as licensee is diverting water authorized under this water right and the water level in well 11C1 reaches a depth which renders the well unusable, licensee shall, at its option, take one or more of the following actions to supply water to the riparian place of use served by well 11C1 in the amounts necessary to meet the reasonable riparian needs of Pedotti and his successors in interest:

(1) Make improvements to well 11C1;
(2) Install a new well;
(3) Deliver water from licensee's point of diversion to the riparian place of use served by well 11C1;
(4) Such other action as is mutually agreeable to the licensee and Pedotti or his successors in interest.

(0300054)

13. The State Water Board reserves continuing authority in the public interest to modify the terms and conditions of this license, including imposition of requirements to alter project facilities or operations and to modify instream flow releases, in the event of unforeseen adverse impacts to fish or wildlife. State Water Board action will be taken only after notice to interested parties and opportunity for hearing.
(000M001)

THIS RIGHT IS ALSO SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

A. Right holder is on notice that: (1) failure to timely commence or complete construction work or beneficial use of water with due diligence, (2) cessation or partial cessation of beneficial use of water, or (3) failure to observe any of the terms or conditions of this right, may be cause for the State Water Board to consider revocation (including partial revocation) of this right. (Cal. Code Regs., tit. 23, § 850.)

(0000016)

B. Right holder is on notice that when the State Water Board determines that any person is violating, or threatening to violate, any term or condition of a right, the State Water Board may issue an order to that person to cease and desist from that violation. (Wat. Code, § 1831.) Civil liability may be imposed administratively by the State Water Board pursuant to Wat. Code, § 1055, or may be imposed by the superior court. The Attorney General, upon the request of the board, shall petition the superior court to impose, assess, and recover those sums. (Wat. Code, § 1846.)

(0000017)

C. Right holder is not authorized to make any modifications to the location of diversion facilities, place of use or purposes of use, or make other changes to the project that do not conform with the terms and conditions of this right, prior to submitting a change petition and obtaining approval of the State Water Board.

(0000018)

D. Right holder shall measure the amount of water beneficially used under this right using devices and/or methods satisfactory to the Deputy Director for Water Rights.

In order to demonstrate compliance with the beneficial use monitoring requirements of this right, right holder shall provide evidence that the devices and/or methods are functioning properly, in a manner satisfactory to the Deputy Director of Water Rights, within thirty days of first use of the device and/or method, with the reports required by chapter 2.7, title 23, California Code of Regulations, and whenever requested by the Division of Water Rights.

(0000015)

E. Right holder shall comply with the reporting requirements as specified in the terms of this right or any reporting requirements by statute, order, policy, regulation, decision, judgment or probationary designation. The more stringent requirement shall control in each instance where there is conflict or inconsistency between the requirements.

Right holder shall comply with the reporting requirements of chapter 2.7, title 23, California Code of Regulations.

Right holder shall promptly submit any reports, data, or other information that may reasonably be required by the State Water Board, including but not limited to documentation of water diversion and beneficial use under this right.

(0000010)

F. Right holder shall grant, or secure authorization through right holder's right of access to property owned by another party, the staff of the State Water Board, and any other authorized representatives of the State Water Board the following:

1. Entry upon property where water is being diverted, stored or used under a right issued by the State Water Board or where monitoring, samples and/or records must be collected under the conditions of this right;

2. Access to copy any records at reasonable times that are kept under the terms and conditions of a right or other order issued by State Water Board;

3. Access to inspect at reasonable times any project covered by a right issued by the State Water Board, equipment (including monitoring and control equipment), practices, or operations regulated by or required under this right; and,

4. Access to photograph, sample, measure, and monitor at reasonable times for the purpose of ensuring compliance with a right or other order issued by State Water Board, or as otherwise authorized by the Water Code.

(0000011)

G. This right shall not be construed as conferring right of access to any lands or facilities not owned by right holder.

(0000022)

H. All rights are issued subject to available flows. Inasmuch as the source contains treated wastewater, imported water from another stream system, or return flow from other projects, there is no guarantee that such supply will continue.

(0000025)

I. This right does not authorize diversion of water dedicated by other right holders under a senior right for purposes of preserving or enhancing wetlands, habitat, fish and wildlife resources, or recreation in, or on, the water. (Wat. Code, § 1707.) The Division of Water Rights maintains information about these dedications. It is right holders' responsibility to be aware of any dedications that may preclude diversion under this right.

(0000212)

J. No water shall be diverted or used under this right, and no construction related to such diversion shall commence, unless right holder has obtained and is in compliance with all necessary permits or other approvals required by other agencies. If an amended right is issued, no new facilities shall be utilized, nor shall the amount of water diverted or used increase beyond the maximum amount diverted or used during the previously authorized development schedule, unless right holder has obtained and is in compliance with all necessary requirements, including but not limited to the permits and approvals listed in this term.

If construction or rehabilitation work is required for the diversion works covered by this right, right holder shall prepare and submit to the Division of Water Rights a list of, or provide information that shows proof of attempts to solicit information regarding the need for, permits or approvals that may be required for the project. At a minimum, right holder shall provide a list or other information pertaining to whether any of the following permits or approvals are required: (1) lake or streambed alteration agreement with the Department of Fish and Wildlife (Fish & G. Code, § 1600 et seq.); (2) Department of Water Resources, Division of Safety of Dams approval (Wat. Code, § 6002); (3) Regional Water Quality Control Board Waste Discharge Requirements (Wat. Code, § 13260 et seq.); (4) U.S. Army Corps of Engineers Clean Water Act section 404 permit (33 U.S.C. § 1344); and (5) local grading permits.

Right holder shall, within 30 days of issuance of any permits, approvals or waivers, transmit copies to the Division of Water Rights.

(0000203)

K. Urban water suppliers must comply with the Urban Water Management Planning Act (Wat. Code, § 10610 et seq.). An "urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually.

Agricultural water users and suppliers must comply with the Agricultural Water Management Planning Act (Act) (Water Code, § 10800 et seq.). Agricultural water users applying for a permit from the State Water Board are required to develop and implement water conservation plans in accordance with the Act. An "agricultural water supplier" means a supplier, either publicly or privately owned, providing water to 10,000 or more irrigated acres, excluding recycled water. An agricultural water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers.

(0000029D)

L. Pursuant to Water Code sections 100 and 275 and the common law public trust doctrine, all rights and privileges under this right, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the State Water Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water.

The continuing authority of the State Water Board may be exercised by imposing specific requirements over and above those contained in this right with a view to eliminating waste of water and to meeting the reasonable water requirements of right holder without unreasonable draft on the source. Right holder may be required to implement a water conservation plan, features of which may include but not necessarily be limited to (1) reusing or reclaiming the water allocated; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this right and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

The continuing authority of the State Water Board also may be exercised by imposing further limitations on the diversion and use of water by right holder in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution, article X, section 2; is consistent with the public interest; and is necessary to preserve or restore the uses protected by the public trust.

(0000012)

M. The quantity of water diverted under this right is subject to modification by the State Water Board if, after notice to right holder and an opportunity for hearing, the State Water Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to Division 7 of the Water Code. No action will be taken pursuant to this paragraph unless the State Water Board finds that (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges.

(0000013)

N. This right does not authorize any act which results in the taking of a candidate, threatened or endangered species or any act which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish & G. Code, § 2050 et seq.) or the federal Endangered Species Act (16 U.S.C. § 1531 et seq.). If a "take" will result from any act authorized under this right, right holder shall obtain any required authorization for an incidental take prior to construction or operation of the project. Right holder shall be responsible for meeting all requirements of the applicable Endangered Species Act for the project authorized under this right.

(0000014)

This right is issued and right holder takes it subject to the following provisions of the Water Code:

Section 1392. Every permittee, if he accepts a permit, does so under the conditions precedent that no value whatsoever in excess of the actual amount paid to the State therefor shall at any time be assigned to or claimed for any permit granted or issued under the provisions of this division (of the Water Code), or for any rights granted or acquired under the provisions of this division (of the Water Code), in respect to the regulation by any competent public authority of the services or the price of the services to be rendered by any permittee or by the holder of any rights granted or acquired under the provisions of this division (of the Water Code) or in respect to any valuation for purposes of sale to or purchase, whether through condemnation proceedings or otherwise, by the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State, of the rights and property of any permittee, or the possessor of any rights granted, issued, or acquired under the provisions of this division (of the Water Code).

Section 1627. A license shall be effective for such time as the water actually appropriated under it is used for a useful and beneficial purpose in conformity with this division (of the Water Code) but no longer.

Section 1629. Every licensee, if he accepts a license, does so under the conditions precedent that no value whatsoever in excess of the actual amount paid to the State therefore shall at any time be assigned to or claimed for any license granted or issued under the provisions of this division (of the Water Code), or for any rights granted or acquired under the provisions of this division (of the Water Code), in respect to the regulation by any competent public authority of the services or the price of the services to be rendered by any licensee or by the holder of any rights granted or acquired under the provisions of this division (of the Water Code) or in respect to any valuation for purposes of sale to or purchase, whether through condemnation proceedings or otherwise, by the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State, of the rights and property of any licensee, or the possessor of any rights granted, issued, or acquired under the provisions of this division (of the Water Code).

Section 1630. At any time after the expiration of twenty years after the granting of a license, the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State shall have the right to purchase the works and property occupied and used under the license and the works built or constructed for the enjoyment of the rights granted under the license.

Section 1631. In the event that the State, or any city, city and county, municipal water district, irrigation district, lighting district, or political subdivision of the State so desiring to purchase and the owner of the works and property cannot agree upon the purchase price, the price shall be determined in such manner as is now or may hereafter be provided by law for determining the value of property taken in eminent domain proceedings.

STATE WATER RESOURCES CONTROL BOARD

Scott McFarland, for

Erik Ekdahl, Deputy Director
Division of Water Rights

Dated: MAR 14 2019

STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

DIVISION OF WATER RIGHTS

RIGHT TO DIVERT AND USE WATER

APPLICATION 28158 PERMIT 20387 LICENSE 13917

Right Holder:

Cambria Community Services District
P.O. Box 65
Cambria, CA 93428-0065

The State Water Resources Control Board (State Water Board) authorizes the diversion and use of water by the right holder in accordance with the limitations and conditions herein SUBJECT TO PRIOR RIGHTS. The priority of this right dates from **June 8, 1984**. This right is issued in accordance with the State Water Board delegation of authority to the Deputy Director for Water Rights (Resolution 2012-0029) and the Deputy Director for Water Rights redelegation of authority dated October 19, 2017. This right supersedes any previously issued right on **Application 28158**. The right holder has made proof, to the satisfaction of the State Water Board, of the quantities of water put to beneficial use during the authorized development schedule.

Right holder is hereby granted a right to divert and use water as follows. No water shall be diverted or used under this water right unless right holder is in compliance with the terms and conditions herein:

1. Source of water: **Santa Rosa Creek Underflow**

   tributary to: **Pacific Ocean**

   within the County of **San Luis Obispo**

2. Location of points of diversion

By California Coordinate System of 1983 in Zone 5	40-acre subdivision of public land survey or projection thereof	Section (Projected)*	Township	Range	Base and Meridian
Well SR1 **(1) North 2,405,136 feet and East 5,644,286 feet**	**SW¼ of NW¼**	**26***	**27S**	**8E**	**MD**
Well SR3 **(2) North 2,405,741 feet and East 5,645,624 feet**	**NW¼ of NW¼**	**26***			
Well SR4 **(3) North 2,407,057 feet and East 5,648,418 feet**	**SE¼ of SE¼**	**23***			

3. Purpose of use	4. Place of use		
	Townships	Range	Base and Meridian
Municipal	**27S & 28S**	**8E**	**MD**
	Within the Cambria Community Services District as shown on map.		

The place of use is shown on map filed on February 4, 1976 with the State Water Board.

5. The water appropriated under this right shall be limited to the quantity which can be beneficially used and shall not exceed **0.59 cubic foot per second** by direct diversion to be diverted from January 1 to December 31 of each year. The maximum amount diverted under this right shall not exceed **218 acre-feet per year.** The maximum amount diverted under this right shall not exceed **155.3 acre-feet** from May 1 through October 31 of each year nor shall it exceed 218 acre-feet per calendar year.

(0000005A)

6. The equivalent of such continuous flow allowance for any 30-day period may be diverted in a shorter time provided there is no interference with other rights and instream beneficial uses and provided further that all terms or conditions protecting instream beneficial uses are observed.

(0000027)

7. No water shall be diverted under this right unless right holder is operating in accordance with a compliance plan, satisfactory to the Deputy Director for Water Rights. Said compliance plan shall specify how right holder will comply with the terms and conditions of this right. Right holder shall comply with all reporting requirements in accordance with the schedule contained in the compliance plan.

(0000070)

8. During the season specified in this license, the total amount and rate of water diverted and used under this license and the licensee's claimed existing right for the place of use specified in this license shall not exceed the amount and rate of diversion and use, respectively, specified in this license. If the licensee's claimed existing right is quantified at some later date as a result of an adjudication or other legally binding proceeding, the amount and rate of diversion and use allowed under this license shall be the net of the face value of this license less the amounts of water available under the claimed existing right.

Licensee shall forfeit all rights under this license if the licensee transfers all or any part of the claimed existing right for the place of use covered by this license to another place of use without the prior approval of the State Water Board.

Licensee shall take and use water under the existing right claimed by the licensee only in accordance with law.

(0000021)

9. For the protection of water quality from increased salinity due to sea water intrusion in the lower subbasin of Santa Rosa Creek and for the protection of instream resources, licensee shall:

   (a) Maintain monitoring wells WBE and WBW in the vicinity of well 21R3. If the well(s) need to be replaced, the location of the new well(s) shall be approved by the Deputy Director of the Division of Water Rights.

   (b) Follow water sampling protocol, as approved by the Deputy Director of the Division of Water Rights and have the water samples analyzed for electrical conductivity and chloride content in a laboratory certified by the State of California.

   (c) Measure the water level in monitoring wells WBE and WBW, or the equivalent, and cease diversions under this water right if the water level in the monitoring wells falls below 3.00 feet above mean sea level. The Deputy Director of the Division of Water Rights is authorized to adjust the water elevation requirement on the monitoring wells, if appropriate, based upon review of the hydrological analysis to be submitted by the licensee. Any such hydrologic analysis shall consider the depth of the bedrock in the monitoring well and shall determine the fresh water elevation needed to prevent seawater intrusion. Any action by the Deputy Director of the Division of Water Rights to lower the monitoring well water elevation requirements must be accompanied by a finding that the licensee as consulted with the California Department of Fish and Wildlife regarding the tidewater goby (Eucyclogobius newberryi) and that lowering the monitoring well water elevation requirement would be in compliance with applicable provisions of state and federal law.

(0400500)
(0110500)

10. To prevent any significant ground deformation in the lower subbasin of Sant Rosa Creek from occurring due to diversions of water under this water right, licensee shall:

    (a) Adhere to the Ground Deformation Monitoring Plan approved by the Deputy Director of the Division of Water Rights on February 11, 1991.

    (b) Monitor for vertical ground deformation on a weekly basis when the static water level in well SR1 or SR3 falls below 15 feet below mean sea level.

    (c) Cease diversion under this water right when the vertical ground deformation exceeds the limit established in the approved ground deformation monitoring program.

    (d) Prior to making any changes in the approved ground deformation program, licensee must get prior approval by the Deputy Director of the Division of Water Rights.

(0400500)
(0490500)

11. This water right is specifically subject to the diversion of water from the lower subbasin wells of Lloyd and Faye Junge, Joyce Bretz and Tony Williams, Bruce Black, and Rancho Pacifica and their successors in interest under valid claim of riparian right.

    At such time as licensee is diverting water authorized under this water right and the water level in the Junge, Bretz, Williams, Black, or Rancho Pacifica wells reaches a depth which renders the well unusable, licensee shall:

    (a) Deliver water from its point of diversion to the riparian place of use served by the well, or;

(b) Take other action to provide an alternate supply of water as is mutually agreeable to the licensee and Junge, Bretz and Williams, Black, and Rancho Pacifica or their successors in interest.

Any water supplied for satisfaction of riparian rights shall not be considered as water appropriated under this water right.

In the event that licensee opts to deliver water to the riparian place of use of any of the above wells, the riparian diverter shall be liable for the estimated costs which the riparian would have incurred to pump water from the affected well. In the absence of an agreement between the parties relative to pumping costs, the costs shall be based on the average amount per acre-foot for pumping water from the affected well during the month in question over the prior three years. Licensee shall pay the cost of installing and maintaining any water conveyance facilities needed to deliver water to the riparian point of diversion or place of use.

(0280800)

12. For the maintenance of riparian vegetation, fish and aquatic resources, licensee shall use the Santa Rosa Gaging Station operated by San Luis Obispo Flood Control (County Station 716) near the intersection of Santa Rosa Creek and Main Street to monitor stream flow in Santa Rosa Creek. Licensee shall limit diversion to:

(a) A maximum of 2.0 acre-feet per day from November 1 through April 30 when the average daily flow at County Station 716 is between 3.5 and 11.0 cubic feet per second;
(b) A maximum of 1.4 acre-feet per day from November 1 through April 30 when the average daily flow at County Station 716 is less than 3.5 cubic feet per second.

If County Station 716 ceases operation or licensee can no longer obtain adequate data to determine average daily stream flow at this location, licensee is limited to a maximum daily diversion of 1.4 acre-feet per day between November 1 and April 30 under this water right.

(0140500)
(0100500)

13. Right holder shall comply with the measuring and monitoring requirements as specified in the terms of this right or any reporting requirements by statute, order, policy, regulation, decision, judgment or probationary designation. The more stringent requirement shall control in each instance where there is a conflict or inconsistency between the requirements. Right holder shall comply with the measuring and monitoring requirements of chapter 2.8, title 23, California Code of Regulations.

(000000R)

14. No water shall be diverted or used under this right for commercial and applicable personal medical use cannabis cultivation unless the water right holder is in compliance with all applicable conditions, including the numeric and narrative instream flow requirements, of the current version of the State Water Board's Cannabis Cultivation Policy – Principles and Guidelines for Cannabis Cultivation, which is available online at: https://www.waterboards.ca.gov/water_issues/programs/cannabis/docs/policy.pdf

(0000120)

THIS RIGHT IS ALSO SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

A. Right holder is on notice that: (1) failure to timely commence or complete construction work or beneficial use of water with due diligence, (2) cessation or partial cessation of beneficial use of water, or (3) failure to observe any of the terms or conditions of this right, may be cause for the State Water Board to consider revocation (including partial revocation) of this right. (Cal. Code Regs., tit. 23, § 850.)

(0000016)

B. Right holder is on notice that when the State Water Board determines that any person is violating, or threatening to violate, any term or condition of a right, the State Water Board may issue an order to that person to cease and desist from that violation. (Wat. Code, § 1831.) Civil liability may be imposed administratively by the State Water Board pursuant to Wat. Code, § 1055, or may be imposed by the superior court. The Attorney General, upon the request of the board, shall petition the superior court to impose, assess, and recover those sums. (Wat. Code, § 1846.)

(0000017)

C. Right holder is not authorized to make any modifications to the location of diversion facilities, place of use or purposes of use, or make other changes to the project that do not conform with the terms and conditions of this right, prior to submitting a change petition and obtaining approval of the State Water Board.

(0000018)

D. Right holder shall measure the amount of water beneficially used under this right using devices and/or methods satisfactory to the Deputy Director for Water Rights.

In order to demonstrate compliance with the beneficial use monitoring requirements of this right, right holder shall provide evidence that the devices and/or methods are functioning properly, in a manner satisfactory to the Deputy Director of Water Rights, within thirty days of first use of the device and/or method, with the reports required by chapter 2.7, title 23, California Code of Regulations, and whenever requested by the Division of Water Rights.

(0000015)

E. Right holder shall comply with the reporting requirements as specified in the terms of this right or any reporting requirements by statute, order, policy, regulation, decision, judgment or probationary designation. The more stringent requirement shall control in each instance where there is conflict or inconsistency between the requirements.

Right holder shall comply with the reporting requirements of chapter 2.7, title 23, California Code of Regulations.

Right holder shall promptly submit any reports, data, or other information that may reasonably be required by the State Water Board, including but not limited to documentation of water diversion and beneficial use under this right.

(0000010)

F. Right holder shall promptly submit any reports, data, or other information that may reasonably be required by the State Water Board, including but not limited to documentation of water diversion and use under this right and documentation of compliance with the terms and conditions of this right.

(0000010)

G. Right holder shall grant, or secure authorization through right holder's right of access to property owned by another party, the staff of the State Water Board, and any other authorized representatives of the State Water Board the following:

1. Entry upon property where water is being diverted, stored or used under a right issued by the State Water Board or where monitoring, samples and/or records must be collected under the conditions of this right;
2. Access to copy any records at reasonable times that are kept under the terms and conditions of a right or other order issued by State Water Board;
3. Access to inspect at reasonable times any project covered by a right issued by the State Water Board, equipment (including monitoring and control equipment), practices, or operations regulated by or required under this right; and,
4. Access to photograph, sample, measure, and monitor at reasonable times for the purpose of ensuring compliance with a right or other order issued by State Water Board, or as otherwise authorized by the Water Code.

(0000011)

H. This right shall not be construed as conferring right of access to any lands or facilities not owned by right holder.

(0000022)

I. All rights are issued subject to available flows. Inasmuch as the source contains treated wastewater, imported water from another stream system, or return flow from other projects, there is no guarantee that such supply will continue.

(0000025)

J. This right does not authorize diversion of water dedicated by other right holders under a senior right for purposes of preserving or enhancing wetlands, habitat, fish and wildlife resources, or recreation in, or on, the water. (Wat. Code, § 1707.) The Division of Water Rights maintains information about these dedications. It is right holders' responsibility to be aware of any dedications that may preclude diversion under this right.

(0000212)

No water shall be diverted or used under this right, and no construction related to such diversion shall commence, unless right holder has obtained and is in compliance with all necessary permits or other approvals required by other agencies. If an amended right is issued, no new facilities shall be utilized, nor shall the amount of water diverted or used increase beyond the maximum amount diverted or used during the previously authorized development schedule, unless right holder has obtained and is in compliance with all necessary requirements, including but not limited to the permits and approvals listed in this term.

If construction or rehabilitation work is required for the diversion works covered by this right, right holder shall prepare and submit to the Division of Water Rights a list of, or provide information that shows proof of attempts to solicit information regarding the need for, permits or approvals that may be required for the project. At a minimum, right holder shall provide a list or other information pertaining to whether any of the following permits or approvals are required: (1) lake or streambed alteration agreement with the Department of Fish and Wildlife (Fish & G. Code, § 1600 et seq.); (2) Department of Water Resources, Division of Safety of Dams approval (Wat. Code, § 6002); (3) Regional Water Quality Control Board Waste Discharge Requirements (Wat. Code, § 13260 et seq.); (4) U.S. Army Corps of Engineers Clean Water Act section 404 permit (33 U.S.C. § 1344); and (5) local grading permits.

Right holder shall, within 30 days of issuance of any permits, approvals or waivers, transmit copies to the Division of Water Rights.

(0000203)

K. Urban water suppliers must comply with the Urban Water Management Planning Act (Wat. Code, § 10610 et seq.). An "urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually.

Agricultural water users and suppliers must comply with the Agricultural Water Management Planning Act (Act) (Water Code, § 10800 et seq.). Agricultural water users applying for a permit from the State Water Board are required to develop and implement water conservation plans in accordance with the Act. An "agricultural water supplier" means a supplier, either publicly or privately owned, providing water to 10,000 or more irrigated acres, excluding recycled water. An agricultural water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers.

(0000029D)

L. Pursuant to Water Code sections 100 and 275 and the common law public trust doctrine, all rights and privileges under this right, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the State Water Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water.

The continuing authority of the State Water Board may be exercised by imposing specific requirements over and above those contained in this right with a view to eliminating waste of water and to meeting the reasonable water requirements of right holder without unreasonable draft on the source. Right holder may be required to implement a water conservation plan, features of which may include but not necessarily be limited to (1) reusing or reclaiming the water allocated; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this right and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

The continuing authority of the State Water Board also may be exercised by imposing further limitations on the diversion and use of water by right holder in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution, article X, section 2; is consistent with the public interest; and is necessary to preserve or restore the uses protected by the public trust.

(0000012)

M. The quantity of water diverted under this right is subject to modification by the State Water Board if, after notice to right holder and an opportunity for hearing, the State Water Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to Division 7 of the Water Code. No action will be taken pursuant to this paragraph unless the State Water Board finds that (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges.

(0000013)

N. This right does not authorize any act which results in the taking of a candidate, threatened or endangered species or any act which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish & G. Code, § 2050 et seq.) or the federal Endangered Species Act (16 U.S.C. § 1531 et seq.). If a "take" will result from any act authorized under this right, right holder shall obtain any required authorization for an incidental take prior to construction or operation of the project. Right holder shall be responsible for meeting all requirements of the applicable Endangered Species Act for the project authorized under this right.

(0000014)

This right is issued, and right holder takes it subject to the following provisions of the Water Code:

Section 1392. Every permittee, if he accepts a permit, does so under the conditions precedent that no value whatsoever in excess of the actual amount paid to the State therefor shall at any time be assigned to or claimed for any permit granted or issued under the provisions of this division (of the Water Code), or for any rights granted or acquired under the provisions of this division (of the Water Code), in respect to the regulation by any competent public authority of the services or the price of the services to be rendered by any permittee or by the holder of any rights granted or acquired under the provisions of this division (of the Water Code) or in respect to any valuation for purposes of sale to or purchase, whether through condemnation proceedings or otherwise, by the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State, of the rights and property of any permittee, or the possessor of any rights granted, issued, or acquired under the provisions of this division (of the Water Code).

Section 1627. A license shall be effective for such time as the water actually appropriated under it is used for a useful and beneficial purpose in conformity with this division (of the Water Code) but no longer.

Section 1629. Every licensee, if he accepts a license, does so under the conditions precedent that no value whatsoever in excess of the actual amount paid to the State therefore shall at any time be assigned to or claimed for any license granted or issued under the provisions of this division (of the Water Code), or for any rights granted or acquired under the provisions of this division (of the Water Code), in respect to the regulation by any competent public authority of the services or the price of the services to be rendered by any licensee or by the holder of any rights granted or acquired under the provisions of this division (of the Water Code) or in respect to any valuation for purposes of sale to or purchase, whether through condemnation proceedings or otherwise, by the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State, of the rights and property of any licensee, or the possessor of any rights granted, issued, or acquired under the provisions of this division (of the Water Code).

Section 1630. At any time after the expiration of twenty years after the granting of a license, the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State shall have the right to purchase the works and property occupied and used under the license and the works built or constructed for the enjoyment of the rights granted under the license.

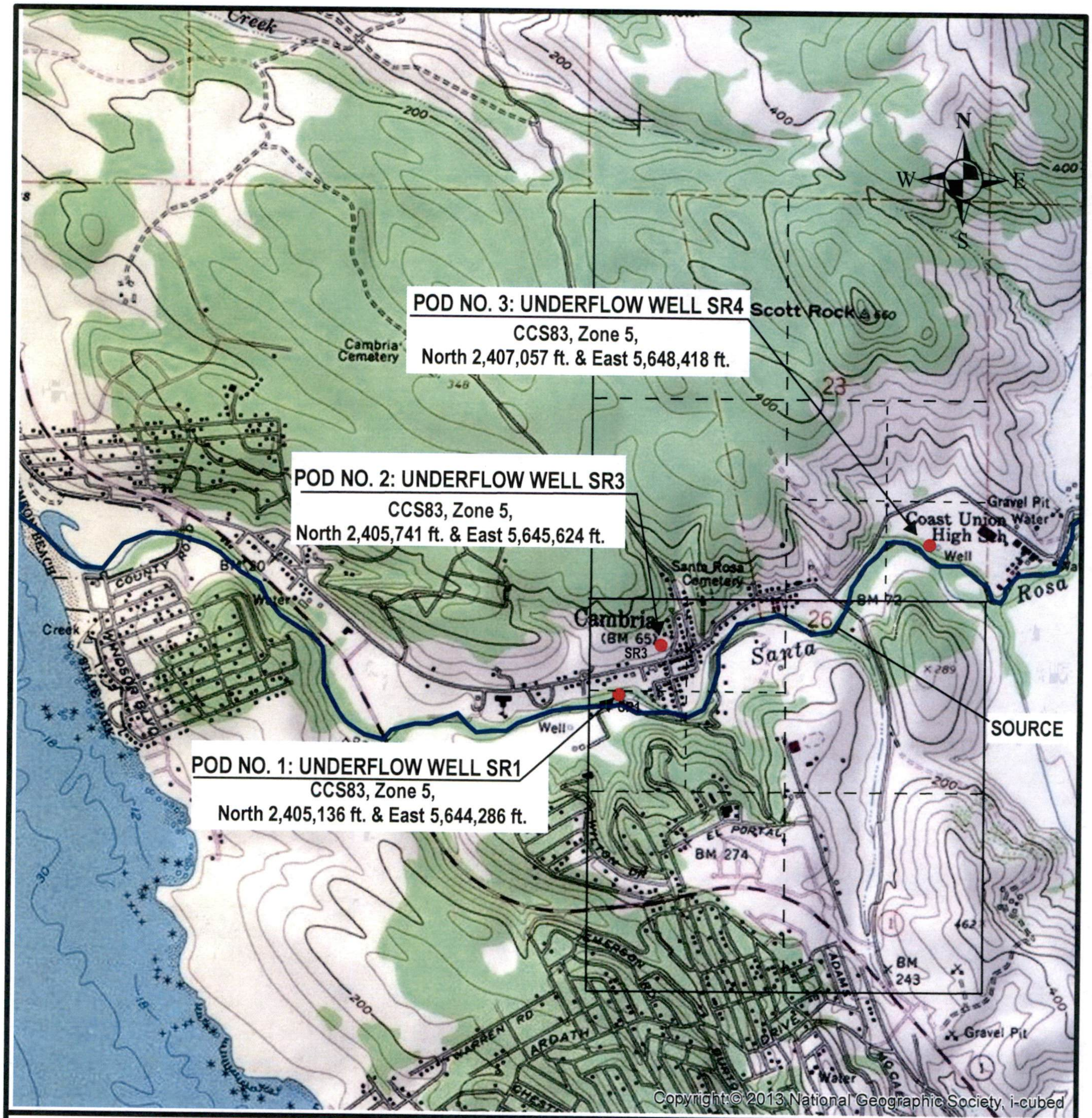
Section 1631. In the event that the State, or any city, city and county, municipal water district, irrigation district, lighting district, or political subdivision of the State so desiring to purchase and the owner of the works and property cannot agree upon the purchase price, the price shall be determined in such manner as is now or may hereafter be provided by law for determining the value of property taken in eminent domain proceedings.

STATE WATER RESOURCES CONTROL BOARD

Scott McFarland, for

Erik Ekdahl, Deputy Director
Division of Water Rights

Dated: **MAR 14 2019**



OWNER: **CAMBRIA COMMUNITY SERVICES DISTRICT**

SOURCE: **SANTA ROSA CREEK UNDERFLOW**

POINTS OF DIVERSION:

WITHIN
(1) **SW 1/4 OF NW 1/4**
(2) **NW 1/4 OF NW 1/4**
(3) **SE 1/4 OF SE 1/4**
OF PROJECTED

SECTIONS
(1) (2) 26, T27S, R8E, MDB&M
(3) 23, T27S, R8E, MDB&M

COUNTY OF **SAN LUIS OBISPO**

U.S.G.S. QUAD: **CAMBRIA** DATE: **PR 1979** SCALE: **1:24,000**

STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER RIGHTS

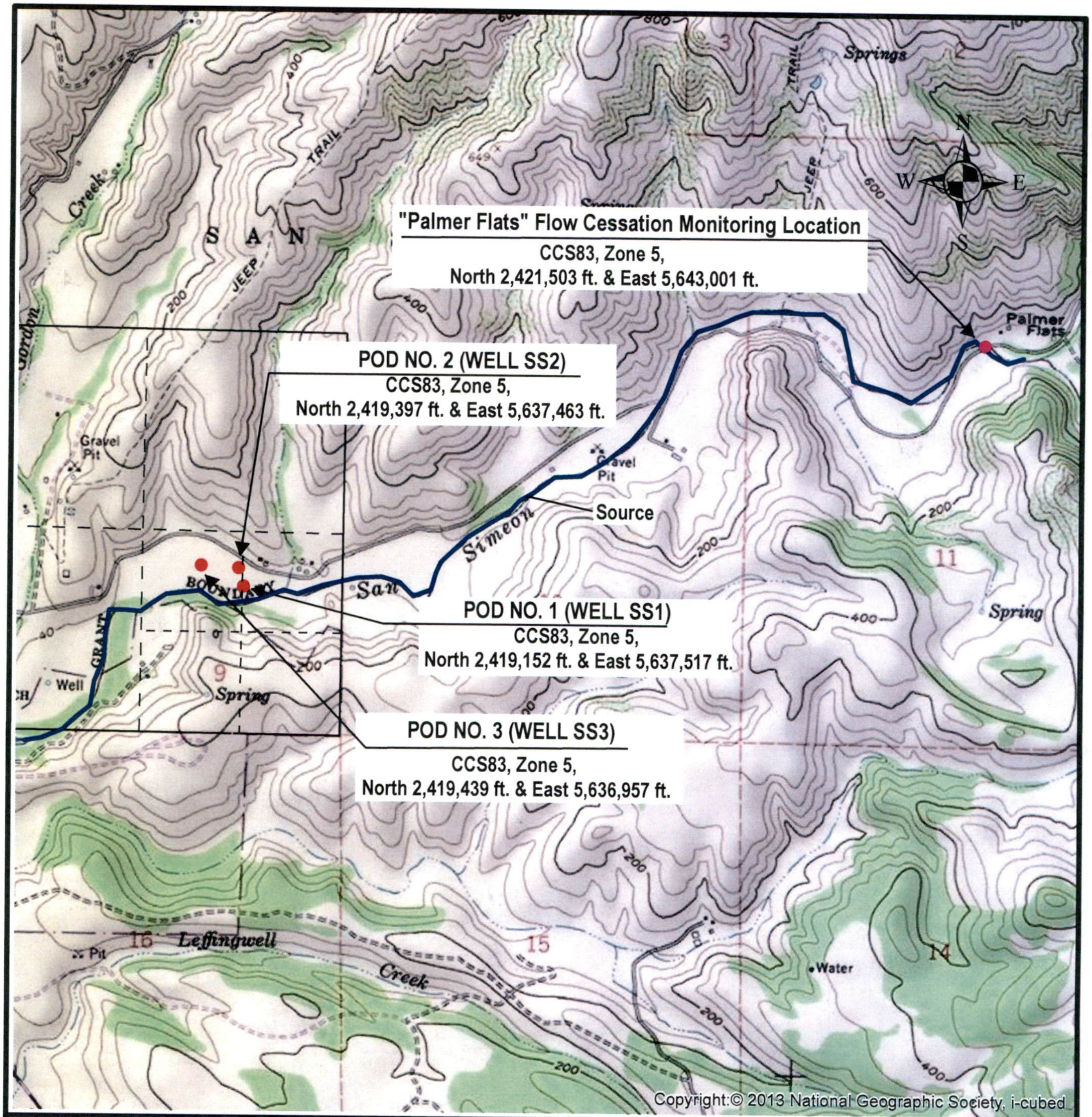
APPLICATION NO. **28158**

PERMIT NO. **20387**

LICENSE NO. **13917**

DATE:	DRAWN:	CHECKED:
2-8-2018	SMc	MAM

Note: This map does not constitute a public land survey as defined by California Business & Professions Code section 8726. It has been prepared for descriptive purposes only.



"Palmer Flats" Flow Cessation Monitoring Location

CCS83, Zone 5,
North 2,421,503 ft. & East 5,643,001 ft.

POD NO. 2 (WELL SS2)

CCS83, Zone 5,
North 2,419,397 ft. & East 5,637,463 ft.

POD NO. 1 (WELL SS1)

CCS83, Zone 5,
North 2,419,152 ft. & East 5,637,517 ft.

POD NO. 3 (WELL SS3)

CCS83, Zone 5,
North 2,419,439 ft. & East 5,636,957 ft.

Source

Copyright:© 2013 National Geographic Society, i-cubed

OWNER: **CAMBRIA COMMUNITY SERVICES DISTRICT**

SOURCE: **SAN SIMEON CREEK UNDERFLOW**

POINTS OF DIVERSION:

WITHIN
(1) NE 1/4 OF SE 1/4
(2) NW 1/4 OF SE 1/4 OF PROJECTED
(3) NW 1/4 OF SE 1/4

SECTION **9, T27S, R8E, MDB&M**

COUNTY OF **SAN LUIS OBISPO**

U.S.G.S. QUAD: **CAMBRIA** DATE: **PR 1979** SCALE: **1:24,000**

STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER RIGHTS
MAP NO. 2

APPLICATION NO. **25002**

PERMIT NO. **17287**

LICENSE NO. **13916**

DATE:	DRAWN:	CHECKED:
2-8-2018	**SMc**	**MAM**

Note: This map does not constitute a public land survey as defined by California Business & Professions Code section 8726. It has been prepared for descriptive purposes only.

Multi-Jurisdictional Hazard Mitigation Plan
For
Cambria Community Services and
Cambria Community Healthcare Districts

June 2017

Prepared by Category Five Professional Consultants, Inc.

TABLE OF CONTENTS

XI. ATTACHMENTS

I. ADOPTION RESOLUTIONS

INSERT CCSD RESOLUTION

INSERT CCHD RESOLUTION

II. EXECUTIVE SUMMARY

A. General Plan Description

The mounting cost of disaster recovery in our nation over the past two decades has engendered a tremendous interest in uncovering effective ways to minimize our country's hazard vulnerability. The Cambria Community Services District and the Cambria Community Healthcare District have joined a nationwide effort to develop a local hazard mitigation plan specific to their jurisdictions. The goal of this plan is to arrive at practical, meaningful, attainable and cost-effective mitigation solutions to minimize both Districts' vulnerability to identified hazards and ultimately reduce both human and financial losses subsequent to a disaster.

Development of this Multi-Jurisdictional Hazard Mitigation Plan entailed reviewing existing applicable plans and assessing the planning capabilities, securing political support and soliciting input and approval from the public and community stakeholders.

Risk assessments were then performed which identified and evaluated each natural hazard that could impact the planning areas. Historical hazard events are described. The future probability of these identified hazards and their impact on each of these communities is described.

Vulnerability assessments were performed which summarized the identified hazards' impact to each community's critical structures and infrastructure and future development. An estimate of the potential dollar losses to vulnerable structures was determined.

The risk and vulnerability assessments were used to determine mitigation goals and objectives to minimize long-term vulnerabilities to the identified hazards. These goals and objectives were the foundation behind the development of a comprehensive range of specific attainable mitigation actions created for each jurisdiction.

An action plan was then creating entails adopting, implementing, assigning responsibility, monitoring, and reviewing this hazard mitigation plan over time, to ensure the goals and objectives are being achieved and the plan remains a relevant document.

B. Plan Purpose and Authority

The Disaster Mitigation Act (DMA) of 2000, also commonly known as "The 2000 Stafford Act Amendments" (the Act), constitutes an effort by the Federal government to reduce the rising cost of disasters. The Act stresses the importance of mitigation planning and disaster preparedness prior to an event.

Mitigation Planning Section 322 of the Act requires local governments to develop and submit mitigation plans in order to qualify for the Hazard Mitigation Grant Program (HMGP) project funds. It also increases the amount of HMGP funds available to states meeting the enhanced planning criteria, and enables these funds to be used for planning activities.

For disasters declared after November 1, 2004, the Districts (CCSD and CCHD) must have a Plan approved pursuant to §201.6 in order to receive FEMA Pre-Disaster Mitigation (PDM) project grants or to receive post-disaster Hazard Mitigation Grant Program (HMGP) project funding. The MJHMP is written to meet the statutory requirements of DMA 2000 (P.L. 106-390), enacted October 30, 2000 and 44 CFR Part 201 – Mitigation Planning, Interim Final Rule, published February 26, 2002.

To facilitate implementation of the DMA 2000, the Federal Emergency Management Agency (FEMA) created an Interim Final Rule (the Rule), published in the Federal Register in February of 2002 at section 201 of 44 CFR. The Rule spells out the mitigation planning criteria for States and local communities. Specific requirements for local mitigation planning efforts are outlined in section §201.6 of the Rule. Local jurisdictions must demonstrate that proposed mitigation actions are based upon a sound planning process that accounts for the inherent risk and capabilities of the individual communities as stated in section §201.5 of the Rule.

In developing this comprehensive Multi-Jurisdictional Hazard Mitigation Plan, FEMA's Multi-Hazard Mitigation Planning Guidance (March 2004, July 2008 and October 2011) was strictly adhered to for the purpose of ensuring thoroughness, diligence, and compliance with the DMA 2000 planning requirements.

III. PLANNING PROCESS

A. DMA 2000 Requirements

DMA Requirements §201.6(b) and §201.6(c)(1):	An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include: (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval; (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information. The plan shall document the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

B. Plan Development and Public Input Process

At the onset of the planning process, a news release was developed and issued and informative letters were sent out to community groups and neighboring jurisdictions inviting public participation. A Hazard Mitigation Planning Group was constructed with representatives from a wide variety of community stakeholders. Planning group meetings were held which explained the process that was going to be taken to construct the Hazard Mitigation Plan, reviewed hazards of concern and hazard rankings, and explained the risks and vulnerability to the communities' people, buildings and infrastructure. Mitigation goals, objectives and actions were discussed and reviewed thoroughly with all planning group members until concurrence was reached. A capability assessment and action plan were developed to ensure mitigation actions were realistic and attainable and to assign funding sources and responsibility for each proposed activity.

After the Hazard Mitigation Planning Group Members and the Cambria Community Services District were both satisfied with the newly constructed draft plan and its goals, objectives and mitigation actions, a noticed public forum was held on March 2, 2017 at the Veteran's Hall at 1000 Main Street in Cambria. This was advertised to the general public in the Cambrian, the local Cambria newspaper, and was also posted on the CCSD website. Additionally, neighboring jurisdictions were invited to attend and provide feedback at this forum. Invitations were sent to: the San Simeon Community Services District, San Luis Obispo County Office of Emergency Services, Hearst Castle Museum Director, and the Forest Supervisor for Los Padres National Forest. *Please see invitation sent in Plan Appendix* C. An Administrative Draft of the Hazard Mitigation Plan was posted on the CCSD website two weeks prior to the public forum to allow the general public and neighboring jurisdiction an opportunity to review the plan. A Power Point presentation was developed that provided a detailed explanation of the risks and vulnerabilities the community faced. The mitigation goals, objectives and actions were explained in detail as were the resources that would be used to help mitigate these hazards. In addition, the general public had an opportunity to ask questions and comment on the proposed plan. All comments were reviewed with the stakeholder group and incorporated into the plan as appropriate. After inputting feedback from the general public, the Plan was taken to the CCSD Board of Directors for approval on March 23, 2017 at the Veterans Hall at 1000 Main Street in Cambria. The Public and Neighboring Communities were invited to attend the event and comment. This was advertised two weeks in advance, on both the County and CCSD websites, community bulletin boards and through a press release. A notification letter was also sent to San Luis Obispo County's Office of Emergency Services Manager and the General Manager of the neighboring San Simeon Community Services District. Two weeks prior to the hearing, the final draft Plan was posted on the CCSD website to enable the public and stakeholders ample time to read and evaluate it. During the Board of Director's meeting, a request was made to add the Cambria Healthcare District to the plan as a second jurisdiction. The board decided to table the item until this possibility could be reviewed further.

The CCSD in conjunction with the County of San Luis Obispo and the Cambria Community Healthcare District (CCHD) decided to have the contractor restructure the Local Hazard Mitigation Plan into a Multi-Jurisdictional Hazard Mitigation Plan in order to include the Healthcare District.

After restructuring the plan to include the CCHD and numerous communications with the CCHD, the contractor met with the CCHD Administrator and Operations Director to present and discuss the jurisdictional profile, risk and vulnerability assessments and proposed mitigations goals, objectives and actions. This information was also reviewed with the CCHD Board President. After consensus was reached, the newly developed Draft Multi-Jurisdictional Hazard Mitigation Plan was sent to Planning Group Members for their review. After feedback was received and changes were made, the plan was posted on the CCSD and CCHD websites for public review. The public was made aware of this through a notice in the Cambrian newspaper and was invited to attend and comment at the Public Hearing of the CCHD Board of Directors meeting on held on May 17th at the Old Grammar School at 1070 Main Street. The CCHD Board of Directors made some Plan recommendations during the 5/17 meeting. They elected to not vote on the plan that day to allow the consultants time to incorporate their newest suggestions.

A second noticed public forum was conducted on May 30th, 2017 at the Veterans Hall. After implementing feedback received at the forum, the newly developed MJHMP will be taken back to the Public Hearing of the CCHD Board of Directors on June 21, 2017 and the CCSD Board of Directors on June 22, 2017 for their approval. Upon receipt of approval by the CCSD Board of Directors, the MJHMP will be submitted to the State Hazard Mitigation Office at CAL OES. Upon receiving approval by the SHMO, the plan will be submitted to FEMA for final approval.

The Cambria Local Hazard Mitigation Planning Group was comprised of the following agency representatives and key stakeholders:

Name	Agency	Title	Attended All Planning Group Meetings	Identified Hazards and Assisted with Mitigation Action Development	Additional Role
Ron Alsop	SLO County Office of Emergency Services	Emergency Services Manager	Yes	Yes	Planning Advisor
Jerry Grubber	Cambria Community Services District	General Manager	Yes	Yes	Technical Specialist
Michael Thompson	Cambria Community Services District	Vice-President	Yes	Yes	Member of Ad Hoc Committee Overseeing LHMP
Kathe Tanner	The Cambrian	News Reporter/ Photographer	Yes	Yes	Communications and History Specialist
Susan McDonald	Community Volunteer		Yes	Yes	Community Liaison
Joyce Renshaw	Friends of Fiscalini Ranch	Chair	Yes	Yes	Open Space Advisor
Shirley Bianchi	Cambria Fire Safe Council	Moderator	Yes	Yes	Government Affairs/History Specialist

Bruce Fosdike	Cambria Fire Safe Council	Member	Yes	Yes	Technical Specialist
Bob Sayers	Cambria Community Healthcare District	Administrator	Yes	Yes	EMS Technical Specialist
Barbara Bronson Gray	Cambria Community Healthcare District	Trustee	Yes	Yes	EMS Technical Specialist
Jason Melendy	Cambria Community Healthcare District	Operations Director	Yes	Yes	EMS Technical Specialist
Cherie McKee	San Luis Obispo County Board of Supervisors District #2	Legislative Assistant	Yes	Yes	Governmental Affairs Specialist
Dave Wierenga	Cambria Community Emergency Response Team	Assistant Lead	Yes	Yes	Community Support Emergency Response
Craig Ufferheide	Cambria Community Emergency Response Team	Lead	Yes	Yes	Community Support Emergency Response
Marilyn Sproul	Community Emergency Response Team	Member	Yes	Yes	Community Support Emergency Response

Mike Walsh	Community Emergency Response Team	Member	Yes	Yes	Community Support Emergency Response
Ken Topping	SLO County Planning Commission	Member	Yes	Yes	Governmental Affairs/LHMP Planning/History Specialist
Bob Putney	Cambria CSD Fire Department	Fire Chief Retired/President of CCHD	Yes	Yes	Fire/EMS Technical Specialist
William Hollingsworth	Cambria Fire Community Services District	Fire Chief	Yes	Yes	Fire/EMS Technical Specialist
Gail Robinette	Cambria Community Services District	Past Director	Yes	Yes	Governmental Affairs
Alan Peters	CAL FIRE	County Forester	Yes	Yes	Forest Management
Dave Fowler	CAL FIRE	Fire Captain	Yes	Yes	Fire History and Fire Management
Jeff Eckles	Home Builders Association of the Central Coast	Executive Director	Yes	Yes	Land Use and Development Trends
Joe Prian	Remax	Realtor	Yes	Yes	Land Use and Development Trends

Annie Lachance	Coast Unified School District	Business Manager	Yes	Yes	Project Manager for School District
Lee Wight	Coast Unified School District	Facilities Director	Yes	Yes	Liaison
Mary Ann Carson	Cambria Chamber of Commerce	Executive Director	Yes	Yes	Liaison
Stephen Kniffen	Cambria Chamber of Commerce	Board of Director	Yes	Yes	Liaison
William Siembieda	Cal Poly State University	Professor of City and Regional Planning	Yes	Yes	Land Use/ Planning Specialist
Christine Heinrichs	Cambria Forest Committee	Director	Yes	Yes	Forest Management
Laura Swartz	Cambria Forest Committee	Member	Yes	Yes	Forest Management
Crosby Swartz	Cambria Forest Committee	Member	Yes	Yes	Forest Management
Bob Neumann	Category Five Professional Consultants	Consultant/Vice-President	Yes	Yes	Technical Specialist - Public Safety
Sheri Eibschutz	Category Five Professional Consultants	Consultant/ President	Yes	Yes	Facilitator/ Planner

C. Incorporation of Existing Plans and Other Information

At the commencement of and throughout the planning process, a thorough review was conducted of all current and past pertinent planning documents including:

- San Luis Obispo County General Plan including:
    - Safety Element
    - Land Use Element
    - Open Space Element
- California State Hazard Mitigation Plan
- Cambria Community Wildfire Protection Plan
- Cambria Forest Management Plan
- San Luis Obispo County Community Wildfire Protection Plan
- San Luis Obispo County Local Hazard Mitigation Plan
- Flood Insurance Rate Maps (FIRM's)
- Past Disaster Declarations
- Santa Rosa Creek Watershed Enhancement Plan
- U. S. Fire Administration - Technical Studies
- Cambria Community Healthcare District Healthcare Professional's Committee Healthcare Needs Survey: Listening to Our Community
- Ambulance Response Time Study
- GeoSolutions Inc. CCHD Slope Study 2017

D. Plan Adoption

Adoption by the local governing bodies demonstrates both jurisdictions' commitment to fulfilling the hazard mitigation goals and actions outlined in the plan. Adoption legitimizes the plan and authorizes applicable agencies to execute their responsibilities. Once the general public had ample time to review, ask questions, and comment on the proposed plan, the newly constructed LHMP was taken to the CCSD Board of Directors for approval. As mentioned above, this approval was delayed in order to restructure the plan to include the CCHD. Once the newly constructed draft Multi-Jurisdictional Plan was prepared, the general public was given additional time to review, ask questions, and provide feedback. The MJHMP was then approved by the CCHD Board of Directors at a Public Hearing on June 21st and then approved by the CCSD Board of Directors at a Public Hearing held on June 22nd. Upon receiving approval, the MJHMP was submitted and approved by the State Hazard Mitigation Office at CAL OES and then submitted to FEMA for final approval.

IV. JURISDICTION PROFILE - CAMBRIA COMMUNITY SERVICES DISTRICT

A. Cambria Area History

This community's earliest settlers are believed to be the Native American Chumash and Salinan Tribes. Approximately 30,000 tribal members inhabited Cambria nearly 1000 years prior to the arrival of Spanish settlers. Scientists have recovered evidence indicating that the tribes inhabiting the Cambria area were peaceful gentle individuals that lived modestly. These tribal members were known for their knowledge of medicinal herbs, their food handling hygiene, and their close family bonds. They were accomplished net and basket makers and created jewelry from abalone shells, whale and shark teeth, and crab claws. The Salinan people made use of the abalone, clam and olivela shells collected from the beach and rocky shores by carving them into beads which were used for currency. Prior to the arrival of the Spanish on the Central Coast, the Chumash and Salinan Tribes hunted game and gathered plants on what is now known as the Fiscalini Ranch Preserve. There is evidence that these Native American inhabitants entertained themselves with both music and gambling.

Records indicate that the Portola expedition brought the first Spanish explorers to the area in 1769. The Spanish temporarily named the area El Osito, in response to the Chumash offering them the gift of a juvenile bear. When Mission San Miguel was built in 1797, the Salinans worked on an outpost on San Simeon Creek where goods from the mission could be traded as ships landed near the beach. Remnants of the outpost are still present today near Cambria's sewer ponds and water reclamation facility on San Simeon Creek. There are sacred sites both north and south of Cambria at Morro Rock (Lesamo) and Lion Rock at Piedras Blancas.

In 1841, Governor Juan Alvarado gave Julian Estrada Rancho Santa Rosa, a Mexican land grant comprising 13,184 acres. This endowment stretched along the Pacific coastline from San Simeon Creek to the current town of Harmony, and included present-day Cambria.

Over the years, Cambria has also been called San Simeon, Santa Rosa, Rosaville and Slab Town. The District's fertile soils, lumber, and streams attracted many settlers. When cinnabar ore was discovered in 1862, the area appealed to miners. From 1867 to 1870, Cambria was a prosperous town exporting $280,000 worth of quicksilver. Of the numerous mining claims filed, the Quicksilver Mining Company possessed the most successful. Their mine, the sixth largest in the world, employed 300 workers. This economic boom lasted until 1878 when mercury prices declined. Cambria's fluctuating mercury business came to an abrupt halt in 1889 as the result of a devastating fire. This was a turning point for Cambria which transitioned from a fishing and mining town into a dairy and lumber export community.

Many historic buildings remain in Cambria including the Squibb-Darke house, the Brambles, Santa Rosa School, the Hoosegow and the Old Santa Rosa Chapel. The latter was constructed in

1870. This historic landmark is one of the oldest churches in San Luis Obispo County. Following its closing in 1963, its church and cemetery suffered neglect and vandalism. A later restoration project enabled the Chapel to reopen its doors in 1984.

Between 1919 and 1947, Hearst Castle, intended to be residence for newspaper icon, William Randolph Hearst, was constructed in neighboring San Simeon, California. This project was viewed positively by Cambria citizens who were grateful for employment opportunities particularly during the Great Depression years. Hearst Castle became a California State Park in 1954 and was open to visitors four years later. Cambria residents continue to provide services, supplies and accommodations to Hearst Castle's many visitors.

B. Area Geography

The scenic coastal community of Cambria has a total area of 8.5 square miles (22 km^2). This Census Designated Place (CDP) is entirely comprised of land and is located midway between Los Angeles and San Francisco-240 miles in each direction right alongside California State Highway 1. It resides between sea level and a 200 foot elevation and is located at 35°33′15″N 121°05′15″W.

The town of Cambria is approximately 3 squares miles in area. The District is built upon the Cambria Slab, a 5,000 ft. thick late-Cretaceous sandstone which extends from Villa Creek in Estero Bluffs State Park to San Simeon Creek, holding up the high coastal ridge between Cayucos and San Simeon State Park.

C. Communities and Protected Areas

Cambria is an unincorporated community. It contains several protected areas including the Fiscalini Ranch Preserve (originally called the East West Ranch). This is a 430-acre park separating Cambria's East and West Villages. It is owned by the Cambria Community Services District and the conservation easement is held by Friends of Fiscalini Ranch Preserve. This preserve safeguards over a mile of the stunning Pacific coastline.

In the waters adjacent to Cambria and San Simeon, four Marine Protected Areas (MPA's) have been designated in order to conserve ocean wildlife and marine ecosystems. They are: Piedras Blancas State Marine Reserve, Piedras Blancas State Marine Conservation Area, White Rock State Marine Conservation Area and Cambria State Marine Conservation Area/ Cambria State Park.

To Cambria's south adjacent to the University of California Natural Reserve site at Rancho Marino lies the rugged White Rock (Cambria) State Marine Conservation Area. This Marine Protected Area spans 2.32 square miles. It is unlawful to injure, damage, take, or possess any living, geological, or cultural marine resource for recreational and/or commercial purposes, in this area with the exception of the commercial taking of giant kelp (Macrocystis pyrifera) and bull kelp (Nereocystis species). Several ongoing research projects take place here which provide valuable insight in ways to better protect the ocean and planet, and show the value of efforts to preserve the lush kelp beds and biologically rich intertidal zones.

To the north of the White Rock State Marine Conservation Area, the Cambria State Marine Conservation Area was established in 2007 by the California Department of Fish and Game. In 2010, it was also designated Cambria State Marine Park by the California State Park and Recreation Commission. The two areas share the same boundaries. And this MPA spans 6.26 miles. Within this Conservation Area, recreational fishing is permitted while commercial fishing and removal of marine resources is strictly prohibited.


121°13'W
121°11.5'W
121°10'W
121°9'W
121°8'W
121°7'W
121°6'W
121°5'W
121°4'W
121°2.5'W
35°42'N
35°41'N
35°40'N
35°39'N
35°38'N
35°37'N
35°36'N
35°35'N
35°34'N
35°33'N
35°32'N
35°31'N
35°30'N
35°29'N
35°28'N
Little Pico Creek
North Fork Pico Creek
Pico Creek
SAN LUIS OBISPO COUNTY
San Simeon Creek
Hearst San Simeon State Park
San Simeon Point
10 fm
20 fm
30 fm
50 fm
100 fm
40 fm
Pico Rock
Cambria SMCA/SMP
Cambria Rock
Santa Rosa Creek
Cambria
1
Perry Creek
46
Von Helm Rock
White Rock
White Rock SMCA
3 Nautical Mile Maritime Limit

THIS CHART DOES NOT REPLACE THE LEGAL DESCRIPTION FOUND IN TITLE 14, CALIFORNIA CODE OF REGULATIONS

🟥	State Marine Reserve (SMR)
🟦	State Marine Conservation Area (SMCA)
🟩	State Marine Recreational Management Area (SMRMA)
∿	Three Nautical Mile Maritime Limit (State Water Jurisdiction)

1:1,800,000
(@ print size 8.5" x 11")

California Department of Fish and Wildlife, Marine Region GIS Lab ~ March 1, 2016

D. Population and Housing

i. Population Overview

Cambria, California 2010-1014	
Median Household Income	$ 62,948
Persons in poverty, percent	7.2 %
Educational Attainment: Percent high school graduate or higher	90.5%
Persons without health insurance, percent	11.0%
Median Housing Value	$625,300
Total Housing Units	4,096
Number of Companies	920
Male Median Income	$46,365
Female Median Income	$26,215
Veterans	734

Sources: 2010-2014 American Community Survey 5-Year Estimates
2010-2014 American Community Survey 5-Year Profiles
2012 Survey of Business Owners: Company Summary

ii. Resident Age and Race

	Cambria CDP, California	
CAMBRIA, CALIFORNIA CDP DEMOGRAPHIC ESTIMATES	**Estimate**	**Percent**
SEX AND AGE		
Total population	6,246	6,246
Male	2,933	47.0%
Female	3,313	53.0%
Under 5 years	166	2.7%
5 to 9 years	250	4.0%
10 to 14 years	229	3.7%
15 to 19 years	259	4.1%
20 to 24 years	192	3.1%
25 to 34 years	472	7.6%
35 to 44 years	466	7.5%
45 to 54 years	561	9.0%

55 to 59 years	375	6.0%
60 to 64 years	947	15.2%
65 to 74 years	1,444	23.1%
75 to 84 years	623	10.0%
85 years and over	262	4.2%
Median age (years)	60.8	
RACE		
One race	6,088	97.5%
White	5,718	91.5%
Black or African American	8	0.1%
American Indian and Alaska Native	73	1.2%
Cherokee tribal grouping	0	0.0%
Chippewa tribal grouping	0	0.0%
Navajo tribal grouping	0	0.0%
Sioux tribal grouping	0	0.0%
Asian	33	0.5%
Native Hawaiian and Other Pacific Islander	0	0.0%
Some other race	256	4.1%
Two or more races	158	2.5%
White and Black or African American	0	0.0%
White and American Indian and Alaska Native	109	1.7%
White and Asian	19	0.3%
Black or African American and American Indian and Alaska Native	6	0.1%
Total population	6,246	6,246
HISPANIC OR LATINO AND RACE		
Total population	6,246	6,246
Hispanic or Latino (of any race)	1,338	21.4%
Mexican	1,159	18.6%
Puerto Rican	0	0.0%
Cuban	0	0.0%
Other Hispanic or Latino	179	2.9%
Not Hispanic or Latino	4,908	78.6%
Total housing units	4,096	

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

iii. Housing Characteristic Profile

CAMBRIA, CALIFORNIA 2010 HOUSING CHARACTERISTICS HOUSEHOLDS BY TYPE	Number	Percent
Total households	2,762	100.0
Family households	1,758	63.6
With own children under 18 years	403	14.6
Husband-wife family	1,483	53.7
With own children under 18 years	275	10.0
Male householder, no wife present	75	2.7
With own children under 18 years	40	1.4
Female householder, no husband present	200	7.2
With own children under 18 years	88	3.2
Nonfamily households	1,004	36.4
Householder living alone	804	29.1
Male	286	10.4
65 years and over	118	4.3
Female	518	18.8
65 years and over	304	11.0
Households with individuals under 18 years	442	16.0
Households with individuals 65 years and over	1,320	47.8
Average household size	2.18	
Average family size [7]	2.61	
HOUSING OCCUPANCY		
Total housing units	4,062	100.0
Occupied housing units	2,762	68.0
Vacant housing units	1,300	32.0
For rent	88	2.2
Rented, not occupied	3	0.1
For sale only	71	1.7
Sold, not occupied	10	0.2
For seasonal, recreational, or	1,058	26.0

occasional use		
All other vacancies	70	1.7
Homeowner vacancy rate (percent)	3.4	
Rental vacancy rate (percent)	10.1	
HOUSING TENURE		
Occupied housing units	2,762	100.0
Owner-occupied housing units	1,985	71.9
Population in owner-occupied housing units	4,030	
Average household size of owner-occupied units	2.03	
Renter-occupied housing units	777	28.1
Population in renter-occupied housing units	2,001	
Average household size of renter-occupied units	2.58	

Source: U.S. Census Bureau, 2010 Census

iv. Poverty Status

The economic status of the local population is very diverse and includes low, middle and high-income families. Cambria's estimated poverty level for the past 12 months is 7.2% which falls well below the state estimate of 16%.

Poverty Status Estimates for Past 12 months

POVERTY STATUS ESTIMATES	Cambria CDP, California		
	Total	Below poverty level	Percent below poverty level
	Estimate	Estimate	Estimate
Population for whom poverty status is determined	6,219	450	7.2%
AGE			
Under 18 years	784	108	13.8%
Related children under 18 years	777	101	13.0%
18 to 64 years	3,106	230	7.4%
65 years and over	2,329	112	4.8%
SEX			
Male	2,932	162	5.5%
Female	3,287	288	8.8%
RACE AND HISPANIC OR LATINO ORIGIN			
One race	6,061	433	7.1%
White	5,691	407	7.2%
Black or African American	8	0	0.0%
American Indian and Alaska Native	73	26	35.6%
Asian	33	0	0.0%
Native Hawaiian and Other Pacific Islander	0	0	-
Some other race	256	0	0.0%
Two or more races	158	17	10.8%
Hispanic or Latino origin (of any race)	1,312	210	16.0%
White alone, not Hispanic or Latino	4,720	229	4.9%
EDUCATIONAL ATTAINMENT			
Population 25 years and over	5,150	297	5.8%
Less than high school graduate	487	60	12.3%
High school graduate (includes equivalency)	791	57	7.2%
Some college, associate's degree	1,423	131	9.2%
Bachelor's degree or higher	2,449	49	2.0%

EMPLOYMENT STATUS			
Civilian labor force 16 years and over	2,569	156	6.1%
Employed	2,423	134	5.5%
Male	1,178	12	1.0%
Female	1,245	122	9.8%
Unemployed	146	22	15.1%
Male	104	13	12.5%
Female	42	9	21.4%
WORK EXPERIENCE			
Population 16 years and over	5,503	353	6.4%
Worked full-time, year-round in the past 12 months	1,302	37	2.8%
Worked part-time or part-year in the past 12 months	1,451	160	11.0%
Did not work	2,750	156	5.7%
All Individuals below:			
50 percent of poverty level	175		
125 percent of poverty level	576		
150 percent of poverty level	739		
185 percent of poverty level	1,202		
200 percent of poverty level	1,423		

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

E. Area Economy

Employment by Industry

The most common industries in the study area with respect to employee numbers are Accommodation and Food Service, Retail Trade, and Healthcare and Social Assistance. Tourism is the driving force behind the accommodation and food service industry primarily resulting from visitors to Hearst Castle, located six miles to the north and the Piedras Blancas elephant seal rookery, fifteen miles to the north. Additionally, tourists are attracted to Cambria's scenic beaches, tide pools, rocky cliffs and Monterey Pines. Cambria is home to a number of cozy bed and breakfast lodgings particularly along Moonstone Beach Drive in addition to the Cambria Historical Museum in the East Village and Hillcrest Drive's historic Nitt Witt Ridge. Coast Unified School District and Cambria Community Services District are other major local employers.

Industries by Share (Total Employees 2,423)**:**

INDUSTRY	SHARE (Percent)	Employees
Accommodation and Food Service	18.5%	448
Retail Trade	13.5	326
Healthcare and Social Assistance	11.5	278
Professional, Scientific, Tech Services	8.5	207
Admin Support, Waste Management Services	6.9	168
Educational Services	6.7	163
Construction	5.8	140
Other Services except Public Administration	4.7	115
Real Estate, Rental and Leasing	4.0	96
Manufacturing	3.5	84
Finance and Insurance	2.4	57
Public Administration	2.1	50
Information	1.8	43
Wholesale Trade	1.5	37
Mining, Quarrying, Oil, Gas Extraction	1.0	25
Utilities	0.7	16
Agriculture, Forestry, Fishing, Hunting	0.4	9
Transportation and Warehousing	0.3	7

Dataset: ACS 5-year Estimate Source: Census Bureau

2012 Economic Census: Cambria CDP, California

INDUSTRY TYPE	Number of establishments	Value of sales, shipments, receipts, revenue, or business done ($1,000)	Annual payroll ($1,000)	First-quarter payroll ($1,000)	Number of employees
Manufacturing	5		655		21
Wholesale trade	4	4,682	351	72	12
Retail trade	37	38,578	4,131	989	243
Information	3				
Finance and insurance	4				
Real estate and rental and leasing	13	8,265	1,389	493	29
Professional, scientific, and technical services	12	1,849	619	138	25
Administrative and support and waste management and remediation services	12	2,435	534	109	20
Health care and social assistance	14	4,962	2,499	497	65
Arts, entertainment, and recreation	9	3,237	460	84	21
Accommodation and food services	55	50,559	14,300	3,389	728
Other services (except public administration)	8	1,890	538	132	21

Source: U.S. Census Bureau, 2012 Economic Census, 2012 Economic Census of Island Areas, and 2012 Nonemployer Statistics

F. Schools

Coast Unified School District is located within Cambria. The School District serves the Cambria, Cayucos and San Simeon communities in addition to surrounding areas. The district has approximately 750 students enrolled in grades K-12. This includes:

School	Grades	Student Population
Cambria Grammar School	K-5	259
Santa Lucia Middle School	6-8	159
Coast Union High School	9-12	215
Leffingwell High (Continuation School)	9-12	10
Cambria Community Day School	7-12	0

Source: Coast Unified School District-December 2017

Cambria is also home to the New Dawn Montessori School which educates 3-9 year old children.

School Enrollment-Cambria Census Designated Place

SCHOOL ENROLLMENT CAMBRIA CDP, CALIFORNIA	Cambria CDP, California		
	Total	Percent of enrolled population	
		In public school	In private school
	Estimate	Estimate	Estimate
Population 3 years and over enrolled in school	935	95.5%	4.5%
Nursery school, preschool	48	95.8%	4.2%
Kindergarten to 12th grade	633	96.8%	3.2%
Kindergarten	10	100.0%	0.0%
Elementary: grade 1 to grade 4	229	91.3%	8.7%
Elementary: grade 5 to grade 8	217	100.0%	0.0%
High school: grade 9 to grade 12	177	100.0%	0.0%
College, undergraduate	246	91.9%	8.1%
Graduate, professional school	8	100.0%	0.0%
Percent of age group enrolled in school --			
3 and 4 years	45.3%	95.8%	4.2%
5 to 9 years	91.6%	91.3%	8.7%

10 to 14 years	100.0%	100.0%	0.0%
15 to 17 years	95.8%	100.0%	0.0%
18 and 19 years	76.3%	100.0%	0.0%
20 to 24 years	54.7%	100.0%	0.0%
25 to 34 years	10.8%	60.8%	39.2%
35 years and over	0.9%	100.0%	0.0%
Population 18 years and over	5,435		
Enrolled in college or graduate school	4.7%	92.1%	7.9%
Males 18 years and over	2,470		
Enrolled in college or graduate school	4.7%	100.0%	0.0%
Females 18 years and over	2,965		
Enrolled in college or graduate school	4.6%	85.4%	14.6%
Population 18 to 24 years	285		
Enrolled in college or graduate school	56.1%	100.0%	0.0%
Males 18 to 24 years	139		
Enrolled in college or graduate school	59.0%	100.0%	0.0%
Females 18 to 24 years	146		
Enrolled in college or graduate school	53.4%	100.0%	0.0%

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

Coast Unified School District Demographics

2016-2017 Enrollment: 649 Students	
Hispanic	62.41%
American Indian	.46%
Filipino	.31%
Asian	.77%
African American	.92%
White	31.9%
Multiple ethnicities	.77%
Other/Not Specified	2.46%

Source: Coast Unified School District-December 2017

To offset the impact of California's declining school budgets, the Cambria Education Foundation, a non-profit organization, was formed. The Foundation offers programs that enhance and enrich the education provided within the Coast Union School District.

Universities:
The nearest colleges to the study area are Cuesta Community College and California Polytechnic State University (Cal Poly), San Luis Obispo.

G. Utilities

The following companies provide utility services to the study area:

Utility	Provider
Electric	Pacific Gas and Electric
Natural Gas	Southern California Gas Company
Telephone	AT&T, SBC Pacific Bell, and Charter
Water, Sewer, Trash	Cambria Community Services District

Cambria obtains its water supply from wells that tap San Simeon and Santa Rosa creeks. The community is vulnerable to water shortages as a result of their reliance on this unstable network of creeks. To help alleviate this shortage, the Cambria Community Services District has constructed a 9.13 million dollar treatment plant to treat brackish water and return it to the aquifer. The water is a combination of groundwater, percolated wastewater treatment plant effluent and a mix of fresh water and salt water. Operation of this plant is controversial as concerns have been raised that it could harm the fragile ecosystem, particularly San Simeon Creek lagoon, and also be a financial burden to ratepayers.

An ever-increasing number of Cambria residents have abandoned landline telephones and are utilizing cell phones for home phones. This continues to be problematic as cell phone coverage in the Cambria area is sporadic with some areas having poor or no cell coverage.

H. Area Climate

Cambria boasts a mild, smog free climate with an average of 286 sunny days per year. An ocean breeze is common as is seasonal fog. Annually, Cambria receives approximately 29 inches of rainfall. Snowfall only occurs at the higher elevations of the Santa Lucia Range. Cambria's temperature is generally in the 50° to 70° F range with an average January low of 45° F and a July high temperature of 75°F.

CLIMATE	Cambria, California	United States
Rainfall (in.)	29.0	39.2
Snowfall (in.)	0.1	25.8
Precipitation Days	48	102
Sunny Days	286	205
Avg. July High	75.1	86.1
Avg. Jan. Low	44.8	22.6
Comfort Index (higher=better)	87	54
UV Index	5.3	4.3
Elevation ft.	139	1,443

Source: Sperling's Best Places 2017

I. Climate Change-Global Warming

Data gathered by NASA and NOAA indicate that the Earth's average surface temperature has increased by about 1.2º to 1.4º F in the last 100 years. Since 1998, the eight warmest years on record (since 1850) have been recorded, with the warmest being 2016 with the last three years experiencing record high temperatures. Most of the warming in recent decades is very likely the result of human activities. For over the past 200 years, the burning of fossil fuels, such as coal and oil, and deforestation have caused the concentrations of heat-trapping "greenhouse gases" to increase significantly in our atmosphere.

This warming trend may well have an impact on the naturally occurring hazards in the Cambria District. Expected effects will include changes in the range and distribution of plants and animals (pests), longer and hotter/dryer fire seasons, and changes in rainfall and intensities (flooding). Public Health impacts can also be expected. Extreme periods of heat and cold, storms, and smoke from fire will have impacts on climate-sensitive diseases and respiratory illnesses. More detailed information on specific impacts is found in the Risk Analysis section of this plan.

J. Area Transportation Systems

Major Highways

The Community of Cambria is off U.S. Highway 1 and located 240 miles north of Los Angeles and 240 miles south of San Francisco. Southbound travelers can take Highway 101 North to San Luis Obispo (Morro Bay, Hearst Castle Exit) to Highway 1. Visitors from the North can take Highway 101 South to Highway 46 (Cambria Exit) to Highway 1.

Public Airports

San Luis Obispo County Regional Airport, McChesney Field, a civil airport in San Luis Obispo County is located 35 miles south of Cambria.

Trains

An Amtrak station is located in the City of San Luis Obispo, 35 miles south of Cambria and 28 miles east of Cambria.

Other Public Transportation

- **Regional Transit Authority (RTA)-**The Regional Transit Authority Route 15 bus operates from Morro Bay to San Simeon 7 days a week. It also makes weekend runs to the Hearst Castle Visitor's Center. RTA also offers bus service from San Luis Obispo to Cambria.

- **Greyhound-**There are Greyhound bus service stations throughout the County with the Atascadero and Paso Robles stations located closest to Cambria.

- **Community Bus-**The Cambria Community Bus is a means of transportation provided by the Cambria Community Council. It offers free local door to door service for seniors (persons over 60) and disabled persons within the Cambria-San Simeon area. Multiple stops are not only allowed but encouraged.

- **Roadrunner Shuttle-**Roadrunner Shuttle and Limousine Service operates transfer service to and from Cambria Bus 24 hours a day, 7 days a week.

Commuting Characteristics

CAMBRIA CALIFORNIA, CDP COMMUTING CHARACTERISTICS	Total	Male	Female
	Estimate	Estimate	Estimate
Workers 16 years and over	2,407	1,188	1,219
MEANS OF TRANSPORTATION TO WORK			
Car, truck, or van	82.2%	81.7%	82.6%
Drove alone	70.0%	73.7%	66.4%
Carpooled	12.2%	8.1%	16.2%
In 2-person carpool	9.8%	6.7%	12.7%
In 3-person carpool	1.7%	1.3%	2.1%
In 4-or-more person carpool	0.7%	0.1%	1.4%
Workers per car, truck, or van	1.09	1.06	1.12
Public transportation (excluding taxicab)	0.0%	0.0%	0.0%
Walked	1.5%	1.8%	1.3%
Bicycle	0.2%	0.0%	0.3%
Taxicab, motorcycle, or other means	2.0%	3.0%	1.0%
Worked at home	14.1%	13.5%	14.8%
PLACE OF WORK			
Worked in state of residence	99.5%	98.9%	100.0%
Worked in county of residence	94.1%	91.3%	96.9%
Worked outside county of residence	5.3%	7.6%	3.1%
Workers 16 years and over who did not work at home	2,067	1,028	1,039
TIME LEAVING HOME TO GO TO WORK			
12:00 a.m. to 4:59 a.m.	3.3%	6.6%	0.0%
5:00 a.m. to 5:29 a.m.	0.3%	0.6%	0.0%
5:30 a.m. to 5:59 a.m.	0.4%	0.0%	0.8%
6:00 a.m. to 6:29 a.m.	3.9%	4.5%	3.4%
6:30 a.m. to 6:59 a.m.	11.2%	14.0%	8.5%
7:00 a.m. to 7:29 a.m.	11.5%	15.2%	7.8%
7:30 a.m. to 7:59 a.m.	11.8%	8.9%	14.6%
8:00 a.m. to 8:29 a.m.	18.0%	21.7%	14.3%
8:30 a.m. to 8:59 a.m.	5.7%	2.9%	8.4%
9:00 a.m. to 11:59 p.m.	34.0%	25.6%	42.3%
TRAVEL TIME TO WORK			
Less than 10 minutes	37.1%	34.3%	39.8%

10 to 14 minutes	15.0%	16.0%	14.1%
15 to 19 minutes	6.5%	8.8%	4.3%
20 to 24 minutes	9.0%	4.9%	13.1%
25 to 29 minutes	3.6%	1.7%	5.5%
30 to 34 minutes	6.9%	10.9%	3.0%
35 to 44 minutes	9.8%	10.3%	9.2%
45 to 59 minutes	5.8%	5.2%	6.4%
60 or more minutes	6.3%	8.1%	4.5%
Mean travel time to work (minutes)	22.1	24.3	20.0
VEHICLES AVAILABLE			
Workers 16 years and over in households	2,405	1,186	1,219
No vehicle available	1.5%	2.2%	0.9%
1 vehicle available	13.7%	13.2%	14.2%
2 vehicles available	52.9%	52.8%	53.0%
3 or more vehicles available	31.9%	31.8%	31.9%

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

K. Governing Body

Cambria is an unincorporated community located in the County of San Luis Obispo, Supervisorial District #2. San Luis Obispo County provides the following services to the community: Animal Control, Law Enforcement /Sheriff s Department, Planning and Building Department functions, Social Services, Mental Health, and Public Health.

In the state legislature, Cambria is in the 17th Senate District and the 35th Assembly District. In the United States House of Representatives, Cambria is in California's 24th congressional district.

Formed in 1976, the CCSD provides many services to Cambria’s residents including fire protection, water, wastewater, refuse, lighting, open space, parks and recreation. The CCSD is strongly committed to preserving and protecting Cambria’s water and other precious resources.

The Cambria Community Services District is governed by a five-member Board of Directors, elected by Cambria residents for overlapping four-year terms. The CCSD Board elects a President who preside over meetings, and a Vice President, who serves in the President’s absence. The President’s position rotates annually with December nominations. CCSD elections are consolidated with San Luis Obispo County and General Elections and are normally held the first Tuesday in November. The County Clerk Recorder handles all candidate filings.

The CCSD is one of three independent special districts in Cambria. The other two are the Cambria Community Healthcare District (CCHD) described in detail below and the Cambria Cemetery District:

- **The Cambria Cemetery District**, also known as the Cambria Community Cemetery is a non-profit tax supported agency governed by a three-member board of trustees. The cemetery land, located in the middle of the largest strand of Monterey Pines in California, was originally donated by George Leffingwell in 1870 and later deeded to the San Simeon Masonic Lodge in 1877. In 1940, the San Luis Obispo County set up boundaries and created special districts for the 11 cemeteries in the county. The 12.2 acre Cambria Community Cemetery possesses more than 550 available burial sites and performs 40-70 interments a year. Its grounds contain more than 1200 trees including Monterey Pines, coastal live oaks, Toyon trees, California Pepper tree, and various other native flowers and grasses.

L. Land Use

Land use in the CCSD is predominantly comprised of single-family residential and large open urban preservation areas. A lesser amount of space is designated for recreation and a commercial district and a small agricultural component also exists. There has been a significant decrease in growth rates this past decade resulting from resource constraints and development restrictions despite the existence of a significant number of vacant lots. While water supply shortages are the greatest concern, public facility and traffic limitations are also problematic.

In 2003, the CCSD Board of Director's passed a motion to limit Cambria's buildout to a maximum of 4,650 connections. The District's Buildout Reduction Plan includes permanently retiring lots to allow the maximum build out to match their goal of 4,650 dwelling units. This would result in a population ranging from 7,724 to 10,469.

In 1999, SLO County restricted Cambria's allocations to a 1 percent maximum for dwelling units in place of the county's rate of 2.3. In 2001, the CCSD instituted a Water Code 350 emergency and enacted a moratorium for new connections excluding in progress "pipeline projects". Resultantly, actual growth in Cambria has remained under the County's one percent limit. In an effort to increase Cambria's water supply, the CCSD is presently engaged in a desalination project.

The public purchase of the Fiscalini Ranch along with the Residential Single Family land use designation led to the elimination of 738 potential dwelling units.
(Source: SLO County General Plan Land Use Element 2014)

V. JURISDICTION PROFILE- CAMBRIA HEALTHCARE DISTRICT

A. Cambria Community Healthcare District History

The Cambria Community Hospital District was formed in 1947 for the purpose of attracting medical and dental personnel to the area. Formation was approved by the local voting constituency and was authorized by the San Luis Obispo County Board of Supervisors. In 1951, the District took charge of ambulance service operations that had been run from the Cambria Chamber of Commerce. Their sole ambulance was stored in a shed behind the old Bank of America building. In 1957, the District bought two lots for $3500 and began construction on the Main Street property. A year later, a clinic was built and medical equipment was purchased for the purpose of leasing the facility to physicians at a nominal rate. As ambulance runs steadily increased, the District added an ambulance garage and additional medical office space in 1963. Two years later, the District purchased a Cadillac ambulance for $9,595. In 1967, in response to pressure from the local community, the District constructed additional office space for purpose of leasing to a dentist. A separate ambulance garage was constructed in 1971. Three years later, a full-time ambulance manager position was established to assist volunteer coordination. In 1976, a full-time Emergency Medical Technician ambulance staff was hired allowing for 24 hour ambulance coverage augmented by volunteers.

In 1977, the ambulance garage constructed in 1971 was converted into an office and quarters for ambulance crew. Also at this time, Project Heartbeat, an independent fundraising foundation, purchased life-saving equipment. A new Type 1 modular ambulance was purchased in 1978. In 1981, the clinic property was officially named ‘The Professional Building.’ In 1983, the District sponsored personnel to become EMT II (Intermediate Paramedic) to upgrade operations to Advanced Life Support. A year later, a back-up response system was established, part-time clerical staff was hired and a second ambulance was purchased. In 1985, the District passed Measure B, an annual parcel assessment to raise funds to update ambulances and equipment. Two years later, a 1987 Ford Type III was purchased in addition to a 1988 Ford Bronco II to be used as a utility vehicle for the District.

As call volume continued to increase, staffing levels rose to four full-time and 3 part-time paramedics in 1988. Personnel were upgraded to full paramedic status (EMT-P). A year later, a new VHF radio repeater system was installed and implemented to allow direct paging access for back-up personnel. In 1993, the older ambulances were sold and replaced by a 1992 diesel type III ambulance. An additional paramedic position was established in 1994 which enabled the Administrator to assume full-time office duties and assist with emergency calls. Paramedic crews reduced their 72 hour work week to 56 hour work week schedule. That same year, the District formally changed its name to the Cambria Community Healthcare District and a Crisis Intervention Team was established. In 1995, the CCHD launched a website and the following year, the district began Healthcare News, an annual newsletter for residents.

In 1995, a third ambulance was added to the fleet, a 1991 Type II purchased with Project Heartbeat funding. Five years later, the 1992 Horton was replaced with a new Type II ambulance. In 2002, another Type II was purchased to replace the older one. In 2008, the district replaced their older ambulances with two new Springer Type II's which increased the fleet to four ambulances.

In 2005, the District administrative office moved to 1241 Knollwood Circle. The larger facility contains three private offices, community meeting space, kitchen and storage areas, and the ambulance crew's workout equipment. The vacated office space located at 2511 and 2515 Main Street was then leased by the Community Health Center, while the District's ambulances continued to operate out of the building at 2535 Main Street.

In 2006, Measure AA passed which allowed for additional funding of the Healthcare District. The following year EMT's and Paramedics were hired to staff two full-time ambulance and the ambulance station was remodeled to house personnel. This same year, CCHD staff began educating local Junior High students on CPR and First Aid and commenced a drunk driving campaign.

In 2017, a series of large winter storms resulted in minor flooding and a small mudslide behind the Main Street properties. To ensure continued safe operation, the ambulance station was temporarily relocated. A geological study was performed and recommendations on slope stabilization were made.

These storm related events, the age and condition of the building, its location, and construction type (non-essential service) have generated considerable discussion regarding the possibility of relocating the ambulance station.

B. Healthcare District Jurisdictional Boundaries

The Healthcare District's boundaries were set by local election by the citizens and ratified by San Luis Obispo County and the State of California. The CCHD's northern boundary is the SLO County line where it abuts Monterey County, to the Pacific Ocean on the west side, the Rocky Butte mountain range on the east side, and Villa Creek just north of Cayucos. This covers a jurisdictional area and population beyond the CCSD boundaries.

The Healthcare District serves the communities of Cambria, San Simeon, Harmony, San Simeon Acres, and the surrounding rural areas. Their normal response zone is 810 square miles covering from north Cayucos (Villa Creek) to the Monterey and San Luis Obispo County lines. The zone extends inland approximately 15 miles along the Santa Lucia Mountain range. Additionally, the District provides service into the south coastal zone of Monterey County extending up to the community of Pacific Valley. As part of a county-wide move up and cover system, the Healthcare District ambulance crew will provide coverage when other units in the County are busy and these outside units will provide coverage within the district boundaries as needed. The combined population of Cambria and San Simeon is approximately 7,000. This number increases significantly during the summer months with the influx of tourists visiting Hearst Castle in San Simeon. In addition to the more than one million annual visitors to the area, the District also has a significant number of part-time residents.

C. Governing Body

The District is governed by a five member Board. The District meets monthly on the third Wednesday at 1:00 P.M. at the Coast Unified School District boardroom at 1350 Main Street in Cambria. Meeting agendas are posted at the entrance to the administrative offices and the ambulance station at least 72 hours prior to meeting dates. The Board President may call special meetings as deemed necessary.

D. Healthcare District Responsibilities

The Cambria Community Healthcare District (CCHD) is a public, tax and fee supported special district whose mission is to "*Improve the health of District residents by providing emergency services, enhancing access to care, and promoting wellness*".

The Healthcare District is the sole agency responsible for recruiting needed healthcare services to the area. It provides community health and education classes including Cardio-Pulmonary Resuscitation (CPR), Automatic External Defibrillator (AED) and Basic First Aid and Safety and operates the following essential programs and services:

- Community Blood Pressure Checks-Available Daily at the ambulance station.
- Community Emergency Response Team (CERT) development
- "Every 15 Minutes" High School Anti-Drinking/Driving Program
- Local school visitation and ambulance demonstrations.
- Emergency Medical Services (EMS) Appreciation Day participation and sponsorship
- Coast Union High School Football standby, as well as other athletic events as requested.

- Special Event standby and assistance, such as the annual Pinedorado Celebration and the Fourth of July Fireworks.

E. Medical Services

The Community Health Centers of the Central Coast (CHC) is a non-profit corporation that leases the CCHD professional medical building for the purpose of operating a weekday medical clinic. This clinic provides primary medical care, family practice medicine and chiropractic services. Located in the East Village of Cambria, the CHC serves residents from the entire north coast of San Luis Obispo and is the only medical clinic operating in Cambria. The clinic serves approximately 500 patients per month from its 2511 and 2515 Main Street locations.

The following three San Luis Obispo County hospitals provide medical services to Cambria residents:

- Twin Cities Hospital in Templeton (25 miles inland)
- Sierra Vista Regional Medical Center in the City of San Luis Obispo (35 miles south)
- French Hospital in the City of San Luis Obispo (37 miles south).

In January of 2016, a healthcare survey was conducted by the CCHD Health Professionals Committee, which is comprised of physicians, nurses, pharmacists, paramedics, EMT's, pharmacists, Occupational and Speech Therapists and two CCHD Directors. The survey was intended to ascertain the healthcare needs of District residents and identify gaps in healthcare services. The following information was determined based on 60 pilot interviews with residents and a survey sent to 4,200 CCHD residents in January of 2016 with their utility bill. This was also advertised in the local newspaper, the Cambrian. Six hundred thirty residents completed the survey.

Healthcare Needs Survey Results

Where do residents go for their healthcare:	
• Currently travel outside of District	66%
• Would prefer to receive their care locally	80%
Services that require residents to travel outside of District:	
• Radiology/X-Ray	69%
• Laboratory	46%
• Urgent Care	40%
• Dental	39%
• Other Outpatient Services	34%
What healthcare services residents want in the District:	
• Urgent Care	34%
• Radiology/X-ray	15%
• More physicians	12%
• More specialists	12%
• Laboratory	12%
• Weekend Hours	10%
• Walk-In or Full Service Clinic	5%
What would residents like to see changed or improved:	
• Urgent Care	28%
• More Doctors	25%
• 24/7 Care	19%
• More Primary Care Doctors	13%

The results of the survey show that 85% of respondents want more medical care close to home. The 2014 Annals of Family Medicine recommends that a population of 7,500 residents should have 6 to 7 Primary Care Physicians. Whereas, the Healthcare District currently has 1.2 Primary Care Physicians and 1.0 Nurse Practitioners for that population size. Resultantly, the CCHD is medically underserved; a burden which falls heavily on the Healthcare District by an increased call volume for emergency medical service.

F. Public Health Profile

The CCHD is located within San Luis Obispo County which has been ranked 11th out of 57 California Counties and 9th for Health Factors.

TABLE 1 -HEALTHCARE OVERVIEW

	San Luis Obispo County	**Error Margin**	**Top U.S. Performers**	**California**	**Rank (of 57)**
Health Outcomes					**11**
Length of Life					**22**
Premature death	5,400	5,100-5,700	5,200	5,300	
Quality of Life					**10**
Poor or fair health	13%	13-14%	12%	18%	
Poor physical health days	3.5	3.3-3.6	2.9	4.0	
Poor mental health days	3.6	3.5-3.7	2.8	3.6	
Low birthweight	6%	6-6%	6%	7%	
Health Factors					**9**
Health Behaviors					**20**
Adult smoking	12%	12-13%	14%	13%	
Adult obesity	22%	19-25%	25%	23%	

	San Luis Obispo County	**Error Margin**	**Top U.S. Performers**	**California**	**Rank (of 57)**
Food environment index	7.6		8.3	7.7	
Physical inactivity	15%	12-18%	20%	17%	
Access to exercise opportunities	89%		91%	94%	
Excessive drinking	20%	19-21%	12%	17%	
Alcohol-impaired driving deaths	32%	28-37%	14%	30%	
Sexually transmitted infections	356.6		134.1	439.9	
Teen births	17	16-18	19	32	
Clinical Care					**6**
Uninsured	16%	14-17%	11%	19%	
Primary care physicians	1,220:1		1,040:1	1,270:1	
Dentists	1,270:1		1,340:1	1,260:1	
Mental health providers	210:1		370:1	360:1	
Preventable hospital stays	27	25-28	38	41	
Diabetic monitoring	84%	81-87%	90%	81%	
Mammography screening	66%	63-69%	71%	59%	

	San Luis Obispo County	Error Margin	Top U.S. Performers	California	Rank (of 57)
Social and Economic Factors					**5**
High school graduation	93%		93%	85%	
Some college	68%	65-70%	72%	62%	
Unemployment	5.6%		3.5%	7.5%	
Children in poverty	16%	12-19%	13%	23%	
Income inequality	4.6	4.4-4.9	3.7	5.2	
Children in single-parent households	26%	23-29%	21%	32%	
Social associations	9.1		22.1	5.8	
Violent crime	282		59	425	
Injury deaths	58	54-63	51	46	
Physical Environment					**17**
Air pollution - particulate matter	7.5		9.5	9.3	
Drinking water violations	Yes		No		
Severe housing problems	25%	23-26%	9%	29%	
Driving alone to work	75%	73-76%	71%	73%	
Long commute - driving alone	24%	22-25%	15%	38%	

TABLE 2- DEATHS RANKED BY THREE-YEAR AVERAGE AGE-ADJUSTED DEATH RATE CALIFORNIA COUNTIES, 2012-2014

2012-2014 Deaths Due To:	San Luis Obispo County Average (per 100,000 population)*	State of California Age Adjusted Average (per 100,000 population)**
All Causes	605.7	619.6
All Cancers	143.2	146.5
Colorectal Cancer	12.9	13.3
Lung Cancer	32.4	31.7
Female Breast Cancer	23.7	20.3
Prostate Cancer	18.9	19.3
Diabetes	12.7	20.4
Alzheimer’s Disease	19.3	30.1
Coronary Heart Disease	70.6	96.6
Cerebrovascular Disease (Stroke)	51.8	34.4
Influenza/Pneumonia	9.4	15.3
Chronic Lower Respiratory Disease	33.4	33.7
Chronic Liver Disease and Cirrhosis	14.0	11.7
Accidents (Unintentional Injuries)	34.1	28.2
Motor Vehicle Traffic Crashes	9.9	7.9
Suicide	16.5	10.2
Homicide	1.7	5.0
Fire-Arms	9.5	7.6
Drug-Induced	13.6	11.3

*Estimates based on a San Luis Obispo 2013 Population of 271, 740

**Estimates based on a California 2013 Population of 38,202,206

Sources: State of California, Department of Public Health: 2012-2014 Death Records. State of California, Department of Finance, Report P-3: State and County Population Projections by Race/Ethnicity, Detailed Age, and Gender, 2010-2060. Sacramento, California, December 2014

TABLE 3-INFANT MORTALITY - ALL RACE/ETHNIC GROUPS RANKED BY THREE-YEAR AVERAGE BIRTH COHORT INFANT DEATH RATE CALIFORNIA COUNTIES, 2011-2013

2011-2013 Infant Mortality	San Luis Obispo County Average (per 1,000 live births)	State of California Average (per 1,000 live births)
All Race/Ethnic Groups	6.1	4.7
Asian/Pacific Islander	*	3.6
Black	*	9.7
Hispanic	6.8	4.6
White	6.1	3.9

*Please note Infant Mortality Rates for Asian/Pacific Islander and Black Infants is not reported because data is considered unreliable because as too few data elements exist for this County.

Source: State of California, Department of Public Health: 2011-2013 Birth Cohort-Perinatal Outcome Files.

Age-adjusted death rates are hypothetical rates obtained by calculating age-specific rates for each county and multiplying these rates by proportions of the same age categories in a "standard population," then summing the apportioned specific rates to a county total. The "standard population" used in the age-adjusted rates in this report is drawn from the 2000 U.S. Standard Population distribution that applies the same age groupings and proportions as those established by NCHS for the Department of Health and Human Services. These age-adjusted rates put all counties on the same footing with respect to the effect of age and permit direct comparisons among counties and other national reports. It is important to understand that age-adjusted death rates should be viewed as constructs or index numbers rather than as actual measures of the risk of mortality. (Source: County Health Status Profiles 2016-California Department of Public Health)

TABLE 4 - REPORTED CASES OF SELECTED COMMUNICABLE DISEASES

DISEASES	YEAR 2014					YEAR 2015				
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Total Cases	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Total Cases
AIDS/HIV	1 2	2 3	2 0	0 4	5 9	1 4	1 2	1 5	0 5	3 16
Campylobacteriosis	12	24	15	24	75	12	15	30	17	74
Chlamydial Infections	258	245	226	305	1034	291	230	259	292	1072
Coccidioidomycosis	12	10	9	8	39	14	9	11	17	51
Cryptosporidiosis	4	2	2	1	9	0	1	3	1	5
E. Coli	2	1	7	5	15	5	3	4	0	12
Giardiasis	2	1	5	2	10	4	2	5	4	15
Gonorrhea	29	40	39	45	153	28	31	33	73	165
Hepatitis A	0	0	0	0	0	0	0	0	0	0
Hepatitis B (Chronic)	12	7	7	11	37	3	2	10	4	19
Hepatitis C (Community)	105	97	54	72	328	50	64	84	45	243
Hepatitis C (Correctional)	58	58	57	52	225	42	36	39	31	148
Lyme Disease	1	0	1	0	2	1	1	1	1	4
Measles (Rubeola)	0	0	0	0	0	0	0	0	0	0
Meningitis (Bacterial)	1	1	2	3	7	1	2	1	0	4
Meningitis (Viral)	0	7	7	4	18	4	4	5	9	22
MRSA	0	0	2	0	2	0	0	0	0	0
Pertussis	3	12	25	3	43	4	7	5	5	21
Rubella	0	0	0	0	0	0	0	0	0	0

Salmonellosis	9	11	9	11	40	11	13	13	8	45
Shigellosis	0	0	2	5	7	1	1	1	6	9
Syphilis (Primary/Secondary)	1	0	0	4	5	1	1	4	3	9
Tuberculosis	1	1	0	1	3	0	0	0	2	2

Source: San Luis Obispo County Public Health Bulletin- Winter 2016

G. Area Profile Considerations

As delineated above, special planning consideration needs to be taken for the following jurisdictional challenges:

- Located halfway between Los Angeles and San Francisco, directly on the coast, the study area is isolated from mutual aid resources and healthcare services of any significance. Emergency resources within the County of San Luis Obispo are also limited and realistically 30 to 45 minutes away. Significant mutual aid resources necessitate a travel time of 4 -5 hours. The travel time to the closest area hospital is approximately 30 minutes.

- Road access is very limited. The community is served by a two lane highway from the south, about 1 hour north of San Luis Obispo. While Highway 1 does continue north from the area, it is a 4 hour drive to Monterey and the road is subject to frequent closures in the winter because of slides and in the summer because of fires. Highway 1 and 46 serve the area from the south. The closure of either one of these highways from flood, fire, mudslide or earthquake would leave the Cambria area completely isolated.

- An aging population presents special needs. With a median age of 60.8 years (14.2% being age 75 or older), there is a high demand for safety and healthcare services.

These factors played a critical component in the development of the risk assessment profiles and resultant mitigation actions.

VI. RISK ASSESSMENT

A. DMA 2000 Requirements

DMA Requirement §201.6(c)(2)(i):	The risk assessment shall include a description of the type of all natural hazards that can affect the jurisdiction.
DMA Requirement §201.6(c)(2)(i):	The risk assessment shall include a description of the location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.
DMA Requirement §201.6(c)(2)(iii):	For multi-jurisdictional plans, the risk assessment must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

B. Hazard Identification

Jurisdiction	Earthquake	Wildland Fire	Extreme Weather	Flood	Landslides	Tsunami
Cambria CSD	✓	✓	✓	✓	✓	✓
Cambria CCHD	✓	✓	✓	✓	✓	✓

It is important to note that as described in the Community Profile sections above, the community of Cambria covers just 8.5 square miles which is centrally located in the much larger 810 square mile Healthcare District. The topography, climate, geology and wildland fire fuel types are all common throughout both areas. Therefore, the identified hazards and Risk Assessments for the two Districts are the same.

C. HAZARD PROFILES

➢Hazard: Earthquakes

Severity: High	Probability: High

Hazard Definition

An earthquake is a sudden, rapid shaking of the ground caused by the breaking and shifting of rock beneath the earth's surface or along fault lines. For hundreds of millions of years, the forces of plate tectonics have shaped the earth as the huge plates that form the Earth's surface move slowly over, under, and past each other. Sometimes the movement is gradual. At other times, the plates are locked together, unable to release the accumulating energy. When the amassed energy grows strong enough, the plates break free causing the ground to shake. Most earthquakes occur at the boundaries where the plates meet, commonly called faults. However, some earthquakes occur in the middle of plates.

Fault

A fault is a fracture in the earth's crust along which movement has occurred either suddenly during earthquakes or slowly during a process called creep. Cumulative displacement may be tens or even hundreds of miles if movement occurs over geologic time. However, individual episodes are generally small, usually less than several feet, and are commonly separated by tens, hundreds, or thousands of years. Damage associated with fault-related ground rupture is normally confined to a fairly narrow band along the trend of the fault. Structures are often not able to withstand fault rupture and utilities crossing faults are at risk of damage. Fault displacement involves forces so great that it is generally not feasible (structurally or economically) to design and build structures to accommodate this rapid displacement. Fault displacement can also occur in the form of barely perceptible movement called "fault creep." Damage by fault creep is usually expressed by the rupture or bending of buildings, fences, railroads, streets, pipelines, curbs, and other linear features.

The California Geological Survey (CGS) is charged with recording and mapping faults throughout California. The Alquist-Priolo Earthquake Fault Zoning (AP) Act was passed into law following the destructive February 9, 1971 6.6 San Fernando earthquake. The AP Act provides a mechanism for reducing losses from surface fault rupture on a statewide basis. The intent of the AP Act is to insure public safety by prohibiting the placement of most structures for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep. Fault zoning is continually updated and reviewed by CGS and it is likely that other faults in addition to those currently listed by CGS will be added to the list in the future.

The primary active faults within the County identified by the AP Act include the San Andreas, San Simeon-Hosgri, and Los Osos faults. Two recent studies performed by CGS have estimated the maximum credible ground acceleration that could be generated by active and potentially active faults. Deterministic peak horizontal ground accelerations from these studies range from a low of 0.4 g in the central portion of the County to a high of about 0.7 g along the San Andreas, Rinconada, Oceanic-West Huasna, and coastal fault zones.

The western portion of San Luis Obispo County has a high probability of experiencing ground accelerations in the range of 0.3 g to 0.4 g in the next 50 years. The eastern portion of the County adjacent to the San Andreas Fault has a high percent probability of experiencing a peak ground acceleration of 0.5 g to 0.7 g in the next 50 years. It should be noted that the statistical variance in estimated ground acceleration could easily be plus or minus 50 percent.

In 2008, the Shoreline Fault was discovered off the coast in the area of the Diablo Canyon Power Plant which is owned and operated by Pacific Gas and Electric Company (PG&E). The initial study of the fault, using conservative assumptions about the total length of the fault zone, indicates that a potential magnitude 6.5 strike-slip earthquake is possible. Follow up investigations were performed by PG&E in 2009 and 2010 and more detailed studies are planned in order to refine the size and potential of the fault.

(Source: Report on the Analysis of the Shoreline Fault Zone, Central Coastal California, Report to the U.S. Nuclear Regulatory Commission, January 2011, PG&E)

Historically active faults are generally thought to present the greatest risk for future movement and, therefore, have the greatest potential to result in earthquakes.

Active and potentially active faults in San Luis Obispo County are shown on the map found at the end of this section. A photo of the Oceanic fault as it surfaces on Santa Rosa Creek Road just outside of the District can also be found there.

Liquefaction

Liquefaction occurs when ground shaking causes the mechanical properties of some fine grained, saturated soils to liquefy and act as a fluid (liquefaction). It is the result of a sudden loss of soil strength due to a rapid increase in soil pore water pressures caused by ground shaking. In order for liquefaction to occur, three general geotechnical characteristics should be present: 1) ground water should be present within the potentially liquefiable zone, 2) the potentially liquefiable zone should be granular and meet a specific range in grain-size distribution, and 3) the potentially liquefiable zone should be of low relative density. If those factors are present and strong ground motion occurs, then those soils could liquefy depending upon the intensity and duration of the strong ground motion. Liquefaction that produces surface effects generally occurs in the upper 40 to 50 feet of the soil column, although the phenomenon can occur deeper than 100 feet. The duration of ground shaking is also an important factor in causing liquefaction to occur. The larger the earthquake magnitude, and the longer the duration of strong ground shaking, the greater the potential there is for liquefaction to occur.

The areas of San Luis Obispo County most susceptible to the effects of liquefaction are those areas underlain by young, poorly consolidated, saturated granular alluvial sediments. These soil conditions are most frequently found in areas underlain by recent river and flood plain deposits.

A map which delineates the areas of San Luis Obispo County susceptible to liquefaction is found at the end of this section.

History

Where earthquakes have struck before, they will strike again. The Central California coast has a history of damaging earthquakes, primarily associated with the San Andreas Fault. However, there have been a number of magnitude 5.0 to 6.5 earthquakes on other faults which have affected large portions of the Central Coast. Recent events include the December 2003 - 6.5 magnitude San Simeon Earthquake and the September 2004 - 6.0 magnitude Parkfield Earthquake.

The following are historic earthquakes that had an effect on San Luis Obispo County:

1830 San Luis Obispo Earthquake - The 1830 earthquake is noted in the annual report from the Mission, and had an estimated magnitude of 5. The location of the event is poorly constrained and cannot be attributed to a specific fault source, but the earthquake reportedly occurred somewhere near San Luis Obispo.

1857 Fort Tejon Earthquake - The approximate 7.9 Fort Tejon earthquake of 1857 was one of the greatest earthquakes ever recorded in the United States. It left a surface rupture scar over 350 kilometers (210 miles) in length along the San Andreas Fault and a maximum surface offset of about 9 meters (30 feet). Yet, despite the immense scale of this quake, only two people were reported killed by the effects of the shock. The location of the epicenter is not known. As the name suggests, one idea is to locate it near the area of strongest reported shaking, Fort Tejon. However, because there is evidence that foreshocks to the 1857 earthquake may have occurred in the Parkfield area, it is located near the northwestern end of the surface rupture, just southeast of

Parkfield, near Cholame, on a map produced by the Southern California Earthquake Data Center. (Source: http://www.data.scec.org/significant/forttejon1857.html)

The fact that only two lives were lost was primarily due to the nature of the quake's setting. California in 1857 was sparsely populated, especially in the regions of strongest shaking, and this fact, along with good fortune, kept the loss of life to a minimum. The effects of the quake were quite dramatic, even frightening. Were the Fort Tejon shock to happen today, the damage would easily run into billions of dollars, and the loss of life would likely be substantial, as the present day communities of Wrightwood, Palmdale, Frazier Park, and Taft (among others) all lie upon or near the 1857 rupture area.

1906 San Francisco Earthquake - This earthquake has been studied in detail and the effects in San Luis Obispo County have been documented. Modified Mercalli intensity ratings ranged from III-IV in the inland and north coast portions of the County, and IV-V in the south coast areas. The higher intensities were felt in areas underlain by alluvial soil, while the lower intensities occurred in areas underlain by bedrock formations.

1916 Avila Beach Earthquake - This magnitude 5.1 event occurred offshore of Avila Beach in San Luis Bay. The earthquake reportedly resulted in tumbling smokestacks of the Union Oil Refinery at Port San Luis, and a landslide that blocked the railroad tracks. The maximum intensity appears to be approximately VI, but the available descriptions of the shaking are somewhat limited.

1952 Arvin-Tehachapi Earthquake - This 7.7 magnitude earthquake occurred on the White Wolf fault, located south and west of Bakersfield. Throughout most of the San Luis Obispo County, ground shaking intensities of VI were felt. Intensities of IV-V were experienced in the northwest portion of the County, and magnitude VIII intensities were felt in the Cuyama area, in the southeast portion of the County. The higher intensities were likely due to closer proximity to the earthquake epicenter.

1952 Bryson Earthquake - This magnitude 6.2 earthquake likely occurred on the Nacimiento fault, and resulted in intensity ratings of VI throughout most of the western portion of the County. Intensities of IV-V were experienced in the eastern portion of the County. Higher intensities were generally felt in the coastal valley areas that are underlain by alluvial soils.

2003 San Simeon Earthquake - The San Simeon Earthquake struck at 11:15 a.m. on December 22, 2003. The magnitude 6.5 earthquake is attributed to having occurred near the San Simeon/Oceanic/Hosgri Fault system. The epicenter was approximately six miles from the community of San Simeon. As a result of the quake Cambria experienced a residential structure fire, and several commercial and residential buildings were damaged. Some roadways were obstructed and debris blocked some streets.

1934, 1966 and 2004 Parkfield Earthquakes - These earthquakes were all three in the range of magnitude 6.0 and occurred on the San Andreas Fault in or near the northeast corner of the County. Earthquake intensities generally conformed to anticipated characteristics for events of this size, with intense shaking (VII-VIII) being limited to a relatively small area near the epicenters of the quakes. Moderate shaking was experienced in most of the central and western parts of the County. A variation from the expected intensity characteristics was experienced in the La Panza area during the 1934 earthquake. La Panza is approximately 40 miles south of the fault rupture area, but experienced earthquake intensities of VII.

Other Earthquakes - Earthquakes which have occurred outside yet felt within the County during the last century include events such as the 7.0 Lompoc earthquake in 1927, and the 7.7 Arvin-Tehachapi earthquake of 1952. Other more recent earthquakes, such as the 1983 - 6.7 Coalinga earthquake, 1989 - 7.1 Loma Prieta earthquake, 1992 - 7.5 Landers earthquake and the 1994 - 6.6 Northridge earthquake were felt in San Luis Obispo County, however, there was no damage to structures.

Hazard Potential

The Hazard Potential for earthquakes is dependent upon a multitude of factors. A brief description of those factors is presented below:

- **Earthquake Magnitude:** Earthquake magnitude, as generally measured by either the Richter or Moment Magnitude scale, is a measurement of energy released by the movement of a fault. As the amount of energy released by an earthquake increases, the potential for ground shaking impacts also increases.
- **Distance from Epicenter**: Earthquake energy generally dissipates (or attenuates) with distance from a fault. Over long distances, this loss of energy can be significant, resulting in a significant decrease in ground shaking with increased distance from the epicenter.

- **Duration of Strong Shaking**: The duration of the strong ground shaking constitutes a major role in determining the amount of structural damage and the potential for ground failure that can result from an earthquake. Larger magnitude earthquakes have longer durations than smaller earthquakes.

- **Local Geologic Conditions:** The geologic and soil conditions at a particular site have the potential to substantially increase the effects of ground shaking. The thickness, density, and consistency of the soil, as well as shallow ground water levels, have the potential to amplify the effects of ground shaking depending on the characteristics of the earthquake. In general, the presence of unconsolidated soils above the bedrock surface can amplify the ground shaking caused by an earthquake.

- **Fundamental Periods**: Every structure has its own fundamental period or natural vibration. If the vibration of ground shaking coincides with the natural vibration period of a structure, damage to the structure can be greatly increased. The extent of damage suffered during an earthquake can also depend on non-geologic factors. The type of building and its structural integrity will influence the severity of the damage suffered. Generally, small, well-constructed, one and two-story wood and steel frame buildings have performed well in earthquakes because of their light weight and flexibility. Reinforced concrete structures also usually perform well. Buildings constructed from non-flexible materials, such as unreinforced brick and concrete, hollow concrete block, clay tile, or adobe, are more vulnerable to earthquake damage.

Effects of Ground Shaking

The primary effect of ground shaking is the damage or destruction of buildings, infrastructure, and possible injury or loss of life. Building damage can range from minor cracking of plaster to total collapse. Disruption of infrastructure facilities can include damage to utilities, pipelines, roads, and bridges. Ruptured gas and water lines can result in fire and scour/inundation damage, respectively, to structures. Secondary effects can include geologic impacts such as co-seismic fault movement along nearby faults, seismically induced slope instability, liquefaction, lateral spreading, and other forms of ground failure and seismic response

Impacts on People and Housing

In any earthquake, the primary consideration is saving lives. Time and effort must also be dedicated to providing for mental health by reuniting families, providing shelter to displaced persons, and restoring basic needs and services. Major efforts will be required to remove debris and clear roadways, demolish unsafe structures, assist in reestablishing public services and utilities, and provide continuing care and temporary housing for affected citizens.

Unreinforced Masonry Buildings

Unreinforced masonry building type structures consist of buildings made of unreinforced concrete and brick, hollow concrete blocks, clay tiles, and adobe. Buildings constructed of these materials are heavy and brittle, and typically provide little earthquake resistance. In small earthquakes, unreinforced buildings can crack, and in strong earthquakes, they have a tendency to collapse. These types of structures pose the greatest structural risk to life and safety of all general building types. Non-structural items and building components can also influence the amount of damage that buildings suffer during an earthquake. Unreinforced parapets, chimneys, facades, signs, and building appendages can all be shaken loose, creating a serious risk to life and property.

A small number of these structures can be found in the CCSD, most located in the commercial district. Located in a residential neighborhood is State Historical Landmark #989, Nitt Witt Ridge. This unreinforced masonry structure was adopted by the State of California in 1986 and is located at 881 Hillcrest Drive. The buildings were constructed by a local artist beginning in 1928, and utilize collected junk and materials to build and support this URM building. This Historic Landmark is a tourist destination available for private tours. Compliant with the State of California's Alquist-Priolo Special Studies Zone Act, the inventorying and public notification of these structures, based on the probability of a damaging quake occurring, is required.

Plans and Programs in Place

The San Luis Obispo County Office of Emergency Services (OES) and the Cambria Fire Department in coordination with local, state, and federal emergency response organizations, continually work to better prepare the Districts residents for the impacts of a significant earthquake event.

The San Luis Obispo County Planning and Building Department ensures that all new construction complies with current codes and ordinances regarding earthquake safety.

First responder agencies, assisted by the Cambria Community Emergency Response Team (CERT), regularly train on building collapse awareness, light rescue techniques, mass casualty triage and treatment, and have a limited amount of equipment and resources available to facilitate heavy rescue operations.

Risk Assessment

Historically active faults are generally thought to present the greatest risk for future movement and, therefore, have the greatest potential to result in fault rupture hazards.

Located within San Luis Obispo County are several known active and potentially active earthquake faults, including the San Andreas, San Simeon and Los Osos faults These faults could well result in earth quakes which could significantly impact the Community of Cambria.

In the event of an earthquake, the location of the epicenter as well as the time of day and season of the year would have a profound effect on the number of deaths and casualties, as well as property damage. The hazard of earthquakes varies from place to place, dependent upon the regional and local geology. Ground shaking may occur in areas 65 miles or more from the epicenter (the point on the ground surface above the focus).

A moderate earthquake occurring in or near the planning area could result in deaths, casualties, property damage, agricultural and environmental damage, and disruption of normal government and community services and activities. The effects could be aggravated by collateral emergencies such as fires, flooding, hazardous material spills, utility disruptions, landslides, and transportation emergencies.

Relationship to Other Hazards – Cascading Effects

Earthquakes can cause many cascading effects such as fires, flooding, hazardous materials spills, utility disruptions, landslides, and transportation emergencies. Some of these impacts are outlined below:

- **Effects on people and housing.** In any earthquake, the primary consideration is saving lives. Time and effort must also be dedicated to addressing mental health concerns by reuniting families, providing shelter to displaced persons, and restoring basic needs and services. Major efforts will be required to remove debris and clear roadways, demolish unsafe structures, assist in reestablishing public services and utilities, and provide continuing care and temporary housing for affected citizens.

  A survey of local, State, and Federal government emergency plans indicate that although there is a general capacity to respond to small and intermediate-sized earthquakes, it is unlikely that any of these governmental units will be able to cope with the immediate impact of a great quake, such as a magnitude 8.3 event on the south-central San Andreas fault. The general public must realize that the assistance that they have been used to expecting simply will not be immediately available. In fact, in the event of an earthquake of such magnitude, citizens must be prepared to wait for up to 72 hours or more for any type of organized response.

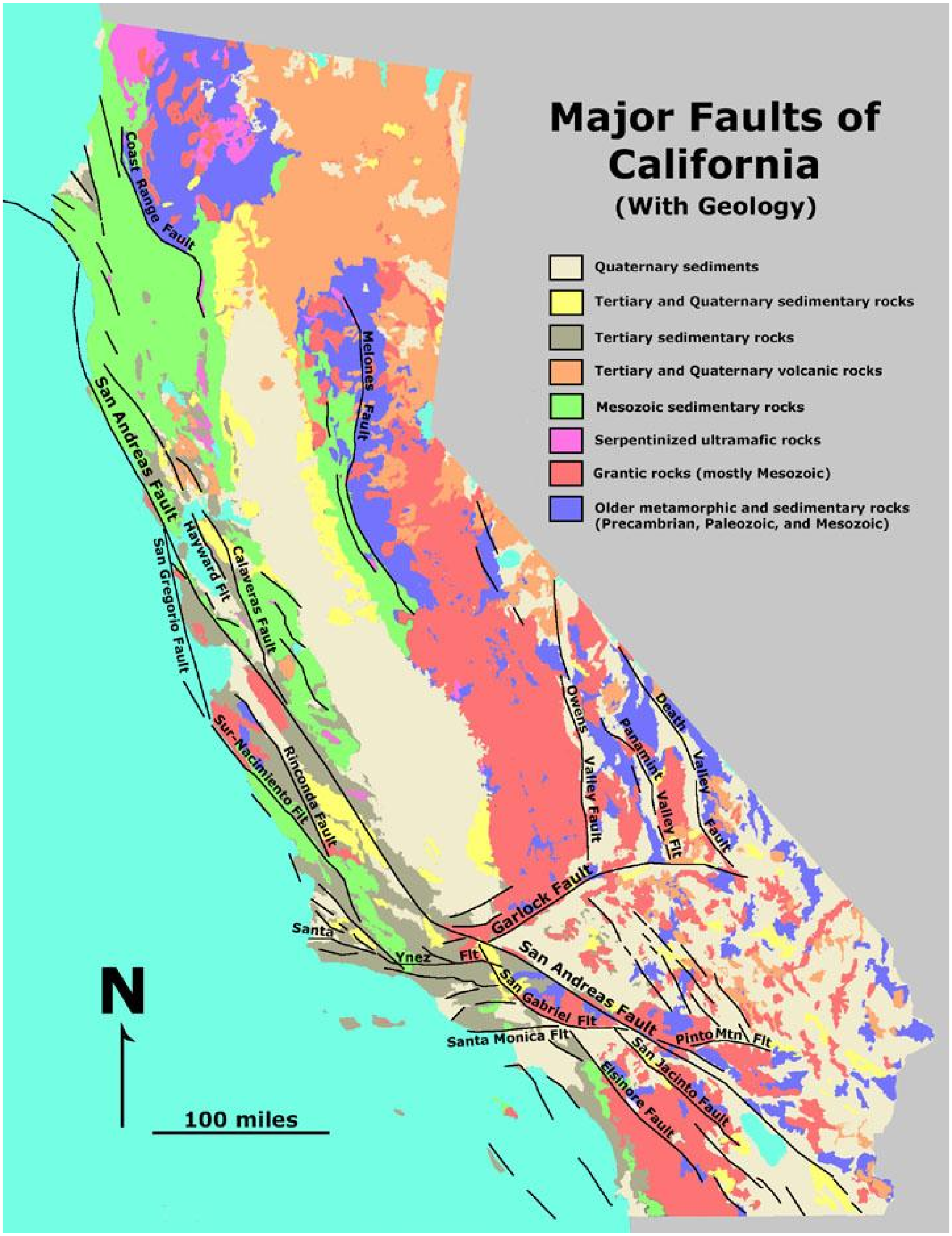
- **Effects on commercial and industrial structures.** After any significant earthquake, individuals are likely to lose wages due to the inability of businesses to function because of damaged goods and/or facilities. With business losses, tax revenues will be reduced having impacts on the County and District services provided. Economic recovery from even a minor earthquake will be critical to the communities involved.

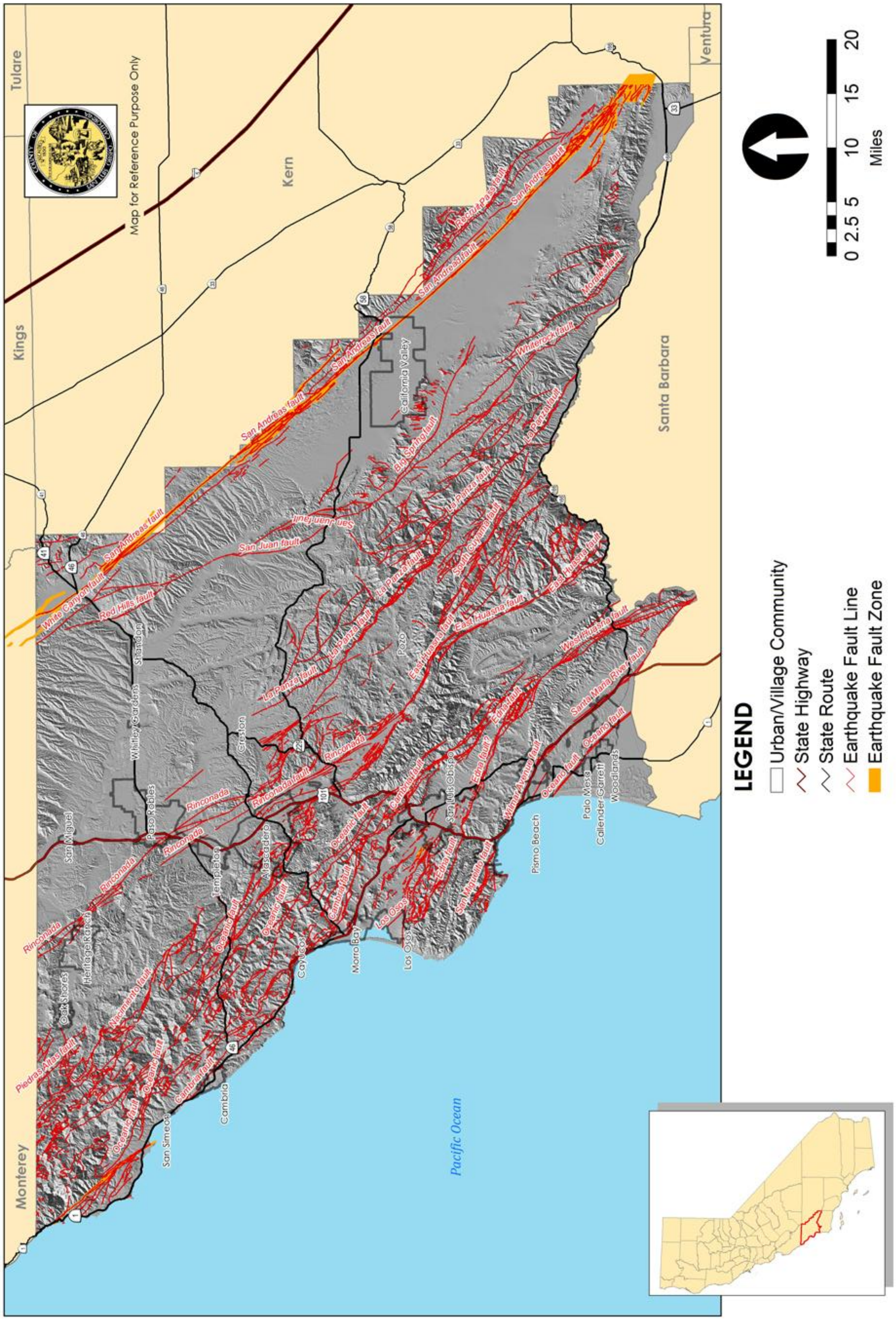
- **Effects on infrastructure.** The damage caused can lead to the paralysis of the local infrastructure. Electrical distribution systems, and water and sewer systems, are all very susceptible to damage. The impacts on law enforcement, fire, medical and governmental services can be significant.

Risk Assessment Conclusion

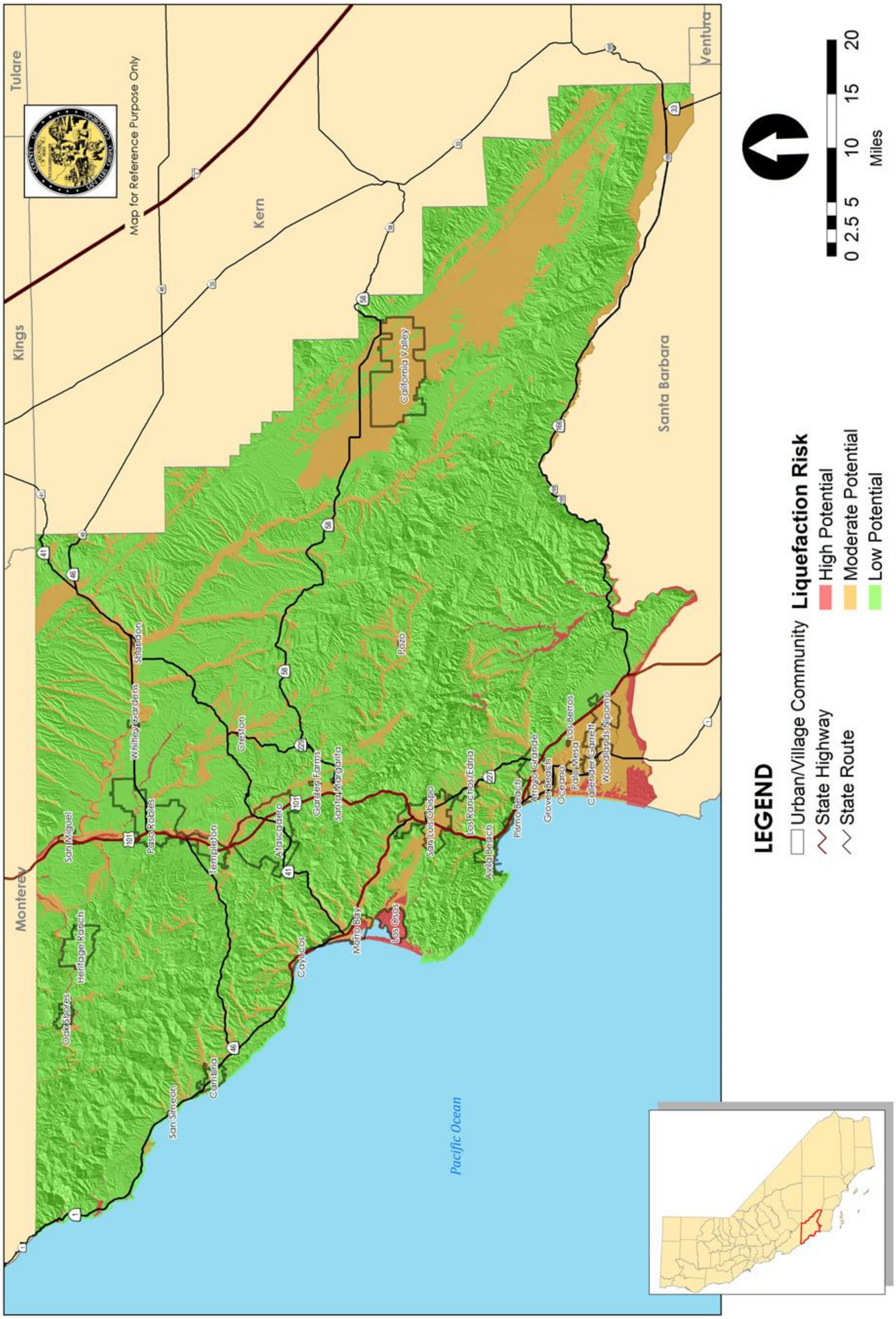
Both direct and indirect consequences of a major earthquake will severely stress the resources of the both Districts and the County and will require a high level of self-help, coordination and cooperation. Outside assistance from other local, regional, state, federal and private agencies may be delayed by more than 72 hours, depending upon the regional severity of the earthquake. Based on the past history of damaging earthquakes and the fact that District is located within a seismically active region, the probability is rated HIGH. Given the properties at risk and the cascading effects, the severity is rated as HIGH.

The maps on the subsequent pages show major faults within the State, County and District.

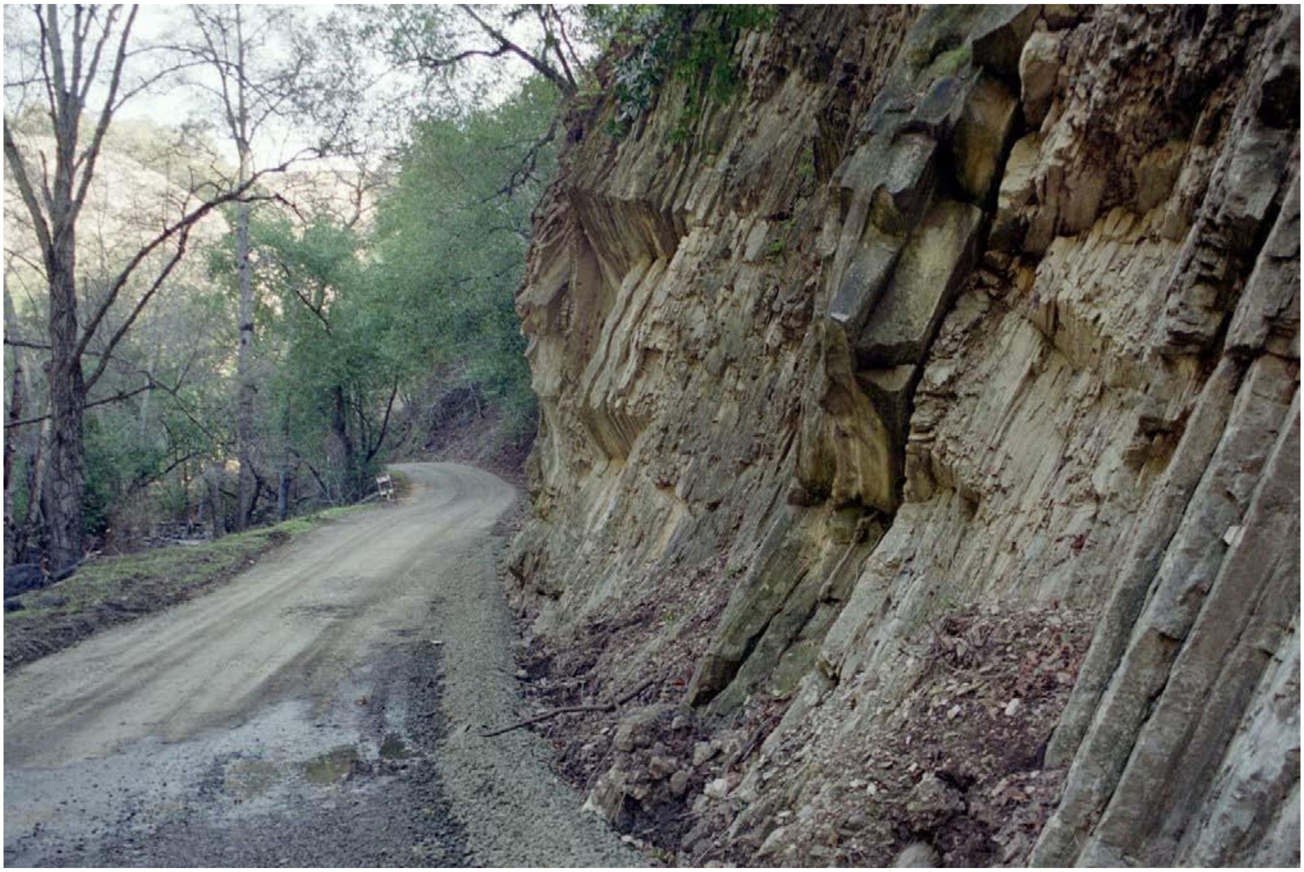

Major Faults of California
(With Geology)
Quaternary sediments
Tertiary and Quaternary sedimentary rocks
Tertiary sedimentary rocks
Tertiary and Quaternary volcanic rocks
Mesozoic sedimentary rocks
Serpentinized ultramafic rocks
Grantic rocks (mostly Mesozoic)
Older metamorphic and sedimentary rocks (Precambrian, Paleozoic, and Mesozoic)
Coast Range Fault
Melones Fault
San Andreas Fault
Hayward Flt
Calaveras Fault
San Gregorio Fault
Sur-Nacimiento Flt
Rinconda Fault
Owens Valley Fault
Panamint Valley Flt
Death Valley Fault
Garlock Fault
Santa Ynez Flt
San Andreas Fault
San Gabriel Flt
Santa Monica Flt
Pinto Mtn Flt
San Jacinto Fault
Elsinore Fault
N
100 miles



Earthquake Zones and Fault Lines



Liquefaction Risk Map



Oceanic Fault - located just outside the District on Santa Rosa Creek Road

➢Hazard: Flooding

Severity: Medium	Probability: High

Hazard Definition

A flood is defined as an overflowing of water onto an area of land that is normally dry. Floods generally occur from natural weather related causes, such as sudden snows melt, often in conjunction with a wet or rainy spring or with sudden and very heavy rainfall. Floods can also result from human causes such as a dam impoundment bursting.

Rainfall and inclement weather are primarily seasonal phenomena in the study area which boasts a mild Mediterranean climate. Generally the rainy season is from November through March. The yearly rainfall average for Cambria is just less than 29 inches, however much higher amounts can be expected in the coastal mountains to the east, for example Rocky Butte will receive an average of 39 inches a year. Flooding generally occurs in response High waves, winds and storm surge from the Pacific Ocean can impede the outflow of Santa Rosa Creek at its' mouth and cause the creek to overflow its' banks.to heavy rainfall events when streams, rivers, and drainage channels overflow their banks. Even during moderately sized storms, flooding can also occur in low-lying areas that have poor drainage.

Many factors can increase the severity of floods including: fires in watershed areas, the placement of structures or fill material in flood-prone areas and tidal or storm influence in low lying coastal areas. Sea level rise due to global warming is likely to have minimal flood impact on most of the community of Cambria due protective bluffs and other topographic features that limit its effect. Additionally, the construction of impervious surfaces such as roadways and rooftops will result in increased runoff.

For floodplain management purposes, the Federal Emergency Management Agency (FEMA) will often use the term "100-year flood" to describe the size or magnitude.
These terms are misleading. It is not a flood that occurs once every 100. Rather, it is the flood elevation that has a 1 percent chance of being equaled or exceeded each year. Thus, a 100-year flood could occur more than once in a relatively short period of time.

The 100-year flood, which is the standard used by most federal and state agencies, is used by the National Flood Insurance Program (NFIP) as the standard for floodplain management and to determine the need for flood insurance.

Areas within the 100 and 500 year flood plain of the study area are found in the San Luis Obispo County Flood Hazard Map found in at the end of this section.

Cambria, California Average Rainfall

Average Annual Precipitation	28.86 inches
Record Single Day Rainfall	8.82 inches
Winter	17.19 inches
Spring	7.09 inches
Summer	0.16 inches
Fall	4.42 inches

Source: Weather DB 2017

Monthly Rainfall Records-Cambria, California

Month	Record Rainfall	Year
January	18.35in	1969
February	16.20in	2000
March	18.29in	1995
April	6.05in	2006
May	2.58in	1957
June	3.02in	2011
July	0.40in	1980
August	1.90in	1976
September	3.51in	1976
October	5.76in	2004
November	9.01in	1965
December	14.61in	2010

Source: Weather DB 2017

History
Over the years the study area has experienced severe flooding events that have resulted in extensive property damage. Historical floods in the Districts and surrounding areas include:

January and February, 1969 In January of 1969, a series of storms delivered rainfall that totaled over 18 inches in Cambria. In February, another series of storms delivered another 5 to 10 inches. The West Village area was completely inundated and the community water supply was damaged. Streets, highways, and utilities throughout the jurisdiction were heavily damaged.

January, 1973 Much like the floods of 1969, the 1973 storm produced a ten-hour period of unusually heavy rainfall. Many creeks and streams throughout the County overtopped their banks and inundated a number of areas.

February 22, 1993 Cambria received 2.5 inches of rain in a 2 hour period. Flash flooding occurred causing $500,000 damage to 4 businesses and several residences.

January and March, 1995 A series of powerful and slow-moving storms brought heavy rain and strong winds to all of Central California. Serious flooding occurred in all coastal and many inland streams. In March, 18 inches of rain fell in Cambria and the West Village was completely inundated, with water as deep as six feet on Main Street. The Windsor Boulevard Bridge was damaged and rendered impassible to residents of Park Hill and Seacliff Estates until repairs were made. The Cambria Wastewater Treatment Plant was also damaged as a result of this flooding event. Emergency services were unable to access these areas for a long period of time.

December 2005 and early January 2006 A series of storms battered the County. Most of the damage occurred New Year's Eve and day. High winds and saturated soils resulted in significant tree falls particularly in the Cambria area where heavy damage was reported to a number of homes and businesses. There was one fatality which was the result of a tree falling on a pick-up truck while it was traveling on U.S. 101.

March, 2001 Central and Southern California were significantly impacted by a powerful storm that delivered up to 6 inches of rain in some of the coastal areas of San Luis Obispo County. The mountain area of the county received even more, with reports of up to 13 inches. The heavy rain produced numerous flooding incidents.

December, 2004 A quick moving and powerful storm brought flash flooding and heavy rain to the Central Coast of California. Rainfall amounts ranged from 1 to 3 inches on the coastal plains to 3 to 6 inches in the more mountainous regions of the county. Flooding problems were reported throughout the county.

Plans and Programs

The San Luis Obispo County Office of Emergency Services (OES) and the Cambria Fire Department in coordination with local, state, and federal emergency response organizations, continually work to better prepare residents of both Districts for the impact of flooding events.

First responder agencies, both law enforcement and fire, regularly train on water rescue and dealing with the cascading effects that can result from flooding. The local chapter of the American Red Cross is prepared to assist citizens in shelter welfare issues. The Fire Department sponsors and the Healthcare District supports a Community Emergency Response Team (CERT). The team is very active having some 150 members meeting and training on a routine basis.

The San Luis Obispo County Planning and Building Department stipulate and enforces codes and ordinances that ensure that buildings are not situated in flood zones.

It should be noted that the Community of Cambria along with all of San Luis Obispo County's unincorporated areas are included in the National Flood Insurance Program (NFIP). The County of San Luis Obispo is committed to remaining a NFIP participating agency.

The National Weather Service uses a number of methods to get weather statements out to the general population. Examples include the Emergency Alert System, NOAA Weather Radio All Hazards (NWR), and newer smart phone Wireless Emergency Alerts (WEA). For certain significant extreme weather events, the County could potentially use the reverse 9-1-1 system. Early Warning System sirens are located throughout the Diablo Canyon Emergency Planning Zone Area, which does not include the Cambria area, but could have some benefit to Cambria residents who work and shop in areas to the south of the District.

Due to the unique and consistent weather patterns in the area, the National Weather Service (NWS) has broken the County into three weather forecast zones: San Luis Obispo County Central Coast, San Luis Obispo County Interior Valleys, and San Luis Obispo County Mountains. The NWS uses a multi-tier system of weather statements to notify the public of threatening weather conditions specific to these areas. These statements are used in conjunction with specific weather phenomena to convey different levels of risk. In order of increasing risk, these statements are:

Weather Related Terminology

- **Outlook** - A Hazardous Weather Outlook is issued daily to indicate that a hazardous weather or hydrologic event may occur in the next several days. The outlook will include information about potential severe thunderstorms, heavy rain or flooding, winter weather, extremes of heat or cold, etc., that may develop over the next 7 days with an emphasis on the first 24 hours of the forecast. It is intended to provide information to those who need considerable lead time to prepare for the event.

- **Advisory** - An advisory is issued when a hazardous weather or hydrologic event is occurring, imminent, or likely. Advisories are for "less serious" conditions than warnings that may cause significant inconvenience, and if caution is not exercised could lead to situations that may threaten life or property. NWS may activate weather spotters in areas affected by advisories to help them better track and analyze the event.

- **Watch** - A watch is used when the risk of a hazardous weather or hydrologic event has increased significantly, but its occurrence, location, or timing is still uncertain. It is intended to provide enough lead time so those who need to set their plans in motion can do so. A watch means that hazardous weather is possible. People should have a plan of action in case a storm threatens and they should listen for updates and possible warnings especially when planning travel or outdoor activities. The National Weather Service may activate weather spotters in areas affected by watches to help them better track and analyze the event.

- **Warning** - A warning is issued when a hazardous weather or hydrologic event is occurring, imminent, or likely. A warning means weather conditions pose a threat to life or property. People in the path of the storm need to take protective action. NWS may activate weather spotters in areas affected by warnings to help them better track and analyze the event.

- **Statement** - A statement is either issued as a follow-up message to a warning, watch, or emergency, that may update, extend, or cancel the message it is following up or a notification of significant weather for which no type of advisory, watch, or warning exists.

Risk Assessment

Areas with a past history of flooding have a high probability of future flooding. The vast majority of the study area is well drained being situated on sloping terrain. Drainage problems in sloped areas are a result of improper grading and are minor in nature.

A considerable portion of the community of Cambria and much of the mountainous areas to the east of the District are drained by Santa Rosa Creek. As Santa Rosa Creek makes it way to the ocean, it is joined by a number of tributaries before passing through the District just before it's terminus into the Pacific. This creek has a history of flooding and has caused severe erosion of the creek banks as well as damage to phone and gas lines, water wells, and bridges both in and outside of the District. A considerable portion of the community and much of the mountainous areas to the east of the District are drained by Santa Rosa Creek. As Santa Rosa Creek makes it way to the ocean, it is joined by a number of tributaries before passing through the District just before it's terminus into the Pacific. This creek has a history of flooding and has caused severe erosion of the creek banks as well as damage to phone and gas lines, water wells, and bridges both in and outside of the District. The Windsor Boulevard bridge, just west of Highway-1 often becomes obstructed with debris and inhibits the creek's flow during high creek flow rates. The 122' long x 36' concrete bridge, constructed in 1963, has been damaged and obstructed by floodwaters in several prior flood events. Obstruction of this bridge causes isolation of the Park Hill and Sea Clift Estates residential neighborhoods including the CCSD Wastewater Treatment Plant. Major bank erosion in the past has caused interruption of the town's water supply. Major bank erosion in the past has caused interruption of the town's water supply.

The 100 year floodplain for Santa Rosa Creek is generally confined to the creek channel and surrounding areas south of Main Street. However, the West Village business area along Main Street has been subjected to severe flooding as a result of flood levels that overtopped its banks. A creek bypass and West Village storm drain channel and pump system were constructed in 2009. This has significantly reduced, but not eliminated, this potential flood scenario. This was evident in January of 2017 when a series of relatively moderate storms flooded the Pinedorado and American Legion Hall facilities located at 1000 Main Street. Additionally, flooding occurred at the gas station in the 600 block of Main in the West Village. This flooding was to a lesser extent than that which occurred in 2009 as a result of the implementation of the storm drain channel and pump construction.

The Headquarters Ambulance Station and health clinic office buildings located in the 2500 block Main Street present a flooding concern being located either in or directly adjacent to the 100 year flood zone. The winter storms of 2017 very nearly flooded these facilities. Runoff from the slope behind the structure and from Main Street accumulated in the parking lot and almost entered the buildings. It should be noted that there is no recorded history of Santa Rosa Creek, which is located just east of this property, overbanking in this particular area.

Related Hazards – Cascading Effects

While there are some benefits associated with flooding, such as the replenishment of beach sand, and nutrients to agricultural lands, it is generally considered a hazard to development in flood plain areas. Floods can cause many cascading effects. Fire can break out as a result of dysfunctional electrical equipment. Hazardous materials can also get into floodways, causing health concerns and polluted water supplies. In many instances during a flood, the drinking water supply will be contaminated**.**

Because of the largely unconsolidated nature of the sedimentary soils found in the District, washout of the materials on which bridges and roads are constructed may be a major problem. Stream and creek channel banks currently abut several roads. In addition, slumping of hillsides may result in sections of roads being blocked or carried away. (*See the Landslide section for details.)*

High winds often accompany winter storms and may cause significant damage in the planning area by blowing down trees that have been killed or damaged by the drought and pitch canker infestation. A more detailed explanation of the tree mortality problem can be found in the Wildland Fire section of this Plan.

Other problems and hazards associated with flooding and inclement weather include: utility disruptions, broken power lines lying on the ground, and communication system failures.

Risk Assessment Conclusion

While it is impossible to predict future long-range weather patterns, it is certain that the location of the study area adjacent to the Pacific Ocean and surrounded by the mountains to the east will continue to have a significant exposure to major winter storms and flooding. Therefore, the probability is ranked **HIGH** and the severity, based on the fact that only limited areas are exposed, is ranked **MEDIUM.**

Flood Pump on Main Street - West Village

FEMA Flood Zone Map

➢Hazard: Landslides

Severity: Medium	Probability: Medium

Hazard Definition

Landslides are a geologic hazard where the force of gravity combines with other factors to cause earth material to move or slide down an incline. Some landslides move slowly and cause damage gradually, whereas others move so rapidly that they can destroy property and take lives suddenly and unexpectedly. Slopes with the greatest potential for sliding are between 34 degrees and 37 degrees. Although steep slopes are commonly present where landslides occur, it is not necessary for the slopes to be long.

Landslides, rockslides, and debris flows occur continuously on all slopes; some processes act very slowly, while others occur very suddenly, often with disastrous results. As human populations expand over more of the land surface, these processes become an increasing concern.

There are predictable relationships between local geology and landslides, rockslides, and debris flows. The down-slope movement of earth material, either as a landslide, debris flow, mudslide, or rockslide, is part of the continuous, natural process of erosion. This process, however, can be influenced by a variety of causes that change the stability of the slope. Slope instability may result from natural processes, such as the erosion of the toe of a slope by a stream, or by ground shaking caused by an earthquake.

Slopes can also be modified artificially by grading, or by the addition of water or structures to a slope. Development that occurs on a slope can substantially increase the frequency and extent of potential slope stability hazards. Knowledge of these relationships can improve planning and reduce vulnerability. Slope stability is dependent on many factors and their interrelationships, including rock type, moisture content, slope steepness, and natural or man-made undercutting.

A map of landslide prone areas is found at the end of this section.

History

Natural occurring landslides do not typically occur within the planning area and there is no significant landslide history. This observation is supported by an aerial map review which reveals no indication of slope scarring.

Slopes disturbed by grading or development have failed, especially during periods of heavy rainfall. These events are commonly referred to as “mudslides” and can result in a considerable inconvenience. These manmade landslides can result in damage to structures, water and sewer lines, transportation routes, and electrical and telecommunications utilities. In Cambria, the areas of Main Street west of Burton Drive to Cornwall Street, Hillcrest Drive from Sunbury Avenue to Iva Court, Sheffield Street, Burton Drive from Rodeo Grounds Road to Eton Road and Ardath Drive west of Burton Drive all have experienced numerous mudslides over the past 20+ years. A recent example of this type of activity occurred in the winter of 2017 when a disturbed slope behind the Healthcare District's ambulance station on Main Street failed. *See photos at the end of this section.*

Plans and Programs

The Uniform Building Code, which has been adopted by San Luis Obispo County for use in both Districts, requires that site specific investigations be performed for development located in hillside areas. Investigations and practices typically required for hillside development include the following:

- Conduct thorough geologic/geotechnical studies by qualified geotechnical engineers and engineering geologists.
- Require both engineering geologists and geotechnical engineers during construction to confirm preliminary findings reported during initial studies.
- Require certification of the proposed building site stability in relation to the adverse effects of rain and earthquakes prior to the issuance of building permits.
- Mandate coordination between the civil engineer and the project engineering geologist and geotechnical engineer during construction grading.
- Require mitigation of on-site hazards caused by grading that may affect adjoining properties, including erosion and slope instability.

Risk Assessment

There is a limited portion of the planning area where the topography is considered steep to very steep. In the vast majority of this area, the underlying rock formation is very stable and the soil found on these slopes is shallow and held in place by deeply rooted trees and vegetation. These slopes do not typically fail unless disturbed by grading or development.

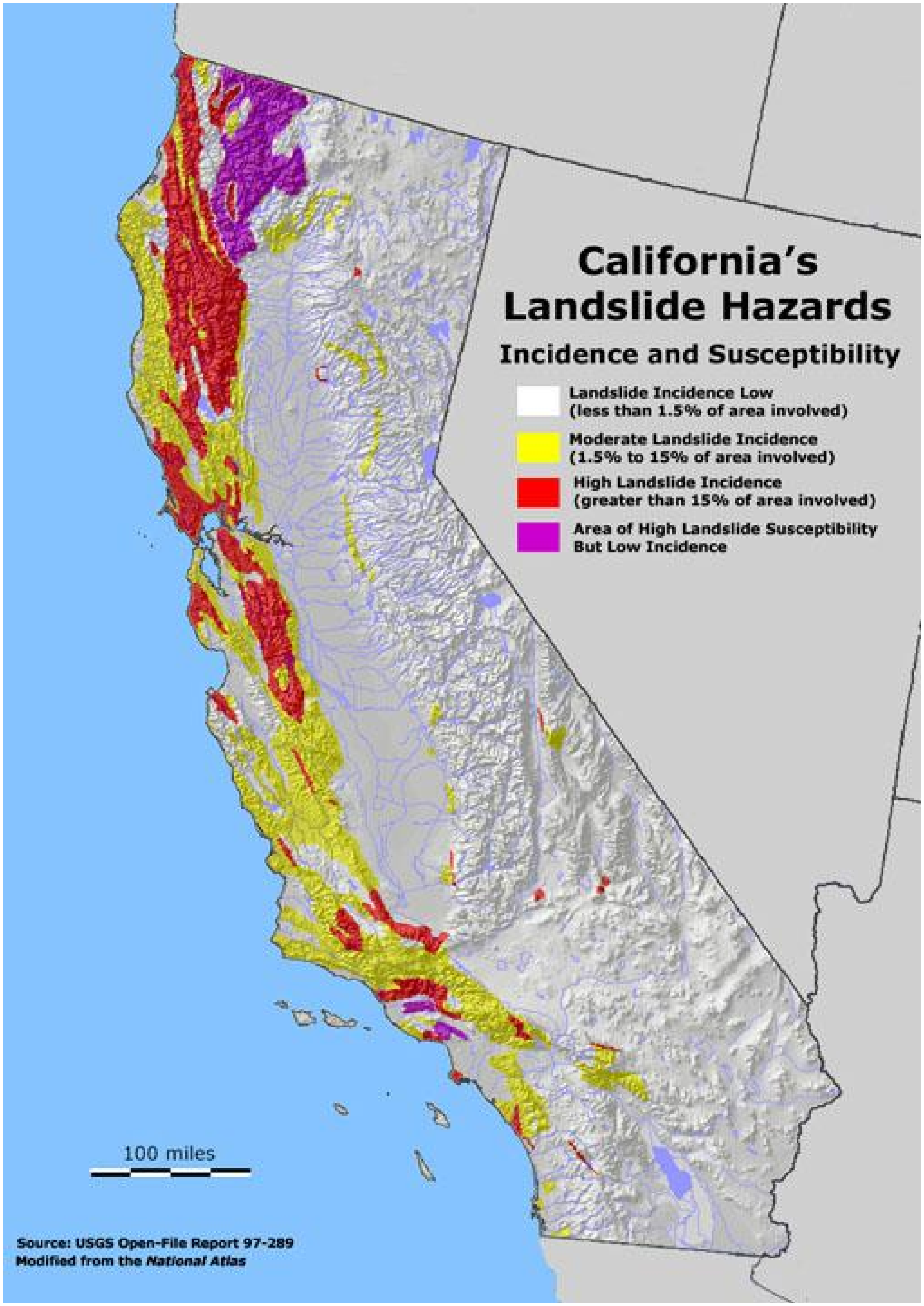
Large scale grading projects for the development of building sights has not occurred in the area. Construction has typically been limited to a lot by lot basis with minimal grading required. However, road cuts and grading as noted above, is extensive and has resulted in a number of manmade slides.

Risk Assessment Conclusion:

Despite the past history of minimal naturally occurring landslide activity, the disruption of slope by road cuts results in a **MEDIUM** rating for the probability and severity.

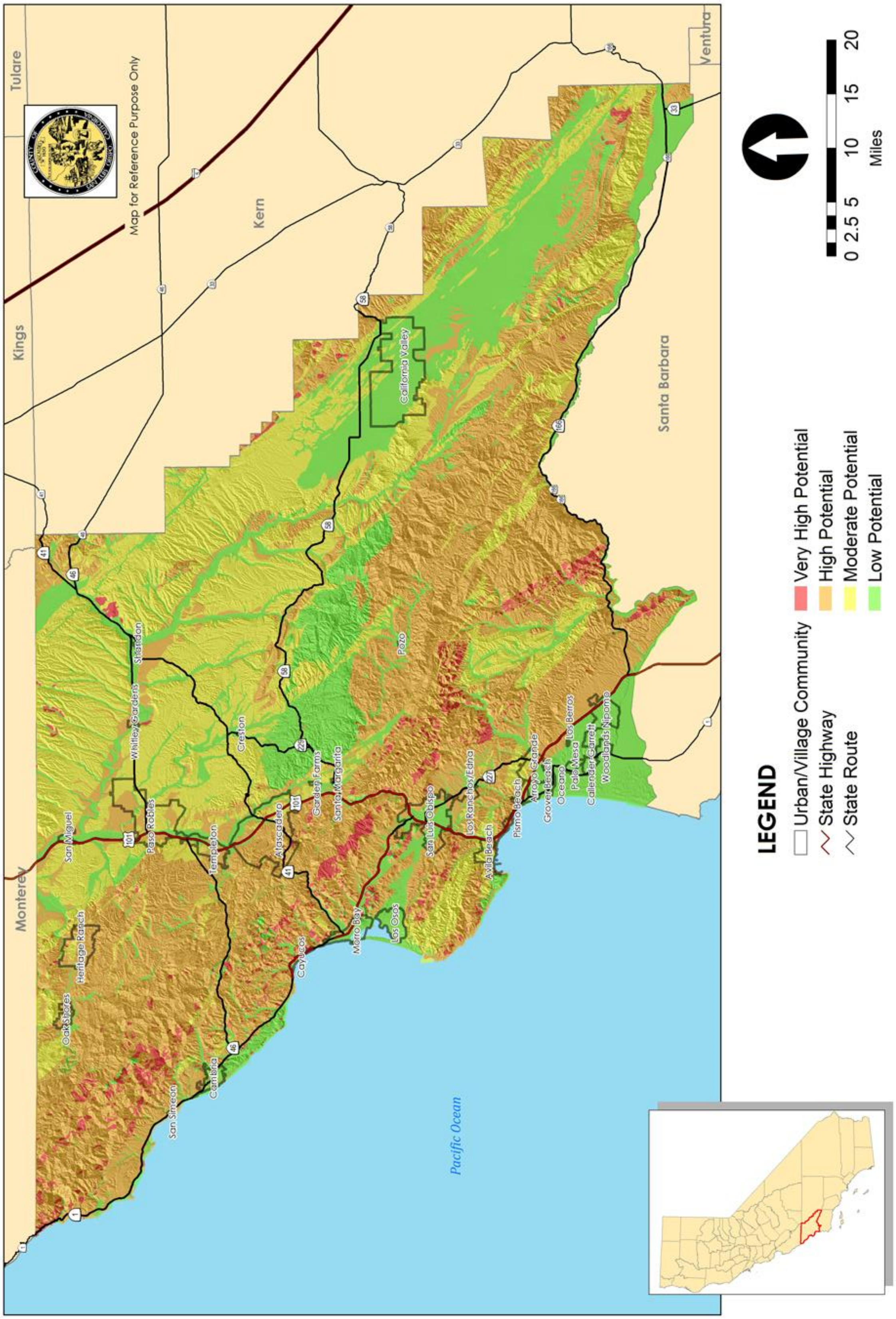
Minor Mudslide on
Main Street Near Burton Drive
(January 2017)

Minor Mudslide Behind
the Ambulance Station
on Main Street
(January 2017)



Source: USGS Open-File Report 97-289
Modified from the *National Atlas*

Map of California's Landslide Hazard History



Map of San Luis Obispo County Landslide Hazard History

➢Hazard: Extreme Weather

Severity: Medium	Probability: High

Hazard Definition

Extreme weather is defined as unusual, severe, or unseasonal weather. It can be considered weather at the extremes of the historical distribution or the range that has been experienced in the past. Adverse or extreme weather occurs only 5% or less of the time and may take the form of onetime events such as storms, or may occur over longer periods of time, such as heat waves, cold snaps, or drought.

A storm is defined as any disturbed state of the earth's atmosphere affecting its surface. It may be marked by strong wind, hail, thunder and/or lightning, also known as a thunderstorm, heavy precipitation in the form of snow or rain, heavy freezing rain, strong winds (windstorm), or wind transporting some substance through the atmosphere as in a dust storm, blizzard, sand storm, etc. Storms generally lead to negative impacts to lives and property such as storm surge, coastal erosion, heavy rain or snow (causing flooding or road impassibility), lightning, wildfires, and vertical wind shear.

A more thorough discussion of these types of events follows:

Drought

A drought, or an extreme dry period, is an extended timeframe where water availability falls below the statistical requirements for a region. Droughts are not a purely physical phenomenon, but rather interplay between the natural water availability and human demands for water supply. The precise definition of drought is made complex owing to political considerations, but there are generally three types of conditions that are referred to as drought:

- **Meteorological drought** is brought about when there is a prolonged period with less than average precipitation.
- **Agricultural drought** occurs when there is insufficient moisture for average crop or range production. This condition can arise, even in times of average precipitation, owing to soil conditions or agricultural techniques.

- **Hydrologic drought** is brought about when the water reserves available in sources such as aquifers, lakes, and reservoirs fall below the statistical average. This condition can arise, even in times of average (or above average) precipitation, when increased usage of water diminishes the reserves.

When the word "drought" is used by the general public, the most often intended definition is meteorological drought. However, when the word is used by urban planners, it is more frequently in the sense of hydrologic drought.

Wind Storms

Resulting from air movement from areas of high pressure to those of low air pressure, wind storms can occur at any time of the year and can vary in strength and duration.

Heavy Snow Fall

Heavy snow fall will, on very rare occasions, occur in the higher elevations of the Santa Lucia range. In the lower elevations, heavy snow fall does not occur.

Thunderstorm

A thunderstorm, also known as an electrical storm, a lightning storm, thundershower or simply a storm is a form of weather characterized by the presence of lightning and its acoustic effect on the earth's atmosphere known as thunder. Thunderstorms are usually accompanied by strong winds, heavy rain and sometimes snow, sleet, hail, or no precipitation at all. Those which cause hail to fall are known as hailstorms.

Hail Storms

Hail is precipitation in the form of balls or irregular lumps, always produced by convective clouds, nearly always cumulonimbus. They can vary from pea size all the way up to that of a grapefruit in rare circumstances. Hailstones generally form in thunderstorms between currents of rising air called the updrafts and the current of air descending toward the ground, called the downdraft. Large hailstones indicate strong updrafts in the thunderstorm. The larger the hail, the stronger the updraft needed to hold it aloft in the storm.

Freeze

A freeze refers to a particularly cold spell of weather where the temperature drops below 32 degrees. Freezing conditions, especially in the spring, can cause damage to crops and ornamentals and cause considerable discomfort to area residents.

Extreme Heat

Often referred to as a “heat wave” or “heat storm”, it is typically defined as a series of days, 3 or more, where weather conditions combine resulting in day time temperatures considerably higher than the norm. When combined with high humidity, living conditions can become quite uncomfortable.

History

The Cambria community and surrounding Healthcare District areas have a history of adverse or extreme weather. These events can have significant impacts on the health and safety of the population and cause major property and infrastructure damage. The duration of these events, with the exception of drought, is most typically short term. Listed below are the primary dangers associated with these occurrences:

- Threat to life and danger to public health
- Damage/loss of personal property or crops/livestock
- Utility failures
- Interruption of the transportation network
- Interruption of communication systems

A sample of the variety of extreme weather events that have occurred in the community and adjoining areas are found in the table below:

Extreme Weather Event History

LOCATION	Date of Event	Damage Reported	Incident Description
City of San Luis Obispo	5/5/1988	4 homes damaged	Tornado-A small tornado developed over the City of SLO. The tornado knocked out power to several hundred homes. 4 homes were damaged, including one struck by a falling cypress tree.
Countywide	12/21/1998 - 12/24/1998	$5.4 million crop damage	Freeze. An unseasonable cold air mass produced a three-night period of sub-freezing temperatures across Central and Southern California. Agricultural interests suffered heavy crop losses.
San Luis Obispo County	12/17/2000 - 12/18/2000		High Wind. Gusty offshore winds buffeted the Coastal section of SLO County. In the City of SLO, the winds blew out the windows in an unoccupied mobile home and destroyed part of a car port. In Nipomo, winds of 35 mph with gusts up to 55 mph were reported. The strong winds produced widespread power outages.
San Luis Obispo County	3/04/2001 - 3/06/2001		High Wind. A powerful and slow-moving storm brought heavy rain, strong winds and snow to Central and Southern California. Across SLO County, rainfall totals ranged from 2 to 6 inches over coastal/valley areas and ranged from 6-13 inches in the mountains producing extensive flooding. In Oceano, the Arroyo Grande Creek overflowed destroying numerous crops and damaging 1 home. In Arroyo Grande, flooding along Corbett Creek damaged 4 homes and 5 Arroyo Grande High School classrooms.
Oceano	2/02/2004		Tornado. A waterspout, developed offshore of Oceano Dunes and came onshore as a weak tornado. It struck but did not injure a park ranger in his truck. The truck sustained no reportable damage.
Cambria	01/02/2006		Cambria experienced a significant wind and rain event which caused damage to over 60 homes and businesses. Several people were injured. First Responders were unable

			to access many areas of Cambria due to downed power lines, utilities, tress and other debris. Several large areas of Cambria were without power for 5-9 days. Cambria CERT was utilized to perform Damage Assessment and distribute ice and other assistance to residents without power.
San Luis Obispo County	1997 to Present: >20 Events Occurred		Heavy Surf. 1998 event: An extended heavy surf Event produced by a series of Pacific storms, battered coastal areas of Central and Southern California. Along the coast of San Luis Obispo, waves as high as 25 feet were reported. Elsewhere, coastal areas reported 12 to 15foot waves producing some degree of damage. In Port San Luis, widespread shoreline erosion was reported.

Hazard Potential

Drought

Periods of drought can have significant environmental, agricultural, health, economic and social consequences. Drought can also reduce water quality, because lower water flows reduce dilution of pollutants and increase contamination of remaining water sources. Wildfires are typically larger and more severe in periods of drought due to the lower fuel moisture content.

Wind Storms and Thunderstorms

These wind related events can be quite destructive, especially in Cambria where nearly all of the residential areas and much of the commercial occupancies are situated in an urban forest area. Falling trees and branches can result in considerable property destruction, communication/power line damage, and block transportation corridors. This situation has recently been exacerbated by the disease/drought infested trees. Occasionally, summer thunderstorms (lightning) will cause wildfire in the coastal mountain regions of the County.

Coastal or Winter Storms

These storms may have hurricane-force winds and cause damage similar to that of a hurricane. However, they are not classified as such because they don't originate in the tropics. Coastal storms usually do most of their damage on the coast, in the form of beach erosion and flooding due to heavy rainfall. The winds originate from low-pressure systems offshore and circulate counterclockwise around the low pressure system. When the low pressure system stops moving, its winds combine with those of the high pressure system to blow in one direction over a long period of time, which may create massive waves. The duration of such a storm coupled with the height of the tide can be the most significant measure of its destructiveness..

As these storms move to the east, across the community, they typically lose intensity as the coastal range behind Cambria causes the moist air to elevate, condense, and fall out. Santa Rosa Creek, which flows through the center of the community's commercial district, originates in this range and has caused significant flooding events to this area. High tides can further increase flooding potential.

Coastal areas of Cambria and San Simeon are primarily characterized by narrow beaches backed by low cliffs approximately 20 feet-high. This section of coastline is subject to moderate to heavy wave action mostly from northerly swells. This coastal area is comprised of a rock unit called the Cambrian slab which is a local, colloquial name for the Cretaceous-age sandstones that form Cambria's resistant rock headlands. Since sandstone is fairly resistant to erosion, cliff retreat rates in Cambia and San Simeon are relatively low when considering the wave energy imposed on this area. However, present developments along Windsor Avenue are considered to be in danger from wave action and are currently experiencing rates that average seacliffs retreat of two to three inches per year.

Hail Storms

Significant amounts of damage to property notably to automobiles, skylights, and glass-roofed structures can occur from hail storms. The damage to landscape and vegetation can also be severe. Fortunately, hail very rarely kills anyone. However, each year dozens of people are injured when they are unable to find adequate shelter.

Freeze and Heavy Snow Fall

Heavy snow fall within the confines of the CCSD is not expected. On rare occasions, snow fall may be heavy enough in the Santa Lucia Mountain Range to the north and east of Cambria and within the boundaries of the Healthcare District to cause damage to the naturally occurring vegetation. This may result in an increased fire season threat as the damaged vegetation dries out and increases the normal fuel loading. This could threaten portions of the community through a larger and more rapid fire spread.

Extreme Heat

In the United States heat waves are the most lethal type of weather phenomenon. Between 1992 and 2001, deaths from excessive heat in the United States numbered 2,190, compared with 880 deaths from floods and 150 from hurricanes. Situated on the coast, the community will not experience extremely high temperatures. However the public health risks from extended exposure to **higher than normal** temperatures include hyperthermia, rashes, edema, dehydration, and heat cramps, to name a few. Wildland fire danger is also known to increase dramatically as the daily temperatures climb.

Plans and Programs

The San Luis Obispo County Office of Emergency Services (OES) and both the Cambria Fire Department and the Cambria Community Healthcare District, in coordination with local, state, and federal emergency response organizations, continually work to better prepare the residents for the impact of these types of emergency events.

First responder agencies, both law enforcement and fire, routinely train on handling the cascading effects that can result from events of this nature. The local chapter of the American Red Cross is prepared to assist citizens in shelter welfare issues. The Fire Department sponsors and the CCSD is very supportive of a Community Emergency Response Team (CERT). The team is very active having some 150 members meeting and training on a regular basis.

The SLO Planning and Building Department stipulate and enforces codes and ordinances that ensure that buildings are not situated in flood zones and are in compliance earthquake and fire code requirements. Once constructed the Fire Department has a Fire Code inspection program.

The National Weather Service uses a number of methods to get weather statements out to the general population. Examples include the Emergency Alert System, NOAA Weather Radio All Hazards (NWR), and newer smart phone Wireless Emergency Alerts (WEA). For certain significant adverse weather events, the County could potentially use the reverse 9-1-1 system. Early Warning System sirens are located throughout the Diablo Canyon Emergency Planning Zone Area, which does not include the Cambria area, but could have some benefit to Cambria residents who work and shop in areas to the south of the District.

Due to the unique and consistent weather patterns in the area, the National Weather Service (NWS) has broken the County into three weather forecast zones: San Luis Obispo County Central Coast, San Luis Obispo County Interior Valleys, and San Luis Obispo County Mountains. The NWS uses a multi-tier system of weather statements to notify the public of threatening weather conditions specific to these areas. These statements are used in conjunction with specific weather phenomena to convey different levels of risk. In order of increasing risk, these statements are:

Weather Related Terminology

- **Outlook** - A Hazardous Weather Outlook is issued daily to indicate that a hazardous weather or hydrologic event may occur in the next several days. The outlook will include information about potential severe thunderstorms, heavy rain or flooding, winter weather, extremes of heat or cold, etc., that may develop over the next 7 days with an emphasis on the first 24 hours of the forecast. It is intended to provide information to those who need considerable lead time to prepare for the event.

- **Advisory** - An advisory is issued when a hazardous weather or hydrologic event is occurring, imminent, or likely. Advisories are for "less serious" conditions than warnings that may cause significant inconvenience, and if caution is not exercised could lead to situations that may threaten life or property. NWS may activate weather spotters in areas affected by advisories to help them better track and analyze the event.

- **Watch** - A watch is used when the risk of a hazardous weather or hydrologic event has increased significantly, but its occurrence, location, or timing is still uncertain. It is intended to provide enough lead time so those who need to set their plans in motion can do so. A watch means that hazardous weather is possible. People should have a plan of action in case a storm threatens and they should listen for later information and possible warnings especially when planning travel or outdoor activities. NWS may activate weather spotters in areas affected by watches to help them better track and analyze the event.

- **Warning** - A warning is issued when a hazardous weather or hydrologic event is occurring, imminent, or likely. A warning means weather conditions pose a threat to life or property. People in the path of the storm need to take protective action. NWS may activate weather spotters in areas affected by warnings to help them better track and analyze the event.

- **Statement** - A statement is either issued as a follow-up message to a warning, watch, or emergency, that may update, extend, or cancel the message it is following up or a notification of significant weather for which no type of advisory, watch, or warning exists.

Risk Assessment

The varied topography of the planning area exaggerates the types of extreme weather. For example, winter storms typically generate more rain in the study region than in other parts of the County as they move over the Santa Lucia Mountain Range located just behind the community of Cambria.

Listed below are the primary dangers associated with extreme weather events:

- Threat to life and danger to public health
- Damage/loss of personal property or crops/livestock
- Utility failures
- Interruption of the transportation network
- Interruption of communication systems

Risk Assessment Conclusion

The planning area has a history of extreme weather, mostly winter storm related. These events can have significant impacts on the health and safety of the population and cause major property and infrastructure damage. These types of events include: winter storms, wind events, thunder storms, hail storms, heat waves and drought. The duration of these events, with the exception of drought, is most typically short term.

Given the past history of both occurrence and damage, and based on the wide range of potential events this section is rated as **Medium** in severity and **High** in probability.

➢Hazard: Wildfire

Severity: Very High	Probability: High

Hazard Definition

A wildfire is an uncontrolled fire spreading through vegetative fuels, posing danger and destruction to property. Outbreaks of wildfire occur routinely throughout San Luis Obispo County's dry season and are predominantly, four out of every five times, generated by humans. As a natural hazard, a wildfire is often the direct result of a lightning strike. These lightning induced fires often occur in remote undeveloped areas and spread to urban areas where structures and other human development are more concentrated. Cambria has experienced lightning caused fires in the last five years within the boundaries of the CCSD, lightning caused fires within the CCHD are not uncommon.

Wildland Urban Interface (WUI) fires occur where vegetation and the built environment are intermingled. Two WUI conditions exist: 1) where there is a distinct interface boundary between the forest and built areas and 2) inter-mix areas where buildings and infrastructure are intermingled in the forest itself. Both WUI conditions exist in Cambria.

The predominate dangers from wildfires are:

- The destruction of vegetation, property, and wildlife
- Injury or loss of life to people living in the affected area or using the area for recreational facilities.
- Post fire erosion/mudslides during winter time rainfall.
- Air quality impact to public health.

History

Historically, wildland fires in San Luis Obispo County have burned thousands of acres and caused considerable property loss with an occasional life loss. The majority of these large fires have occurred away from the coastal areas in the warmer and dryer portions of the county (east of the Santa Lucia Mountain Range). Large fires on the coastal side of the county occur less frequently. A Fire History Map of San Luis Obispo County is found at the end of this section. It reveals no large fire history in the study area and surrounding open space over the past 75 years. A number of large fires originating in the hotter and dryer Nacimiento Lake - Fort Hunter Liggett area have advanced toward the planning area, but have been held in check along the top of the Santa Lucia Range. However, serious fires do occur on the coastal slope of the Santa Lucia range. Wildfires have burned coastal shrubs and Bishop Pine at Montana de Oro State Park south of Cambria, and coastal shrubs and conifers north of Cambria along the Big Sur coast line. These coastal fires occur on a 4-5 year cycle.

Coastal Fire History - Similar Fuels and Weather Conditions

Event	Date	Impacted Area		Details
Morse Fire	May 1987	190 acres	36 homes, multiple vehicles	Pebble Beach - Burned in an area of very similar fuels, weather and topography.
Highway 41 Fire	August 1994	49,000 acres $10M	42 homes, 61 other structures, 91 vehicles	Morro Bay - Fire started in the coastal mountains behind the City of Morro Bay. The fire burned into the City of Atascadero and threatened the City of San Luis Obispo.
Diablo Fire	January 2007	1800 acres	2 Structures	Structure fire, just north of Diablo Canyon Nuclear Power Plant. Fire ignited adjacent fuels, wind driven to the top of the ridge an adjoining canyons.
Creek Fire	November 2012	430 acres	None	Escaped vegetation management fire, just north of the Diablo Nuclear Power Plant
Pfeiffer Fire	December 2013	850 acres	22 homes, multiple vehicles	Big Sur - Fire started along Hwy 1 near Big Sur campground and burned all the way to the ocean.

San Luis County Fire Large History - Burning into the Coastal Zone

Event	Date	Impacted Area		Details
Weferling Fire	1960	50,000 acres	Unknown	Fire started in the vicinity of Lake Nacimiento and burned north and west towards the coast. It was held along the ridge of the Santa Lucia Range
Logan Fire	August 1997	50,000 acres $6M	Unknown	The Logan Fire burned in the coastal mountains to the east of the study area in fuels and topography similar to those found in portions of the study area.
Highway 41 Fire	August 1994	49,000 acres $10M	42 homes, 61 other structures, 91 vehicles	Fire started in the coastal mountains behind the City of Morro Bay. The fire burned into the City of Atascadero and threatened the City of San Luis Obispo.
Chimney Fire	August 2016	46,344 acres	49 homes, 21 other structures, multiple vehicles	Very similar to Weferling Fire 56 years earlier, this started in the vicinity of Lake Nacimiento and burned north and west towards the coast. It was held along the ridge of the Santa Lucia Range.

The most historically significant fire is the Morse Fire in May of 1987. This fire burned 190 acres in Pebble Beach, Monterey County. This fire took place in a Monterey Pine forest similar to that in Cambria. It burned over the course of one day into a wildland urban interface community.

A Report from the US Fire Administration summarizes: On May 31, 1987, fire escaped from an illegal campfire in the Del Monte Forest in Pebble Beach, California. The resulting fire burned 160 acres and destroyed 31 structures causing an estimated damage of approximately $18,000,000. There were 18 injuries, including 15 firefighters and 3 civilians. The fire spread from the forest into the residential area. Control of the fire in the forest was difficult due to heavy fuel load and low fuel moisture. Structures were located on a ridge above the main body of the fire. A fire storm occurred near the top of this ridge, spreading the fire across the residential area. The spread of the fire through the residential area was aided by wood shingle roofs, natural vegetation around structures, accumulation of pine needle litter on roofs, and the intensity of the fire.

Risk Assessment

When determining a jurisdiction's risk from wildfire, the local weather, fuels, and topography must be reviewed:

Topography refers to canyons, hillsides, river bottoms, ridges and other "lay of the land" features. These all have a dramatic effect on fire spread. Aspect or orientation of the fuel beds also plays an important role. In general, south facing slopes are subjected to greater solar radiation, making them drier and thereby intensifying wildland fire behavior. The topography within the District is quite varied; from a gently sloping marine terrace to a number of steep and inaccessible canyons (i.e. Strawberry and Fern Canyons). The majority of the topography is sloped and heavily developed with residential/single family homes; therefore a significant wildland urban interface exists. The two small but separate commercial districts, East and West Village, are located on level or very gently sloped areas above and to the north of Santa Rosa Creek. Both of these commercial districts are in wildland urban interface areas.

Weather in this region weather plays a key factor in the wildland fire potential. Rain fall occurs primarily between the months of November and April, and 30 year averages range between 29 inches per year in the District to 39 inches in the mountains to the east of the community. Summers are typically cool with fog and or high relative humidity. Humidity is an important fire-related weather factor. As humidity levels increase, vegetation moisture levels also increase, thereby decreasing the likelihood that plant material will ignite and burn. Wind in the area, a key factor in spread, is quite predictable and is usually moisture laden due to the close proximity of the ocean. The wind typically flows to the N/W in the spring and summer. The fall season will see dryer and warmer days. Strong winds from the Northwest through East quadrants present the greatest threat to fire spread in the planning area. This combined with the lack of rainfall will see the fire hazard threat increase.

Climate change poses many challenges to the wildland areas of San Luis Obispo County. Studies reveal that the average fire season has increased by approximately 80 days. Warmer temperatures and variations in average rainfall will undoubtedly result in larger and more intense wildfires. Insects and disease impacts modify the forest fuels as evidenced by the current tree mortality in the area. The introduction of invasive species can alter existing fuel types. A current example is the recent introduction of Scotch Broom found in many areas along Highway 1. Drought-hardy and fast-spreading, it functions as a "ladder fuel" in a fire and overruns habitat for native Coffeeberry and Rabbitbrush which are more fire resistant.

Fuels are classified into three risk categories as described below: Very High, High and Moderate. *Please see description below.*

Fuel Hazards

Fuel	Fire Hazard Ranking	Locations in Cambria
Grass	Moderate to High	Open grass covered areas are found throughout the planning area. They are the prominent fuel type on gentle slopes of the marine terrace east side of Highway 1, Moonstone Beach, Windsor, and Fiscalini Ranch areas.
Brush	Very High	Scattered fuel beds of both heavy and light brush are found throughout the planning area. Examples are found along both sides of Highway 1 Burton Drive to Santa Rita Creek.
Timber	Very High	Timber stands are found throughout the planning area, both in scattered and heavy stands. Timber is often inter-mixed with structures in the community of Cambria. There is a considerable number of standing dead trees throughout both planning areas. Extensive dead and down materials are found on the forest floor in many areas.

The arrangement of the fuel on the land is also an important consideration. By breaking up or thinning fuel beds, one can slow the rapid spread rates of wildfires. In addition, the removal of certain fuels in the horizontal plane can prevent fires from "laddering" into the tops of trees where it may burn hotter and be more difficult to contain.

A combination of factors has led to a very dangerous overloading of highly flammable fuels throughout the community and the adjoining areas. With the establishment of the community around 1860, fire suppression activities have allowed a tremendous buildup of both live and dead fuels that would normally be reduced through naturally occurring fire.

Tree Mortality First observed in the Cambria area in 1994, Pine Pitch Canker, a disease of pine trees caused by the fungi, *Fusarium circinatum*, began taking a toll on the native Monterey Pines that the community is famous for. This process increased dramatically with the advent of the drought that started in 2012. Trees stressed by the drought were more susceptible to the fungus and bark beetles. By 2014, the tree mortality rate increased dramatically, studies conducted by Cal Poly University measured mortality in older Monterey Pines, in some areas, in excess of 70%.

As a result of this significant fuels problem, the California Department of Forestry and Fire Protection's Fire and Resource Assessment Program (FRAP), has re-classified the CCSD and much of the surrounding CCHD area as being in a High Fire Hazard risk area.

Dead and Down Fuels in Cambria, 2017

Plans and Programs

Ordinances and Regulations

California Fire Code
This code may be adopted by local jurisdictions, with amendments, and provides minimum standards for many aspects of fire prevention and suppression activities. These standards include: provisions for access, water supply, fire protection systems, and the use of fire resistant building materials. The Cambria CSD has adopted and added local amendments to the California Fire Code.

Wildland Urban Interface Code
This code may be adopted by local jurisdictions, with amendments to provide minimum as well as additional standards for Wildland Urban Interface prevention, protection and suppression. These standards include specific requirements for fire resistant building materials, exterior armoring, access, fire protection systems, defensible space clearance and ornamental vegetation standards. The Cambria CSD has adopted this code with amendments.

California Health and Safety Code and the California Building Code
The Health and Safety Code contains regulations pertaining to the abatement of fire related hazards. It also requires that local jurisdictions enforce the California Building Code, which provides standards for fire resistive building and roofing materials, and other fire-related construction methods.

Public Resources Code (PRC) and Title 14 of the California Code of Regulations
PRC regulations define criteria for State Responsibility Area (SRA) wherein state wildland fire laws and regulations apply. All of Cambria, and surrounding area, is within PRC defined SRA. PRC contains statewide fire prevention and suppression standards in SRA wildland fire areas. Title 14 includes Fire Safe Regulations that apply to development in SRA.

San Luis Obispo County General Plan Safety Element and Land Use Ordinance
Land use planning and building development in the study area is regulated by the County Planning and Building Department with Fire Code administered by the Cambria CSD Fire Department. Sections within these documents establish minimum standards for development in Cambria.

Preparedness Programs

Cambria FireSafe Focus Group

The Cambria FireSafe Focus Group is a subset of the San Luis Obispo County Fire Council. The Fire Safe Council is comprised of stakeholders in community fire prevention and especially wildland fire pre-planning, community education and preparedness. The Cambria Fire Safe Focus Group is operated entirely by agency representatives and volunteers and established to improve local fire safety especially from a wildland fire. Their mission is to mobilize Cambrians to protect their community, homes, businesses and environment from wildfire. Group members were instrumental in recently receiving a Firewise Community designation from the National Fire Protection Association by creating a community-wide Wildfire Risk Assessment, creating an Action Plan from that assessment, conducting a 'Firewise Day' event, and investing at least $2.00 per capita on community fire prevention efforts.

To help Cambrians become aware of the potential for a major wildland fire in Cambria the focus group has established the following goals:

1. Public education and outreach.
2. Identify fire-safe practices, landscaping and defensible space around your home or business.
3. Identify fire-safe construction and reducing fire embers ability to enter the inside of a building or ignite the building exterior.
4. Hold community requested neighborhood meetings to promote wildland fire safety and preparedness.
5. Coordinate and deliver Fire Safe Chipping events to reduce accumulated dead wildland fuels and to enhance defensible space around buildings.
6. Increase awareness and public education regarding evacuation safety, routes and family and business plans.

Mitigation Projects

The SLO County Fire Safe Council and CAL FIRE have been very successful in receiving grants from a number of sources for a variety of fuel mitigation projects within the planning area. The completed and current projects listed below total approximately $1,280,000.

Completed projects include:

- Community wide chipping (available annually since 2000)

- PG&E Grant to maintain and enhance Bridge Street Fuel Break
- Hillside hazardous fuel reduction in Rodeo Grounds portion of Fiscalini Ranch Preserve
- Cambria CSD has installed an emergency evacuation road across the Fiscalini West Ranch to ensure that Park Hill, Seacliff Estates, Marine Terrace and West Lodge Hill residents have an alternate escape route and First Responders have a secondary means of ingress and egress
- Emergency Access Road across the Fiscalini Ranch West.
- A hydrant installed adjacent to the south end of the Emergency Access Road on the Fiscalini West Ranch to be used as a helicopter water supply and general water supply for combating wildfires.

Projects currently underway include:

- CAL FIRE Greenhouse Gas Fund Grant (Salvage harvest dead and dying trees)
- Strawberry Canyon, Greenspace -The Cambria Land Trust, (Fuel Reduction)
- Cambria Hwy.1- Fuel Reduction.
- Cambria Community Chipping
- Public Safety Hazard tree removal throughout community
- Public Outreach, Education, Preparedness
- Monitoring and measurement of forest health restoration
- Community Fire Safe Fair 2016 Western States WUI Grant
- CAL FIRE Tree Mortality Grant

Grant in process:

- Greenhouse Gasification Biomass Plant (CCSD Applicant w/Fire Safe Council Support)

On Going Work (non-grant funded):

CAL FIRE and the California Conservation Corps routinely works with Cambria CSD staff and other property owners to create fire defense improvements where there is a community benefit. These projects are typically funded through State of California Fire Prevention fees (SRA fees) and include:

- The Bridge Street Fuel Break - $ 45,000 in SRA funds was used to established a 100 foot wide fuel break to separate the Covell Ranch forest stands from adjacent Pine Knolls, Happy Hill, and Liemert Tract areas of Cambria. The fuel break also cleared area along Bridge Street between the East Village and Cambria Cemetery. *See photos at the end of this section.*
- CAL FIRE hand crews have provided clearance in the CSD owned Fiscalini Ranch Preserve; Greenspace owned Strawberry Canyon, and privately owned Covell Ranch.
- Defensible space compliance inspections (PRC 4291) of 100% of applicable properties in Cambria.

Management Plans and Studies

Given the high values at risk a considerable amount of studying and planning has been completed over the past two decades:

- In 1992, a **Statewide Pine Pitch Canker Task Force** was established. A Pitch Canker Action Plan was approved in 1995. The Plan is intended to identify management, research and educational priorities to limit the spread of pine pitch canker in California. More information on pine pitch canker can be found via the Pine Pitch Canker Task Force: http://frap.cdf.ca.gov/pitch_canker/.

- The **Cambria Forest Management Plan** (Jones and Stokes) was developed in 2002 through a grant from the California Department of Forestry and Fire Protection (CDF) under Senate Bill No. SB 1712. The Plan provides an integrated framework of techniques for the management of mixed native Monterey Pine and Coastal Live Oak forest in the Cambria community and surrounding area.

- **CAL FIRE Unit Fire Prevention Plan** is prepared annually and details hazard and risk and mitigation measures planned for implementation by CAL FIRE resources.

- **The Cambria Community Wildfire Protection Plan** was developed by CAL Fire - San Luis Obispo Unit with assistance by students at California Polytechnic University, San Luis Obispo. The Plan provides an analysis and evaluation of the current and prospective fire hazard, and suggested mitigation strategies for the community. The Plan takes into account environmental, socioeconomic and political factors that affect wildland fire management and safety of the Cambria Community. A series of detailed Fire Behavior analysis scenarios have been developed using computer modeling programs (FARSITE and WFDSS).

Relationship to Other Hazards – Cascading Effects

The ensuing effects of wildland fires can be devastating beyond the obvious loss of vegetation and depletion of forest resources. Soil, waterways and land can sustain lasting damage from large intense fires. Extreme heat can cause soil to lose its ability to absorb moisture and subsequently support life. These soils quickly erode, and as a result, enhance siltation of rivers and streams, thus increasing flood potential, damaging marine life, and diminishing water quality. Further, the risk of landslide hazard increases once land has been depleted of vegetation. Calamitous debris flows can ensue.

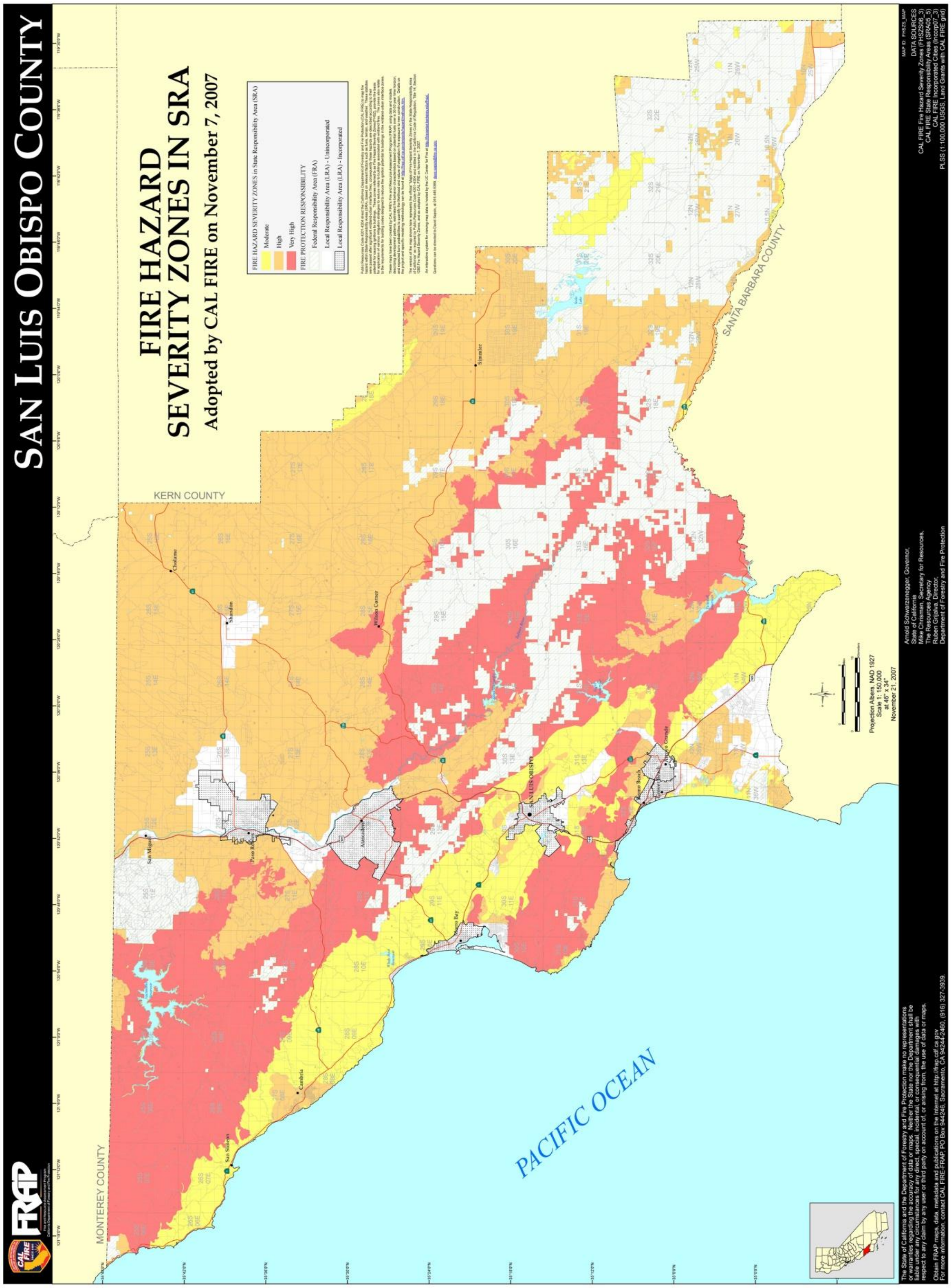
Economic impacts can be severe. Wild fires can wreak havoc on homes, recreational assets and the tourist industry. Water, telephone and power utility companies have lost millions of dollars through both the direct and indirect effects of forest fires.

Risk Assessment Conclusion

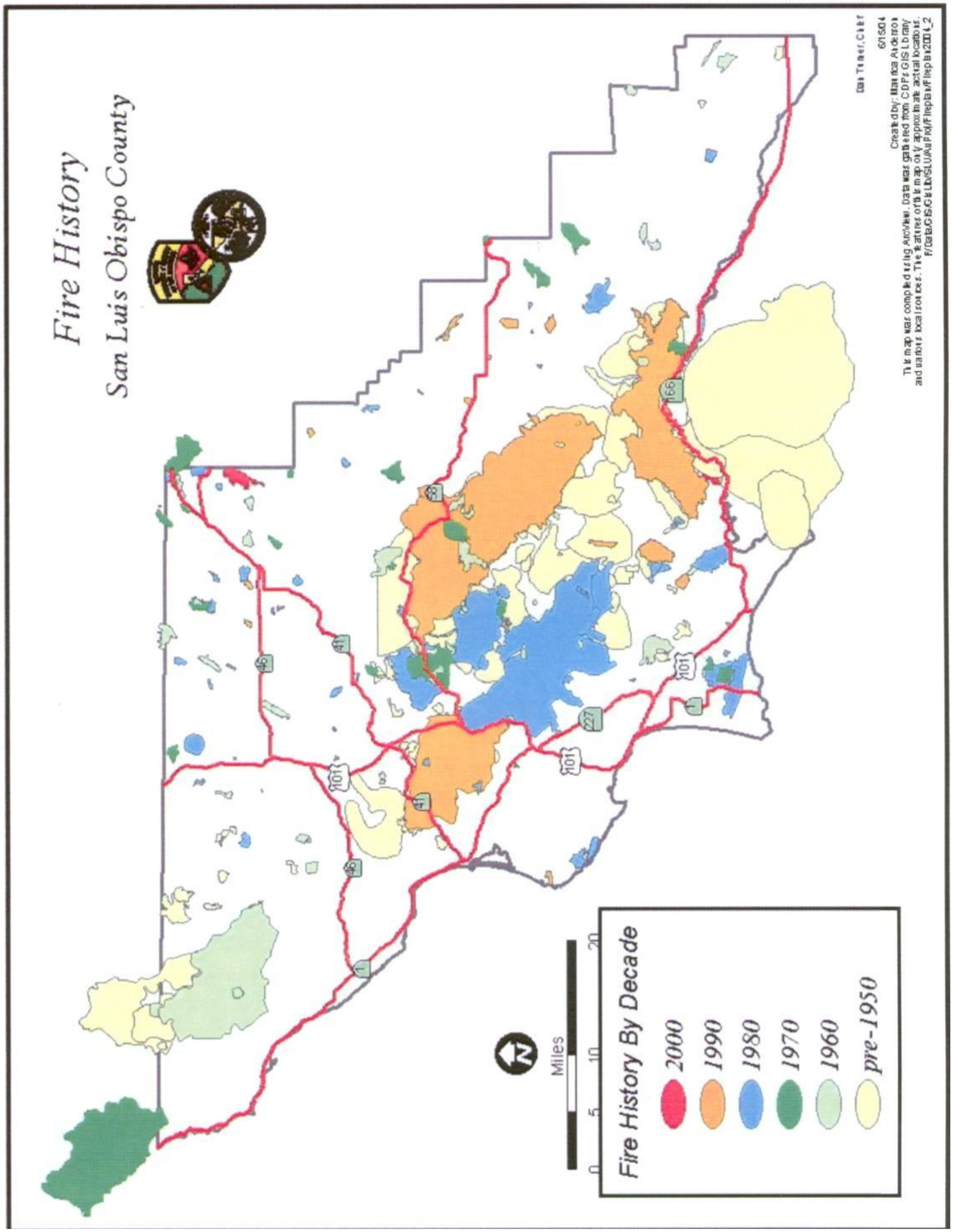
While in many locations throughout the planning area, the fuels and the topography may allow an unchecked wildfire to become a severe threat, the strong coastal weather influence diminishes this hazard much of the time. Therefore, factoring in the areas past fire history, the probability is rated as **HIGH.** Given the high risk for personal injury and loss of life to inhabitants, firefighters, and the potential economic losses, the severity is rated as **VERY HIGH**.

West Side of Bridge Street – Fuel Thinning Project Complete

Exact Location East Side of Bridge Street – Project in Process



SLO County Fire Hazard Severity Zones



SLO County Fire History Map

➢Hazard: Tsunami

Severity: Medium	Probability: Low

Hazard Definition

A tsunami is a wave, or a series of waves, caused by a displacement of the ocean floor, usually by movement along a fault. In deep ocean water, tsunamis may travel as fast as 600 miles per hour. As they approach the shore, waves may increase in size and can cause extensive damage to coastal structures.

Withdrawal of the sea may be a precursor to the arrival of the first wave. After the first wave appears, waves may continue to arrive at internals for several hours. Intervals between successive waves may be similar. If the second wave appears 20 minutes after the first, it is likely that a third wave (if there is one) would arrive 20 minutes after the second. The first wave may not be the biggest. Yet the largest wave usually occurs within the first ten waves. The height the sea level rises above mean high tide line is referred to as runup.

The Davidson Seamount is located approximately 70 miles NW of Cambria, 4, 101 feet beneath the Pacific Ocean's surface. This mount rises 7,480 feet up from the ocean floor and is 23 miles long and 7 miles wide. A sub-surface landslide on this or any other nearby undersea feature would not allow adequate time to notify/warn Cambria or other area residents to evacuate. An undersea landslide here could be devastating to Cambria and the North Coast area.

History

Tsunamis have done great damage to communities located on the California Coast. A tsunami in 1964, following an earthquake in Alaska, killed 12 people in Crescent City and damaged piers and boats in Morro Bay as the bay emptied and filled every 15 minutes for over an hour.

On March 11, 2011, a great quake (9.0) struck northern Japan. Nearly 12 hours later, approximately $500,000 in damage was recorded to piers and docks in Morro Bay as a result of a tsunami from this earthquake. At the Center of Coastal Marine Science in Morro Bay (near the back of the bay), an oceanographer recorded a 6 foot surge, while fishermen and Coast Guard personnel estimated an 8-9 foot surge at the Coast Guard pier near the entrance to the harbor.

Tsunami History San Luis Obispo County

Location (Damage)	Incident Date	Intensity	Initial Description
Morro Bay	1868	Unknown	Unknown
Cayucos	4/16/1877	Height: 3.6 meters	California
Morro Bay	1878	Unknown	Unknown - Reportedly overtopped the sand spit in low areas
Pismo Beach	1927	Height: 1.8 meters	California
Avila Beach	4/1/1946	Height:1.3 meters Source magnitude: 7.3 Ms	Tsunami source location: Alaska Source event: E. Aleutian Islands Travel time: 5 hours 36 minutes
Morro Bay	4/1/1946	Height: 1.5 meters Source magnitude: 7.3 Ms	Tsunami source location: Alaska Source event: E. Aleutian Islands Travel time: 5 hours 36 minutes
Avila Beach	11/4/1952	Height: 1.4 meters Source magnitude: 8.2 Ms, 9 Mw	Tsunami source location: Russia Source event: Kamchatka Travel time: 8 hours 36 minutes
Pismo Beach	5/22/1960	Height: 1.4 meters Source Magnitude: 9.5 Mw	Tsunami source location: Chile Source event: Central Chile
Avila Beach and Morro Bay	3/28/1964	Height: 1.6 meters Source magnitude: 9.2 Mw	Tsunami source location: Alaska Source event: Gulf of Alaska. Travel time: 5 hours 10 minutes
Morro Bay	3/11/2011	Height: 2.4 Meters Source magnitude: 9.0 Mw	Tsunami source location: Japan Source event: Tōhoku earthquake Travel time: 10 hours 32 minutes

Hazard Potential

As noted in the above table, the historic record shows that significant tsunamis typically have been generated from distant earthquake sources. It has been estimated that the 100 and 500 year tsunami runups in the study area are based on far-field source generation locations (such as the Aleutian or Chile-Peru Trenches). Estimated tsunami runup along the Cayucos/Morro Bay/Cambria coastline is approximately 9.5 feet to 24.2 feet for the 100 year and 500 year events, respectively. Those runups were calculated using astronomical high tides, and compare well with recorded tsunamis that have occurred in other locations along the California Coast. However, the worst case scenario would be if a tsunami occurred during a meteorological high tide (storm surge), which would add an estimated 14.5 feet (4.5 meters) to the runup values calculated. In this worst case scenario, the estimated tsunami runup for the 100 year and 500 year would be approximately elevation 24 and 39 feet above mean sea level, respectively. The primary effects of a tsunami can be widespread destruction and damage to coastal structures, roads, communications facilities and other infrastructure.

Plans and Programs

A detailed Tsunami Response Plan for San Luis Obispo County is in place. The Plan uses as its basis all those coastal communities, recreation and developed areas with an elevation of 50 feet above mean sea level.

The West Coast/Alaska Tsunami Warning Center in Palmer, Alaska is responsible for issuing tsunami information for California, Oregon, Washington, and British Columbia. Tsunami generating incidents around the Pacific can be detected, pinpointed and magnitude computed in from 2 to 12 minutes depending upon the distance from the warning center. Depending on the incident magnitude a “Watch” “Advisory” or “Warning” will be transmitted to the Governor’s Office of Emergency Services and then distributed through the County’s Emergency Alerting System.

Risk Assessment

In general, much of the SLO County coast is protected by wide beaches, coastal dune, or sea cliffs that provide protection for coastal developments. Areas in the county most vulnerable to the tsunami hazard are well delineated in the County's Tsunami plan. Within the study area, the vulnerable locations include the following:

- Moonstone Beach, Shamel Park, Windsor Blvd, Park Hill and The West Ranch from the coastal terrace trail to the ocean
- Main Street from Highway 1 to Santa Rosa Creek Road
- Santa Rosa Creek Road to Coast Union High School
- Burton Drive and all side streets between Main Street to and including Village Lane
- The marine terrace between Marlbough and the ocean to Ardath

If the gradient is shallow, tsunami waves can travel upstream into river channels and creek beds causing flooding, as is the case with Santa Rosa Creek.

Damage to coastal structures would likely increase if the tsunami event were to coincide with a high tide, storm related waves, or large winter storm runoff. The Windsor Boulevard bridge over Santa Rosa Creek, just west of Moonstone Beach Drive would be in the direct wave pathway and would likely be severely damaged or destroyed by these waves. The adjacent residential neighborhoods would become isolated. The CCSD Wastewater Treatment Plant would be severely damaged or destroyed reducing or eliminating Cambria's WWTP ability to process wastewater.

A San Luis Obispo County Tsunami Hazard inundation map is found at the end of this section.

Residential Structures in Tsunami Risk Area

Risk Assessment Conclusion

Historically, the study area has had minimal threat from tsunami activity. Thus, the probability of this hazard event is deemed **LOW.** The combination of an accurate tsunami warning system, which will provide time for evacuations, and the limited exposed area justifies a **MEDIUM** severity rating for the Cambria Community Services District. Based on the fact that the Healthcare District does not have any critical infrastructure located on the coast, the severity rating for the Healthcare District is considered **LOW.**

San Luis Obispo County Tsunami Hazard Inundation Map

D. Jurisdiction Specific Hazard Ranking

Given the past history, the current conditions, and the overall life and property threat to the Districts, the Hazard Planning Group has deemed the probability and severity of each hazard as follows:

Cambria CSD	**Earthquake**	**Wildland Fire**	**Extreme Weather**	**Flood**	**Landslides**	**Tsunami**
Probability	H	H	H	H	M	L
Severity	H	VH	M	M	M	M

L = Low, M= Medium, H = High, VH= Very High

Cambria CHD	**Earthquake**	**Wildland Fire**	**Extreme Weather**	**Flood**	**Landslides**	**Tsunami**
Probability	H	H	H	H	M	L
Severity	H	VH	M	M	M	L

L = Low, M= Medium, H = High, VH= Very High

VII. VULNERABILITY ASSESSMENT

A. Overview

The vulnerability assessment is a summary of the hazard's impact to the community's vulnerable structures. Community assets and development trends will be identified and assessed with respect to the developed hazard profiles to ascertain the potential amount of damage that could ensue from each identified hazard. This section will include: 1) A description of the critical buildings and infrastructure within the study areas including future building and land use decisions. 2) A general description of the extent of each hazard's impacts to these vulnerable structures, 3) An estimate of the potential dollar losses to vulnerable structures.

It is important to note that as described in the Community Profile sections above, the community of Cambria covers just 8.5 square miles which is centrally located in the much larger 810 square mile Healthcare District. The Hazard Risk Assessments for the two Districts are the same. It should be noted however that the tsunami severity rating for the two districts is different. The Healthcare District's critical infrastructure has no exposure to a Tsunami event while the exposure of the CCSD is considerable resulting in a Medium rating. The cascading impacts of a tsunami event could have an impact on the ability of the Healthcare Districts ability to deliver Emergency Medical Service resulting in a LOW severity rating.

B. DMA 2000 Requirements

DMA Requirement §201.6(c)(2)(ii):	The risk assessment shall include a description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community.
DMA Requirement §201.6(c)(2)(ii)(A):	The plan should describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas.
DMA Requirement §201.6(c)(2)(ii)(B): (c)(2)(i)(A)	The plan should describe vulnerability in terms of an estimate of the potential dollar losses to vulnerable structures identified in paragraph of this section and a description of the methodology used for estimating.
DMA Requirement §201.6(c)(2)(ii)(C): (c)(2)(i)(A)	The plan should describe vulnerability in terms of providing a general description of land uses and development trends within the community so that future mitigation options can be considered in future land decisions.
DMA Requirement §201.6(c)(2)(iii):	For multi-jurisdictional plans, the risk assessment must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

C. Critical Facilities and Infrastructure

Critical facilities and infrastructure are those systems within each community whose incapacity or destruction would have a debilitating effect on the community's ability to recover subsequent to a major disaster. The following critical facility and infrastructure are categorized as follows:

1. **Emergency Services** for the health and welfare of the whole population (e.g., hospitals, police, fire stations, ambulance stations, emergency operations centers, evacuation shelters, schools).
2. **Lifeline Utility Systems** such as potable water, wastewater, oil, natural gas, electric power and communications systems.
3. **Transportation Systems** including railways, highways, waterways, airways and community streets to enable effective movement of services, goods and people.
4. **High Potential Loss Facilities** such as power plants, dams and levees.

D. Jurisdictional Assets at Risk to Applicable Hazards

CAMBRIA COMMUNITY SERVICES DISTRICT ASSETS AT RISK

Critical Facilities and Infrastructure CCSD	Address/Location	Value: Building/ Content	Wildfire	Flood	Earthquake	Landslides	Extreme Weather	Tsunami
Wastewater Treatment Plant	5500 Heath Lane (Well)	$181,700/ $1,003,000		X	X		X	X
Wastewater Lift Station B4	1551 Green Street	$350,000			X		X	
New Blower Building Structure	5500 Heath Lane	$530,000/ $20,000		X	X		X	X
Switchgear, Conduits, Wires, and Cables	5500 Heath Lane	$20,000		X	X		X	X
Pine Knolls Water Tank	988 Manor Way	$20,000/ $15,000	X		X		X	
Vehicle Storage/Office Building	5500 Heath Lane	$225,000/ $150,000	X	X	X		X	X
Wastewater Lift Station 8	1090 Hillcrest Drive	$150,000			X		X	
Old Ranch House	San Simeon Creek Road	$250,000/ $25,000	X		X		X	
Maintenance Storage Shop	5500 Heath Lane	$30,000/ $50,000		X	X		X	X
Booster Station	Charing Lane	$50,000	X		X		X	
Fire Sub Station	6500 Heath Lane	$100,000/ $50,000		X	X		X	X
Wastewater Lift Station B1	2282 Burton Drive	$300,000			X		X	
Fire Station	2850 Burton Drive	$1,678,053/ $250,000			X		X	

Wastewater Lift Station Street A	5101 Nottingham Drive	$30,000			X		X	X
Pump House and Generator	Cambria Pines Road	$150,000/ $250,000	X		X		X	
Veterans Memorial Building	1000 Main Street	$740,000/ $100,000		X	X		X	
Wastewater Lift Station 4	212 DeVault Place	$150,000			X		X	X
Yard and Shop	Old Rodeo Grounds Road	$200,000/ $150,000		X	X		X	X
Pump House ss1-2-3	San Simeon Creek Road	$230,000/ $100,000	X		X		X	
Wastewater Lift Station B	4849 Cabrillo Highway	$300,000/ $100,000			X		X	
NPW Pumps and Flow Equalizer Vault and Meter	5500 Heath Lane	$62,000		X	X		X	X
Wastewater Lift Station 9	6789 Moonstone Beach Boulevard	$150,000			X		X	X
Wastewater Lift Station B2	3200 Eton Drive	$300,000			X		X	
Secondary Clarifier Handrails	5500 Heath Lane	$80,000		X	X		X	X
Wastewater Lift Station 3	2222 Green Street	$350,000			X		X	
Standby Generator House	San Simeon Creek Road	$50,000/ $150,000	X		X		X	
District Office	1316 Tamson Drive	0/ $320,000			X		X	
Well and Filter- SR 4	Santa Rosa Creek Road	$200,000/ $500,000		X	X		X	
3 Blowers	5500 Heath Lane	$125,000			X		X	X
Water Yard Booster Pump Station	2031 Rodeo Ground Road	$150,000/ $100,000			X		X	

BioSolids/ Screwpress	5500 Heath Lane	$1,000,000		X	X		X	X
Pump House	Stuart Street	$80,000/ $50,000	X		X		X	
Stuart Street Tank Site, radio bldg., and generator	1968 Richard	$150,000/ $100,000	X		X		X	
Wastewater Lift Station A1	190 Harvey Street	$150,000			X		X	
Fiscalini Water Tank	1000 Ellis Avenue	$300,000	X		X		X	
Leimert Tank	Cambria Pines Road	$300,000	X		X		X	
Sustainable Water Facility	990 San Simeon Creek Road	$7,366,742	X	X	X		X	
Total Values		**$18,798,795 /$3,483,000**						

CAMBRIA COMMUNITY HEALTHCARE DISTRICT ASSETS AT RISK

	Address/Location	**Value: Building/ Content**	**Wildfire**	**Flood**	**Earthquake**	**Landslides**	**Extreme Weather**	**Tsunami**
Health Clinic Offices	2511 and 2515 Main Street, Cambria	$670,136	X	X	X	X	X	
Administrative Office	1241 Knollwood Circle Suite 202, Cambria	Rental/ $50,000			X	X	X	
Ambulance headquarters and ambulance station	2535 Main Street, Cambria	$129,853/ $250,000	X	X	X	X	X	
Total Values		**$894,989/ $300,000**						

E. Methodology Used

To determine the number of critical structures and infrastructure at risk, a combination of field surveys, aerial photos and flood maps, and Google Earth software was used. The methodology used in preparing the Vulnerability Estimate consisted of determining the value of critical buildings and facilities from insurance property schedules. Critical infrastructure values were established by using actual replacement costs which were determined by recent comparable replacement projects.

F. Loss Estimations

Dollar losses to buildings and infrastructure vary depending upon the natural hazard occurring and the severity of the hazard. In general, earthquakes can extensively damage a wide area therefore critical structure and infrastructure losses should be estimated at a 100% value. Destruction from flooding takes place in specific areas and the damage is historically much less severe than that of an earthquake. Thus, the estimated loss as a result of flooding should be calculated at the 40% level. Damage resulting from Wildfires should be calculated at 25% of structural value. The vast majority of the community is at risk for wildfire. Extreme weather could impact any portion of the jurisdiction. Historical data indicates that these events are extremely localized and a 10% loss should be anticipated.

G. Development Trend Analysis

Building development within the Community Services District is overseen by San Luis Obispo County and the State Coastal Commission. Building size and height are regulated, and modified to specific district areas. The community is currently 45 percent developed. Water is one of the most important limiting factors to growth in Cambria. As a result of the building restrictions established in 1999, growth is severely restricted. The wait for a building permit for new construction is estimated at 20 years and is dependent upon the development of new water sources.

The CCSD has developed an innovative Buildout Reduction Plan (BRP) to ensure Cambria's small-town character, natural resources, and quality of life remains intact. The BRP's primary goals are to conserve water, minimize infrastructure impacts, and preserve the town's dwindling forests and open space. The BRP also satisfies the California Environmental Quality Act's requirement to mitigate any growth-inducing impacts of the Water Master Plan. The BRP seeks to retire or merge building sites that exceed the approved maximum 4,650 water connections. This includes multi-family connections and lots. It does not include commercial connections, which are limited to 20% of the residential water allocation in a given year. Unlike the CCSD, the Healthcare District has no authority or responsibility in the planning or construction of new buildings or infrastructure.

VIII. CAPABILITY ASSESSMENT

A. Overview

An important component of the Mitigation Strategy is an understanding of the resources available to each of the districts in order to mitigate the effects of each of the identified hazards. The Capability Assessment begins with a review of legal and regulatory capabilities, including ordinances, codes, and plans needed to address hazard mitigation activities. This Assessment also describes the administrative and technical capability available to each jurisdiction. The third component of the assessment is the District's fiscal capability to ensure the availability of financial resources to implement proposed mitigation strategies. The final part of the Capability Assessment is a review of the physical assets available to respond to the emergency needs of the community.

The following resources are available to the jurisdiction in order to mitigate the effects of the identified hazards:

B. Legal and Regulatory

Both the Districts and San Luis Obispo County (SLO) have in place the applicable Building Codes, Zoning Ordinances, Subdivision Regulations, and other regulatory development guides to provide specific support to hazard mitigation activities within the District as described below. Additionally, the General Plan, Multi-hazard Emergency Response Plans, and Post-Disaster Recovery Plans provide additional authority and are developed and maintained by the County.

- **General Police Power-**The general police power of both the County and the District is typically enacted and enforced with ordinances, which define, prohibit, regulate or abate acts, omissions, or conditions detrimental to the health, safety, and welfare of the people, and to define and abate nuisances, including public health nuisances.

  Since hazard mitigation can be included under the police power as protection of public health, safety and welfare, district, towns, cities and counties may include requirements for hazard mitigation in local ordinances. Local governments may also use their ordinance making power to abate "nuisances," which could include any activity or condition making people or property more vulnerable to a hazard.

- **California Building Code**-Building Codes and Inspection Construction within the jurisdiction must meet the standards of the California Building Code. The area's Building and Planning Department reviews propose subdivisions and building plans, and conducts site inspections to ensure applicable codes are followed. Additionally, the District Fire Department reviews propose projects for enforcement of the California Fire Code.

- **Land Use Regulations Land** use regulatory powers include planning, enacting and enforcing zoning ordinances, floodplain ordinances, and land division controls. Local government can control the amount, timing, density, quality and location of new development in order to reduce a community's vulnerability to naturally occurring hazards. In conclusion, unsafe development in hazard prone areas can be prevented through local planning, zoning and development review by the County Planning and Building Department.
- **Acquisition/Eminent Domain California** legislation empowers cities, towns and counties to acquire property for public purpose by gift, grant, devise, bequest, exchange, purchase, lease or eminent domain. San Luis Obispo County can and has used acquisition as a tool for pursuing local mitigation goals. This reduces or eliminates the possibility of unsafe development occurring.
- **Taxation-** California law gives local government the power to levy taxes and special assessments. The power of taxation extends beyond merely the collection of revenue, and can have a profound impact on the pattern of development in the community. Communities in some states have the power to set preferential tax rates for areas which are more suitable for development in order to discourage development in otherwise hazardous areas. California does not allow cities or counties to increase tax rates beyond the base rate, except with voter approval. A community can pursue voter approval of a bond or similar mechanism to increase the property tax to be used for a specific purpose.
- **Spending/Budget** - Local governments have the power to make expenditures in the public interest. Hazard mitigation principles can be made a routine part of all spending decisions made by the local government, including the adoption of budgets and a Capital Improvement Plan (CIP).
- **County's Hazardous Waste Management Plan** (HWMP) ensures compliance with hazardous materials regulations

C. Administrative and Technical

Both the CCSD and the CCHD have experienced and competent administrative and technical staff in place to expedite the mitigation actions identified in their areas of responsibility. Additionally, SLO County staff possesses technical expertise in the areas of planning, engineering, floodplain management, and geographic information systems (GIS) to support this Plan. Additionally, technical and administrative resources are available to assist the both the County and District staff in implementing the hazard mitigation goals.

D. Financial

In order to achieve the goals and objectives of the Mitigation Strategy, one or more of the following funding sources could be utilized: federal and state entitlements and grants, general fund, sales and property taxes, infrastructure user fees, impact fees, and new development impact fees. The Districts and the County have the necessary budgetary tools and practices in place to facilitate handling appropriate funds. However, with the imminent 2025 closure of the Diablo Canyon Power Plant (an electricity generating nuclear power plant), a legitimate concern exists over the loss of future grant funding to County OES.

E. Political Will of the Community

Area residents are very knowledgeable about the extreme wild fire hazard potential impacts as the iconic Monterey Pines the community is famous for die off. Long term residents and many of the CCSD staff vividly recall the flooding events of 1995 and 2005. Work by the Fire Safe Focus Group has increased the familiarity with the concept of hazard mitigation as the recent fuel reduction projects have been well publicized. For these reason, the community fully supports hazard mitigation strategies and is open to implementing changes that will make their community and its residents safer.

F. Physical Assets

The study area has little first responder support due to its isolate location. North of the CCSD boundaries, there are no emergency first responders to provide aid except for the CAL FIRE station, staffed with one Engine, located in northern Cambria. Emergency, mutual aid, first responders from the East would come from Paso Robles and Templeton a 40+ minute response which could be interrupted by damage to Hwy. 46 West. Emergency first responders from the South would come from Cayucos, Morro Bay, and Los Osos and be 20+ minutes away. These are all small communities and may well be overwhelmed with their own local emergencies.

Ambulance resources in the County of San Luis Obispo are stretched thin, and may be unable to provide timely EMS transport response to Cambria due to local emergencies. The current CCHD Ambulance station is not located close to where the highest call volume occurs. The station is old, outdated, and located in a drainage flood and fire prone area, and has a history of being susceptible to mudslides.

Fire Departments

Fire prevention and suppression services are provided by the Cambria Fire Department (CBR) and the California Department of Forestry and Fire Protection (CAL FIRE). These Fire Departments provide fire suppression, emergency medical care, hazardous materials emergency intervention and control, water rescue, entrapment extrication, fire safety inspections of businesses, vacant lots and wildland areas, public fire safety education, fire investigation, and disaster management and planning. The Cambria Fire Department sponsors a robust Community Emergency Response Team (CERT) which is support by both CAL FIRE and the Healthcare District.

Readily available physical resources include the following:

Department Vehicles

- 2 Type 1 Engines
- 1 Type 3 Water Tender
- 1 Command Vehicles
- 2 Utility Pick-ups
- 2 Rescue Boats
- 3 CERT Trailers

Water and Wastewater Vehicles

A full service water and waste water systems are in place. The mission of the Cambria Water Department is to provide high-quality water to the citizens of Cambria in a safe, environmentally sensitive and economical manner.

- 1 Vactor/Pump Unit
- 1 Dump Truck
- 9 Pickup Trucks
- 1 Step Van

Cambria Community Healthcare District Vehicles

- 2002 Ford Ambulance
- 2008 Sprinter Ambulance
- 2008 Sprinter Ambulance

- 2016 GMC Modular Ambulance
- 1999 Ford Expedition Command Vehicle

Law Enforcement - SLO County Sheriff's Department

The District does not provide law enforcement services; it is provide by the County. The Sheriff's Department has the capability to provide the necessary resources to assist the District in attaining mitigation goals.

Emergency Medical Services Transport

The District does provide Advanced Life Support, (Paramedic) level service delivered from first responding engine company personnel, however Paramedic Ambulance transportation is provided by the CCHD.

Automatic and Mutual Aid Agreements

The Cambria Community Service District Fire Department has an automatic aid agreement with CAL FIRE/SLO County Fire which staffs a year round station located at 6126 Coventry Lane within the District. The station is equipped with 2 fire engines and a rescue squad. The department also is a participant in the SLO County Mutual Aid Program.

The Healthcare District has an Automatic Aid Agreement with Monterey County, providing service into the south coastal zone of Monterey County along Highway 1 up to the community of Pacific Valley. The District is also a participant in the County of San Luis Obispo Medical Mutual Aid System. Ambulance crews will provide move up and coverage county-wide when other units in the County are busy. In return, non-agency ambulance units will provide coverage within the district boundaries as needed.

IX. MITIGATION STRATEGY

A. DMA 2000 Requirements

DMA Requirement §201.6(c)(3)(i):	The hazard mitigation strategy shall include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.
DMA Requirement §201.6(c)(3)(ii):	The mitigation strategy shall include a section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

B. Goals, Objectives and Mitigation Actions for Cambria Community Services District

Goal 1	**Promote understanding and support for hazard mitigation by key stakeholders and the public within the Community of Cambria.**
Objective 1	Educate key stakeholders and the public to increase awareness of hazards and opportunities for mitigating hazards.
Mitigation Action 1.A	Through newsletters, advertisements, speaking engagements and other public contacts, continue to educate the general public and key stakeholders on the issues, responsibilities, and current efforts and successes in the area of disaster preparedness as they impact the community.
Mitigation Action 1.B	Utilize the District, the Cambria CERT Team and the Cambria Fire Safe focus group social media venues to inform the public of hazard mitigation efforts, disaster preparedness messages, and emergency situation information.
Goal 2	**Ensure that future development is protected from natural disasters.**
Objective 2	Limit new development in hazardous areas. As permissible, link the CSD Buildout Reduction Program to eliminate potentially threatened building sites. Build to standards that will prevent or reduce damage from naturally occurring events.
Mitigation Action 2.A	Educate the planning staff, administrative staff and elected officials on the importance of keeping current on trends and developments in disaster preparedness.

Mitigation Action 2.B	Encourage planning and administrative staffs to attend seminars and lectures on naturally occurring hazards so that they may better assist the governing bodies as they process future development.
Mitigation Action 2.C	In order to better protect life and property, continue to develop a more accurate and comprehensive series of maps and data sets that pertain to the District's earthquake, wildfire, tsunami and flood threats.
Goal 3	**Build and support local capacity and commitment to minimize the District's vulnerability to potential naturally occurring hazards.**
Objective 3.1	Improve existing capabilities of the CCSD staff to manage emergency situations.
Objective 3.2	Enhance the safety of CCSD residents and staff.
Objective 3.3	Improve the Districts communication systems so that in the event of a major emergency it will continue to operate effectively (redundancy and standby power).
Objective 3.4	Support the ARES/RACES communication system in the District Emergency Operations Center.
Objective 3.5	Maintain current fire department staffing levels as afforded by the SAFER grant currently in place.
Mitigation Action 3.1A	Develop a Continuity of Operations Plan (COOP) for the District and train all essential staff on their roles and responsibilities as delineated in the Plan.
Mitigation Action 3.1B	Update the existing District Operations Plans and supporting documents to ensure coordination with the County DOC/Emergency Plans and SOP's.
Mitigation Action 3.1C	Train all District department managers and key staff members on their roles and responsibilities in emergency management and the District DOC as outlined in independent study courses FEMA/National Incident Management System - ICS 100, 700, and 800.
Mitigation Action 3.1D	Continue to train all District first responders to the FEMA/National Incident Management System ICS 100, 200, 300, 700, and 800 levels.
Mitigation Action 3.1E	Develop an SOP, specific to each department, for guidance on response and coordination to major emergency events.

Mitigation Action 3.1F	Working with SLO County OES, increase participation by District staff members in disaster drills put on by the County.
Mitigation Action 3.1G	Review the current configuration of the District DOC at the fire station and make improvements as needed.
Mitigation Action 3.1H	Study ways to improve the existing automatic aid and mutual aid agreements with CAL FIRE and neighboring first responders.
Mitigation Action 3.2A	Continue to Support the development of the Community Emergency Response Team (CERT). Through newsletters, advertisements, speaking engagements and other public contacts, encourage the general public to take the basic CERT training.
Mitigation Action 3.2B	Train CERT team members in a Fire Watch program when a Red Flag warning is issued by the National Weather Service.
Mitigation Action 3.2C	In order to ensure that employees are available to assist during a major emergency, have all CCSD departments adopt a Family Support Plan. (Note: A model plan is available through SLO County OES.)
Mitigation Action 3.2D	Support the efforts of the CCSD utilities division to better protect public health by initiating a Watershed Survey.
Mitigation Action 3.2E	Increase the water storage of the District to ensure service for both fire protection and domestic consumption.
Mitigation Action 3.2F	Improve the “purple pipe” recycled water system along Moonstone Drive so that it may be utilized for fire protection.
Mitigation Action 3.2G	Make improvements to wastewater collection systems by replacing or relining collection pipes so as to reduce sewer overflows and limit inflow and infiltration subsequently reducing the public health threat.
Mitigation Action 3.3A	Develop a Master Plan for the District’s communications systems.
Mitigation Action 3.3B	Update the District’s radio system as outlined in the Communications Master Plan.

Mitigation Action 3.4A	Obtain and install another radio repeater, purchase additional radios support materials, and provide a standby power source, for the amateur radio group (ARES/RACES) to facilitate communications throughout the District.
Mitigation Action 3.5A	Study and pursue funding sources to staff the fire department to a level of 4 firefighters 24 hrs. X 365 days.
Mitigation Action 3.5B	Promote firefighter training and involvement in the California Mutual Aid System as single resources. (Note: Potential funding source for fire department staffing.)
Goal 4	**Minimize the level of damage and losses to people, existing and future critical facilities and infrastructure due to flooding.**
Objective 4.1	Enhance the ability of community assets, particularly critical facilities, located in the 100-year floodplain to handle existing and projected flood levels.
Mitigation Action 4.1A	Maintain compliance with the National Flood Insurance Program (NFIP) requirements.
Mitigation Action 4.1B	Through Development Review process, restrict construction of essential service facilities in the 100-year flood plain.
Mitigation Action 4.1C	Continue to work cooperatively with the county, state, and federal flood related agencies for funding improvements through grant and agency programs
Mitigation Action 4.1D	Improve the drainage through the West Village through a combination of vegetation management and storm drain improvements along Highway 1 - east side.
Mitigation Action 4.1E	Automate the large flood pump at the north end of the West Village.
Mitigation Action 4.1F	Improve the storm drain collector behind the Shell gas station at north end of the West Village so that it no longer clogs/overflows.
Mitigation Action 4.1G	Continue water rescue training for all first responders.
Mitigation Action 4.1H	Write a grant to fund the purchase of a Personal Water Craft with rescue sled and related safety equipment and subsequently train first responders in its use.

Mitigation Action 4.1I	Purchase an inflatable rescue boat with motor to replace an existing unit that has reached the end of its recommended service life.
Goal 5	**Minimize the level of damage and losses to people, existing and future critical facilities and infrastructure due to wildland fires.**
Objective 5.1	Continue the comprehensive approach to reducing the level of damage and losses due to wildland fires through vegetation management, code enforcement, GIS mapping, and planning processes.
Objective 5.2	Enhance the ability of CCSD administration and first responders to manage the impacts of a significant wildfire.
Objective 5.3	Improve forest health in order to minimize the impact of wildland fire.
Mitigation Action 5.1A	Prevent wildfires through code enforcement efforts by working with Engine Company Captains to increase the education and enforcement of California Health and Safety Code Section 14875 and International Property Maintenance Code Section 302, in collaboration with the CAL FIRE enforcement of Public Resource Code 4291.
Mitigation Action 5.1B	In order to assist fire prevention efforts and to better manage large fires when they occur, continue to improve GIS mapping and tracking efforts by gathering and maintaining relevant GIS data layers and imagery and utilizing the best available mapping applications and software.
Mitigation Action 5.1C	Collaborate with property owners and regulatory agencies in order to utilize prescribed fire on private and state owned lands in the County areas that surround the District.
Mitigation Action 5.1D	Work with the CCSD, Fire Safe Council, Cambria Focus Group, and the Cambria Forest Committee to reduce the wildfire threat by: • Supporting the ongoing aggressive efforts to reduce the fuel load problem through a variety of methods such as chipping, forest remulching, salvage logging, and hand clearing. • Assisting in identifying and prioritizing treatment areas. • Investigating additional funding sources for fuel reduction and forest management projects. • Updating the Community Wildfire Protection Plans (Both District and County). • Enhancing collaboration amongst all fire agencies and stakeholders • Support the development of a biomass cogeneration plant.

Mitigation Action 5.2A	Obtain through Fire Safe Council grant funds, a large portable water tank to improve water supply and storage for wildland firefighting. (FOL-DA-TANK style)
Mitigation Action 5.2B	Replace an existing Type 3 Water Tender which has reached the end of its service life. (Note: Unit may also provide a funding source when utilized in the CA mutual aid system)
Mitigation Action 5.2C	Purchase a Type 6 Fire Engine (Brush Unit) so as better provide initial response to wildfires in the District. (Note: Unit may also provide a funding source when utilized in the CA mutual aid system)
Mitigation Action 5.2D	Work with the District Water Department to improve fire flow, system reliability and redundancy, and improve the existing water supply in the District.
Mitigation Action 5.2E	Protect water conveyance system by reducing fuels adjacent to Covell and Fiscalini Ranch water tanks.
Mitigation Action 5.3A	Implement the Cambria Forest Management Plan and pursue funding to hire a professional Forest Ecologist to manage the forest.
Mitigation Action 5.3B	Implement a weed abatement Best Practices program for the general public and weed abatement contractors.
Goal 6	**Minimize the level of damage and losses to people, existing and future critical facilities and infrastructure due to geological events (earthquakes and landslides).**
Objective 6.1	Continue public education efforts so as to better prepare the citizens of the District from the effects of a significant geological event.
Objective 6.2	Enhance the ability of community assets, particularly critical facilities, to survive the impacts of a significant earthquake.
Objective 6.3	Enhance the ability of CCSD administration and first responders to manage the impacts of a significant earthquake.

Mitigation Action 6.1A	Perform seismic safety studies on the District's critical public safety facilities.
Mitigation Action 6.1B	Working with SLO County OES, increase the public's awareness and participation in earthquake preparedness activities such as the annual Great California Shake-Out drill.
Mitigation Action 6.2	Continue to support the work of the District in replacing sewer and water lines that are most vulnerable to an earthquake or mudslide.
Mitigation Action 6.3A	Train Fire Department staff in the California State Fire Marshal's Rescue System 1 and 2 programs.
Mitigation Action 6.3B	Purchase a heavy rescue cache/trailer for earthquake preparedness (tools, equipment, and supplies).
Mitigation Action 6.3C	Annually send two District management employees (non-fire) to the California Specialized Training Institute (CSTI) Introduction to Earthquake Management Course.
Mitigation Action 6.3D	Work with County OES and the Healthcare District in developing emergency operations plans to deal with the impacts of a Highway 1and or Highway 46 closure south of Cambria.
Goal 7	**Limit risk to, and impacts from hazardous materials spills, intentional discharges, illegal disposals, transportation accidents, or system failures.**
Objective 7.1	Continue efforts to manage the use, sale, distribution and disposal of hazardous materials in the District.
Objective 7.2	Improve emergency response efforts in the control and clean-up of accidental spills and releases.
Mitigation Action 7.1A	Educate community members on the dangers associated with household hazardous materials including proper storage techniques.
Mitigation Action 7.1B	Continue efforts to educate applicable employees on the handling, use, storage and disposal of hazardous materials utilized in the workplace.

Mitigation Action 7.2A	Train four first responder to the Haz Mat Technician Level (CSTI)
Goal 8	**Minimize the level of damage and losses to people, existing and future critical facilities and infrastructure due to a tsunami event.**
Objective 8.1	Continue public education efforts so as to better prepare the citizens and visitors of the District from the effects of a significant tsunami event.
Objective 8.2	Enhance the ability of community assets, particularly critical facilities, to survive the impacts of a significant tsunami event.
Mitigation Action 8.1A	Continue working with the Cambria Tourism Board in the distribution of the existing tsunami public education pamphlet to the motel visitors along Moonstone drive.
Mitigation Action 8.2A	Working with SLO County OES, and the California Coastal Commission post evacuation route signage along Moonstone Drive, Windsor and Fiscalini Ranch areas.

C. How Cambria Community Services District Mitigation Goals Address Existing and New Buildings and Infrastructure

Existing Buildings and Infrastructure:

MITIGATION GOALS	EXISTING BUILDINGS AND INFRASTRUCTURE					
	Electrical and Power Infra-structure	**Water and Wastewater Management**	**Communi-cation Facilities**	**Critical Roads and Bridges**	**Essential Service Facilities**	**Public Structures**
Goal 1-General Mitigation: Promote understanding of hazard mitigation	X	X	X	X	X	X
Goal 2-General Mitigation: Protect future development.	X	X	X	X	X	X
Goal 3-General Mitigation: Build local capacity and commitment.	X	X	X	X	X	X
Goal 4-Flood: Minimize damage due to flooding.	X	X		X	X	X
Goal 5-Wildfire: Minimize the level of damage and losses due to wildfires.	X	X	X		X	X
Goal 6-Earthquake: Minimize the level of damage and losses to due to geological events.	X	X	X	X	X	X
Goal 7 –Hazardous Materials: Limit risk from hazardous materials spills.		X				
Goal 8-Tsunami: Minimize damage and loss of life from a tsunami event.	X	X		X	X	X

New Buildings and Infrastructure:

MITIGATION GOALS	**NEW PROJECTS/BUILDINGS AND INFRASTRUCTURE**					
	Residential Subdivisions	**Various mixed use projects (residential and commercial)**	**Ag Clusters (residential, open space, and Ag uses)**	**Commercial and Industrial Projects**	**Essential Service Facilities**	**Public Structures**
Goal 1-General Mitigation: Promote understanding of hazard mitigation	X	X	X	X	X	X
Goal 2-General Mitigation: Protect future development.	X	X	X	X	X	X
Goal 3-General Mitigation: Build local capacity and commitment.	X	X	X	X	X	X
Goal 4-Flood: Minimize damage due to flooding.	X	X	X	X	X	X
Goal 5-Wildfire: Minimize the level of damage and losses due to wildfires.	X	X	X	X	X	X
Goal 6-Earthquake: Minimize the level of damage and losses to due to geological events.	X	X	X	X	X	X

Goal 7 – Hazardous Materials: Limit risk from hazardous materials spills.	X	X	X	**X**	**X**	X
Goal 8- Tsunami: Minimize damage and loss of life from a tsunami event.	X	X	X	**X**	**X**	X

D. Goal, Objectives and Mitigation Actions for Cambria Community Healthcare District

Goal 1	**Promote understanding and support for hazard mitigation by key stakeholders and the public within the Cambria Community Healthcare District.**
Objective 1	Educate key stakeholders and the public to increase awareness of hazards and opportunities for mitigating hazards.
Mitigation Action 1.A	Through newsletters, advertisements, speaking engagements and other public contacts, continue to educate the general public and key stakeholders on the issues, responsibilities, and current efforts and successes in the area of disaster preparedness and public health as they impact the Healthcare District.
Mitigation Action 1.B	Utilize the Cambria Community Services District, Cambria Community Healthcare District, and the Cambria CERT Team social media venues to inform the public of hazard mitigation efforts, disaster preparedness messages, and emergency situation information as relating to emergency medical services and public health.
Goal 2	**Build and support local capacity and commitment to minimize the Healthcare District's vulnerability to naturally occurring hazards.**
Objective 2.1	Improve existing capabilities of the CCHD staff to manage emergency situations.
Objective 2.2	Enhance the well-being and availability of Healthcare District staff.
Objective 2.3	Improve the Healthcare District's communication systems so that in the event of a major emergency it will continue to operate effectively (redundancy and standby power).
Mitigation Action 2.1A	Update the existing Healthcare District's Operations Plan and supporting documents to ensure coordination with the Cambria Community Services District DOC, SLO County EOC, and County Emergency Plans.
Mitigation Action 2.1B	Train all Healthcare District board members and key staff members on their roles and responsibilities in emergency management and in both the CCSD's DOC and the SLO County EOC as outlined in independent study courses FEMA/National Incident Management System - ICS 100, 700, and 800.
Mitigation Action 2.1C	Continue to train all Healthcare District first responders to the FEMA/National Incident Management System ICS 100, 200, 300, and 700 levels.

Mitigation Action 2.1D	Working with SLO County OES, increase participation by District staff members in disaster drills put on by the County.
Mitigation Action 2.1E	Improve the existing automatic aid and mutual aid agreements with Monterey County, Hearst Castle, and the Coast Union School District. Consider adding Bus Transportation Agreements.
Mitigation Action 2.2	In order to ensure that employees are available to assist during a major emergency, have the CCHD adopt a Family Support Plan. (Note: A model plan is available through SLO County OES.)
Mitigation Action 2.3A	Develop a Master Plan for the Healthcare District's communications systems including Reddinet and CAHAN.
Mitigation Action 2.3B	Update the Healthcare District's radio system as outlined in the Communications Master Plan once developed.
Goal 3	**Reduce the general public's vulnerability to healthcare emergencies caused by naturally occurring and manmade hazards.**
Objective 3.1	Improve ambulance response times.
Objective 3.2	Enhance the safety of Healthcare District residents.
Objective 3.3	Promote wellness and accident prevention.
Objective 3.4	Improve ambulance, command vehicle, and emergency equipment reliability.
Mitigation Action 3.1A	Analyze call volume, location and responses times; consider relocating the current ambulance station to improve response times to high call volume areas.
Mitigation Action 3.2A	Through newsletters, advertisements, speaking engagements and other public venues, continue to support the Community Emergency Response Team (CERT) by encouraging the general public to take the basic CERT training course.
Mitigation Action 3.2B	Continue to Support the development of the Community Emergency Response Team (CERT) by assisting in training and drills.
Mitigation Action 3.3A	Continue the Healthcare Districts participation in the "Vial of Life" program
Mitigation Action 3.3B	Expand public health education courses and programs such as "Hands Only CPR" and AED training, and First Aid programs to the public.

Mitigation Action 3.3C	Participate in the AED - Pulse Point program.
Mitigation Action 3.3D	Initiate annual mass inoculation (flu shot)/POD event similar to that put on by SLO County Public Health.
Mitigation Action 3.4A	Develop a capital improvement program and schedule to replace emergency response vehicles on a regular basis.
Mitigation Action 3.4B	Develop a Capital Improvement Program and schedule to replace high value ($10K+) emergency response equipment on a regular basis.
Goal 4	**Minimize the level of damage and losses to existing critical facilities and equipment due to flooding.**
Objective 4.1	Enhance the ability of the District's critical facilities and equipment to survive the impacts of a significant flooding event.
Mitigation Action 4.1	Retain the services of a civil engineer to study the drainage problems and the future flooding potential at the facilities located in the 2500 block of Main Street.
Goal 5	**Minimize the level of damage and losses to existing critical facilities and equipment due to wildland fires.**
Objective 5.1	Enhance the ability of the District's critical facilities and equipment to survive the impacts of a significant wildland fire.
Mitigation Action 5.1	Reduce the wildland fire fuel loading directly behind the Main Street ambulance headquarter station.
Goal 6	**Minimize the level of damage and losses to existing and critical facilities and equipment due to geological events (earthquakes, landslides, and mudslides).**
Objective 6.1	Enhance the ability of the District's critical infrastructure to survive the impacts of a significant geological event.
Mitigation Action 6.1	Perform a seismic safety study on the Headquarters Ambulance Station.

E. How Cambria Community Services District Mitigation Goals Address Existing and New Buildings and Infrastructure

MITIGATION GOALS	EXISTING BUILDINGS AND INFRASTUCTURE		
	Communication Facilities (Station and Office)	**Essential Service Facilities** (Ambulance Station)	**Public Structures** (District Office)
Goal 1-General Mitigation: Promote understanding of hazard mitigation	**X**	**X**	**X**
Goal 2-General Mitigation: Build local capacity and commitment.	**X**	**X**	**X**
Goal 3-General Mitigation: Reduce Vulnerability	**X**	**X**	**X**
Goal 4-Flood: Minimize damage due to flooding.		**X**	
Goal 5-Wildfire: Minimize the level of damage and losses due to wildfires.	**X**	**X**	
Goal 6-Earthquake: Minimize the level of damage and losses to due to geological events.	**X**	**X**	**X**

New Buildings and Infrastructure: The Healthcare District has no responsibility or authority in the planning or development of new buildings or infrastructure.

X. MITIGATION ACTION IMPLEMENTATION

A. DMA 2000 Requirements:

DMA Requirement §201.6(c)(4)(i):	The plan maintenance process shall include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.
DMA Requirement §201.6(c)(4)(ii):	The plan shall include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.
DMA Requirement §201.6(c)(3)(iii):	The mitigation strategy section shall include] an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.
DMA Requirement §201.6(c)(3)(iv)	For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.

B. Prioritization of Mitigation Actions

The Mitigation actions were prioritized using a system which is outlined below. This system factored in the following components: 1)Probability of Occurrence, 2) Effectiveness of Mitigation Actions, 3)Practicality of mitigation action for the jurisdiction based on the STAPLE+E criteria of Social, Technical, Administrative, Political, Legal, Economic and Environmental components. This gave rise to the development of an overall relative risk value that resulted in ratings of HIGH, MEDIUM and LOW for each of the mitigation actions. The resultant prioritization was presented to key stakeholders and lengthy discussions were held to ensure that the results were indeed applicable to the priorities and capabilities of the jurisdictions' served.

Sample Mitigation Action Prioritization Worksheet

Mitigation Action	Probability of Associated Threat Occurrence Low=1 Med.=2 High=3	Effectiveness of Mitigation Action Minimal=1 Moderate=2 High=3	Practicality (based on STAPLE+E criteria) Low=1 Medium=2 High=3	Relative Risk (Product of Risk Components)
1.A	3	2	3	18

In assessing and evaluating each strategy, the following factors were considered:

- The benefit justified the cost
- The availability of financial resources
- The availability of staff resources
- Impact on participating jurisdiction functions
- Strategies reflect the goals and objectives

C. Action Plan

Once the Multi-Jurisdictional Hazard Mitigation Plan has received formal adoption by the both the Cambria Community Services District Board of Directors, the Healthcare District Board of Directors, the State Hazard Mitigation Office and FEMA, the following action plan, agreed upon by the Hazard Mitigation Planning Group, will be utilized to ensure the Plan is implemented and remains an active and relevant document. Actual implementation may be dependent upon funding availability.

ACTION PLAN FOR 2017 MITIGATION ACTIONS FOR CAMBRIA COMMUNITY SERVICES DISTRICT

MITIGATION ACTION		**IMPLEMENTATION STRATEGY**			
ID	**DESCRIPTION**	**RESPONSIBLE DEPARTMENT**	**FUNDING SOURCES**	**COMPLE-TION DATE**	**PRIORITY**
1.1A	Educate public and Stakeholders about opportunities for mitigating hazards	Fire Department - Lead All Support	None Required	Ongoing	Medium
1.1B	Utilize Social Media to promote disaster preparedness developments	Fire Department - Lead All support	None Required	Ongoing	Low
2.A	Continuing Education Of Elected Officials	Fire Department - Lead All support	None Required	Ongoing	Medium
2.B	Continuing Education Of CCSD Staff	Administration- Lead All support	General Funds	Ongoing	Medium
2.C	Improve GIS Capabilities	Administration- Lead All support	General Funds	Ongoing	Medium
3.1A	Develop Continuity of Operations Plan	Fire Department - Lead All support	General Funds	Ongoing	**High**
3.1B	Update Emergency Operations Plans	Fire Department- Lead All support	None Required	01/01/18	Medium
3.1C	DOC Roles and Responsibility training - All Staff	Fire Department - Lead All support	None Required	Ongoing	**High**
3.1D	DOC Roles and Responsibility training - Fire Depart.	Fire Department	None Required	Ongoing	**High**
3.1E	SOP Development (Emergency Response)	All Departments Fire Department support	None Required	01/01/18	**High**

3.1F	Disaster Drills	All Departments	None Required	On Going - 1 Each Year	Medium
3.1G	DOC Improvements	Fire Department	General Funds	01/01/18	Medium
3.1H	Mutual/Auto Aid	Fire Department	None Required	01/01/18	Low
3.2A	Support CERT development	Fire Department Admin support	None Required	Ongoing	Medium
3.2B	CERT Fire Watch	Fire Department	None Required	07/01/17	**High**
3.2C	Adopt Family Support Plan	All Departments Fire Support	None Required	01/01/14	Medium
3.2D	Initiate Watershed Sanitary Survey	Wastewater	General Fund and Grants	07/01/17	Medium
3.2E	Water Storage	Water	General Fund and Grants	Ongoing	Medium
3.2F	Fire Flow Improvements “Purple Pipe”	Water and Fire Department	General Fund and Grants	Ongoing	Low
3.2G	Wastewater System Improvements	Wastewater	General Fund and Grants	Ongoing	Medium
3.3A	Master Plan - Communications System	Admin. - Fire Dept. Support	Grants and General Funds	09/01/17	Medium
3.3B	Radio System Improvements	Admin. - Fire Dept. Support	Grants and General Funds	07/01/18	Medium
3.4	ARES/RACES Communication Systems	Fire Department	Grants and General Funds	07/01/18	Medium
3.5A	Fire Department Staffing	Fire Department Admin support	Grants and General Funds	07/01/17	**High**
3.5B	Fire Department Training	Fire Department	None Required	07/01/17	**High**
4.1A	NFIP Compliance	SLO County	None Required	Ongoing	Low

4.1B	Development in Flood Plain	SLO County	None Required	Ongoing	Low
4.1C	Flood Improvements	Administration - All support	Grants and General Funds	Ongoing	**High**
4.ID	West Village Drainage Improvement	SLO County	Grants and General Funds	10/01/17	**High**
4.1E	Automate West Village Flood Pump	SLO County	Grants and General Funds	10/01/17	**High**
4.1F	Improve Storm Drain at Shell Station	SLO County	Grants and General Funds	10/01/17	**High**
4.1G	Water Rescue Training	Fire Department	Grants and General Funds	Ongoing	Medium
4.1H	Water Rescue Equipment	Fire Department	Grants and General Funds	10/01/17	Medium
4.1I	Water Rescue Boat	Fire Department	Grants and General Funds	10/01/17	Medium
5.1A	Code Enforcement	Fire Department	None Required	On Going	**High**
5.1B	GIS - Fire/Fuels Management	Fire Department SLO County Fire support	None Required	On Going	**High**
5.1C	Prescribed Fire	Fire Department	None Required	On Going	**High**
5.1D	Fuel Reduction Efforts	Fire Department	None Required	On Going	**High**
5.2A	Fire Water Portable Tank	Fire Department	Fire Safe Grant	7/01/17	**High**
5.2B	Type 1 Water Tender	Fire Department	Grant	7/01/18	**High**
5.2C	Type 6 Fire Truck	Fire Department	Grant	7/01/18	**High**

5.2D	Improve Fire Flow	Fire Department	Grant and General Funds	On Going	**High**
5.2E	Protect Water Tanks Covell - Fiscalini	Fire Department	Fire Safe Grant	7/01/17	**High**
5.3A	Forest Management Plan	Administration	Grant and General Fund	6/01/17	**High**
5.3B	Weed Abatement	Fire Department	Grant and General Fund	05/01/18	Medium
6.1A	Seismic Safety Studies	Administration/ Fire Department	Grants and General Funds	09/01/17	**High**
6.1B	Increase Public Awareness	Fire Department All Support	None Required	Ongoing	Medium
6.2	Vulnerable Asset Protection	Wastewater and Water	General Fund	Ongoing	Medium
6.3A	Heavy Rescue Training	Fire Department	Grant	On Going	Medium
6.3B	Heavy Rescue Equipment	Fire Department	Grant	01/01/19	Medium
6.3C	CSTI - Earthquake Management Course	Wastewater, Water and Administration	CSTI Grant	On Going, 2 each year	Medium
6.3D	Highway 1 Lifeline	Fire Department, SLO County OES, CCHD	None Required	08/01/17	Medium
7.1A	Haz Mat Public Awareness	Fire Department SLO County OES	None Required	On Going	Medium
7.1B	Haz Mat-CCSD Staff Awareness	Fire Department SLO County OES	None Required	On Going	Medium
7.2	Haz Mat Training	Fire Department	CSTI Grant	On Going - 2 Each Year	**High**
8.1A	Tsunami Warning - Evacuation Signs	Fire Department SLO County OES	Grant	01/01/19	Medium
8.1B	Public Awareness - Tsunami Threat	Fire Department and Tourism Board	None Required	On Going	Medium

ACTION PLAN FOR 2017 MITIGATION ACTIONS FOR CAMBRIA COMMUNITY HEALTHCARE DISTRICT

MITIGATION ACTION		IMPLEMENTATION STRATEGY			
ID	**DESCRIPTION**	**RESPONSIBLE DEPARTMENT**	**FUNDING SOURCES**	**COMPLE-TION DATE**	**PRIORITY**
1.A	Educate public and Stakeholders about opportunities for mitigating Public Health hazards	Healthcare District BOT and Administration	None Required	Ongoing	Medium
1.B	Utilize Social Media to promote Public Health	Administration	None Required	Ongoing	Low
2.1A	Update Emergency Operations Plans	Administration	None Required	01/01/18	Medium
2.1B	DOC Roles and Responsibility training	Healthcare District BOT and Administration	None Required	Ongoing	**High**
2.1C	ICS Training	EMS Staff	None Required	Ongoing	**High**
2.1D	Disaster Drills	All	None Required	Ongoing	Medium
2.1E	Auto/Mutual Aid	Administration	None Required	9/1/17	Low
2.2	Adopt Family Support Plan	Administration	None Required	06/01/18	Low
2.3A	Master Plan - Communications System	Administration	Grants and General Funds	09/01/18	Medium
2.3B	Radio System Improvements	Administration	Grants and General Funds	01/01/19	Medium

3.1A	Station Location Study	Administration	None Required/ General Fund	01/01/18	**High**
3.2A	Promote CERT Program	Administration	None Required	Ongoing	Medium
3.2B	Support CERT Program	EMS Staff	None Required	Ongoing	Medium
3.3A	Vial of Life	Administration and EMS Staff	General Funds	Ongoing	Medium
3.3B	CPR/AED/ First Aid	Administration and EMS Staff	None Required	Ongoing	Medium
3.3C	Pulse Point Program.	Administration and EMS Staff	None Required	01/01/20	Medium
3.3D	POD/Mass Inoculation	Administration and EMS Staff	None Required	09/01/17	Medium
3.4A	Ambulance Capital Improvement Plan	Administration	Grants/ General Funds	10/01/17	**High**
3.4 B	Emergency Equipment Improvement Plan	Administration	Grants/ General Funds	10/01/17	**High**
4.1	Drainage Study	Administration	General Funds	10/01/17	**High**
5.1	Wildfire Fuel Reduction	Administration	Grants and General Funds	07/01/17	**High**
6.1	Seismic Safety Study	Administration	General Fund	09/01/17	**High**

D. Implementation Through Existing Plans and Programs

San Luis Obispo County currently uses comprehensive land use planning, and building codes to guide and control development within the Cambria Community Services District. This Hazard Mitigation Plan will be made available to those responsible for the County's General Plan development mechanisms to ensure that consistency is maintained. The same holds true whenever substantive changes are made.

Both Districts have a number of policies and procedures, purchasing guidelines, and capital improvement procedures currently in place. The Mitigation Actions outlined in this Plan will be incorporated into those documents under the direction of each CCSD General Manager and the CCHD Administrator.

Mitigation Actions have been assigned to a number of specific individuals, departments and County jurisdictions. These individual actions will fall under the general administrative oversight of the governing body. Should technical expertise not be available to these individuals or departments, the County Office of Emergency Services is committed to, when possible, coordinating the resources of the County to assist with implementation of the mitigation actions.

The general administrative oversight of this Hazard Mitigation Plan rests with the Cambria Community Services District General Manager and the Cambria Community Healthcare District Administrator.

E. Continued Public Involvement

Both the Cambria Community Services District and the Cambria Community Healthcare District understand the importance of involving the public in the ongoing Hazard Mitigation Plan review and updating process. Resultantly, the following actions have been taken:

- The CCSD and CCHD websites have been posting the plan and updating the postings on their respective websites. Their websites announced to the public that the Plan was available for general public viewing and comment.

- A hard copy is available at the CCSD and CCHD offices for public viewing as requested.

F. Plan Monitoring, Evaluating and Updating

DMA Requirement §201.6(d)(3):	A local jurisdiction must review and revise its plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit if for approval within 5 years in order to continue to be eligible for mitigation project grant funding.

In order to continue to be an effective representation of Cambria Community Services District's and Cambria Community Healthcare District's overall strategy for reducing its risks from natural hazards, the mitigation plan must reflect current conditions. Monitoring and evaluating the plan will occur annually to make certain that the goals and objectives for the community and participating jurisdictions are current and mitigation activities are being carried out.

To ensure that regular review and update of this Hazard Mitigation Plan takes place, the Cambria Community Services District and the Cambria Healthcare District will communicate with Hazard Mitigation Planning Group members annually to see if their plan components are up-to-date and meet current realities.

The MJHMP Planning Group will review each goal and objective to evaluate its:

- Relevance to current and evolving situations within each District
- Consistency with changes in local, state and federal policy

The planning group will review the risk assessment component of the plan to ascertain if the information needs to be updated or modified. They will report on the:

- Current status of their mitigation actions
- How coordination efforts are proceeding
- Implementation processes that worked well
- Any difficulties encountered
- Any strategies in need of revision

If the plan review leads the Hazard Mitigation Planning Group to determine that modifications are necessary, then the CCSD or the CCHD can initiate a plan amendment.

XI. ATTACHMENTS

ATTACHMENT A: ACRONYMS

Acronym	Definition
CGS	California Geological Survey
Cal EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CAL FIRE	California Department of Forestry and Fire Protection
CCHD	Cambria Community Healthcare District
CCSD	Cambria Community Services District
CDF	California Department of Forestry and Fire Protection
CDHS	California Department of Health Services
CERT	Community Emergency Response Team
CFR	Code of Federal Regulations
CGS	California Geological Survey
CISN	California Integrated Seismic Network
CSSC	California Seismic Safety Commission
DFG	State Department of Fish and Game
DHS	Department of Homeland Security
DWR	Department of Water Resources
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FMA	Flood Mitigation Assistance
FMP	Floodplain Management Plan
FRAP	Fire and Resource Assessment Program
GIS	Geographic Information System
HMGP	Hazard Mitigation Grant Program
LHMP	Local Hazard Mitigation Plan
NFIP	National Flood Insurance Program
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Services
OES	Governor’s Office of Emergency Services
SEMS	Standardized Emergency Management System
SFHA	Special Flood Hazard Area
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
WWTP	Wastewater Treatment Plant

ATTACHMENT B: PRELIMINARY NOTICE TO NEIGHBORING JURISDICTIONS

November 1, 2016

Dear Neighboring Jurisdiction:

The Cambria Community Service District will be constructing a Local Hazard Mitigation Plan in order to uncover effective ways to reduce the jurisdiction's vulnerability to naturally occurring hazards. A Hazard Mitigation Planning Group has been formed comprised of community stakeholders. We will be holding a kick-off meeting on Monday, November 14th at the Cambria Fire Station at 2850 Burton Drive in Cambria. We invite you to attend this meeting and participate in this process.

For more information and comments please contact the District's consultant for the project, Bob Neumann at 805-441-5469 or via email at bob@cafive.com.

Thank You,

Robert F Neumann and Sheri Eibschutz

Category Five Professional Consultants, Inc.

Both the preliminary notice in Attachment B above and the Public Forum notices in Attachment C below were sent to the following neighboring agencies:

Ms. Renee Osborne
Administrator, San Simeon CSD
111 Pico Avenue
San Simeon, CA 93452

Ms. Mary Levkoff
Director, Hearst Castle Museum
750 Hearst Castle Road
San Simeon, CA 93452-9741

Mr. Robert Baird
Forest Supervisor - Los Padres National Forest
6750 Navigator Way, Suite 150
Goleta, CA 93117

Mr. Ron Alsop - Emergency Services Manager
SLO County Office of Emergency Services
1055 Monterey St. Suite D430
San Luis Obispo CA 93408

ATTACHMENT C: PUBLIC FORUM NOTICES TO NEIGHBORING JURISDICTIONS

First Public Forum Notice to Neighboring Jurisdictions

February 20, 2017

Dear San Simeon Community Services District:

The Cambria Community Service District has joined a nationwide effort to find effective ways to reduce its vulnerability to naturally occurring hazards. In doing so, the District has just completed a Local Hazard Mitigation Plan. An Administrative Draft is now posted on the District's website for review by the general public and neighboring agencies. This can be found at www.cambriacsd.org.

On March 2 at 4 PM, a Public Forum will be held at the Cambria Veterans Hall at 1000 Main Street. At the forum, an overview of the Hazard Mitigation Plan will be presented along with the proposed mitigation goals, objectives and actions that are outlined in the plan. The public will have an opportunity to comment on the proposed plan. As a neighboring agency, we also invite your review and comments on this important emergency planning tool for the District.

For more information and comments please contact the District's consultant for the project, Bob Neumann at 805-441-5469 or via email at bob@cafive.com.

Thank You,

Robert F. Neumann

Category Five Professional Consultants, Inc.

Second Public Forum Notice to Neighboring Jurisdictions

May 18, 2017

Dear San Simeon Community Services District:

The Cambria Community Services District and the Cambria Community Healthcare District has joined a nationwide effort to find effective ways to reduce its vulnerability to naturally occurring hazards. In doing so, the District has just completed a Local Hazard Mitigation Plan. An Administrative Draft is now posted on both Districts websites for review by the general public and neighboring agencies.

On May 30th at 4 PM, a second Public Forum will be held at the Cambria Veterans Hall at 1000 Main Street. At the forum, an overview of the Hazard Mitigation Plan will be presented along with the proposed mitigation goals, objectives and actions that are outlined in the plan. The public will have an opportunity to comment on the proposed plan. As a neighboring agency, we also invite your review and comments on this important emergency planning tool for the District.

For more information and comments please contact the District's consultant for the project, Bob Neumann at 805-441-5469 or via email at bob@cafive.com.

Thank You,

Robert F. Neumann

Category Five Professional Consultants, Inc.

ATTACHMENT D: PRESS RELEASES TO GENERAL PUBLIC

The following notices were published in the Cambrian newspaper on February 22, March 1, and on May 18, 2017.

THE CAMBRIAN

FEBRUARY 22, 2017 8:48 AM

Cambria forum on Local Hazard Mitigation Plan set for March 2

BY KATHE TANNER

ktanner@thetribunenews.com

Cambrians can learn more Thursday, March 2, about their community's hazards and what officials and individuals should be doing now to help mitigate or eliminate disasters later.

Consultants for the Cambria Community Services District will hold a public forum at 4 p.m. March 2 at the Veterans Memorial Building, 1000 Main St., on the district's draft Local Hazard Mitigation Plan.

The plan's goal is to reduce the community's risk to naturally occurring disasters. The forum's goal is to explain the document and get the public's thoughts and questions about it. People will be able to comment on the report through March 22.

Once the plan is complete and approved by a variety of agencies, the plan will enable the services district to apply for and potentially receive federal mitigation funds after such disasters, or in some cases, before the disasters strike.

The detailed report of more than 120 pages was prepared by Category Five Professional Consultants. They described the community, profiled hazards, assessed vulnerabilities and mitigation strategies, listed which agencies have jurisdiction over what, and described how mitigations could be implemented ahead of time.

In the end, they acknowledge, how much gets done when is up to how much money is available and the political will of the people.

A draft copy of the plan is to be posted soon at www.cambriacsd.org. For questions and or comments call fire Chief William Hollingsworth at 805-927-6240, or email the consultants at: bob@cafive.com.

MARCH 1, 2017 10:19 AM

Local Hazard Mitigation Plan meeting slated

BY KATHE TANNER
ktanner@thetribunenews.com

Consultants will present at 4 p.m. Thursday, March 2, the draft version of a plan to help mitigate or eliminate natural disasters in the future. The meeting will be at the Veterans Memorial Building, 1000 Main St.

Some federal funds are only available to communities that have an approved plan for mitigating hazards. Bob Neumann and Sheri Eibschutz of Category Five Professional Consultants prepared the Cambria Community Services District's draft Local Hazard Mitigation Plan. They'll explain the concepts in the document and then take public comments.

They're to fold those observations into the plan before presenting the final version to the district board.

Once the plan is complete and approved by a variety of agencies, the document will enable the services district to apply for and potentially receive federal mitigation funds after disasters. In some cases, the district may be able to apply for funds to mitigate the problem areas before a disaster strikes.

A draft copy of the plan can be found at www.cambriacsd.org. For questions and or comments, call fire Chief William Hollingsworth at 805-927-6240 or email the consultants at bob@cafive.com.

THE CAMBRIAN
MAY 16, 2017 11:05 AM

Cambria's joint hazard plan to be explained in public forum

BY KATHE TANNER
ktanner@thetribunenews.com

A public forum at 4 p.m. Tuesday, May 30, will explain how consultants melded Cambria Community Healthcare District issues and concerns into a draft hazard mitigation plan for the town.

Developing the plan was originally authorized by the Cambria Community Services District.

Once the revised plan is completed and approved by state and federal emergency agencies, the document will enable both special districts to receive federal funding after naturally occurring disasters and also permit them to apply for mitigation grants before disasters strike. According to consultants from Category Five, a community cannot qualify for those funds without a local hazard mitigation plan,

Category Five developed the original plan and, after the public and CCHD asked that the health care district be included, the consultants have added the health care district's information.

The public forum at the Veterans Memorial Building, 1000 Main St., is being held because, according to the consultants and participants in the Cambria FireSafe Focus Group, local residents, businesses, the nonprofit sector, and local government agencies must be involved in the planning and implementation of the plan if it is to be successful.

For details, call CCSD Fire Chief William Hollingsworth at 805-927-6240 or CCHD General Manager Robert Sayers at 805-927-8304.

Staff Written Responses to Public Comment Provided for the 2020 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP)

Topic 1: Water Demand and Population Projections

The demand projection data set is the result of a very granular level of analysis and not simple calculations such as the number of connections times the average household size. The latter would result in overestimating demand by a significant margin. For example, consider that the CCSD currently has 3,783 residential connections. If we assumed a population based on average household size alone, the result would be 8,246 people (3,783 x 2.18). This ignores other data available to us, such as zero reads in utility billing and vacancy rates provided by both the 2010 U.S census and the 2019 five-year American Communities Surveys. In addition, the model tries to stay within certain parameters, such as reserving 20% of capacity for commercial and visitor serving purposes per the CCSD's Coastal Development Permit issued for the wastewater treatment plant in 1977. Demographic data trends suggests that part-time occupancy and vacation rental use will continue to rise in Cambria. CCSD billing account data reinforces this assumption, with the majority of new accounts consisting of 2 permanent residents or less. As a result, the model assumed a one percent increase in single-family residential population year over year through 2043 when new connections would cease due to the current buildout goal of 4,650 residential accounts. Though this updated demand projection is based on data driven model analysis and revised assumptions, staff will continue to monitor and calibrate the model as needed.

Topic 2: Water Savings Estimates (Seasonal Concerns)

Water savings using the Passive Savings Methodology are calculated based on the average number of bathrooms and water fixtures per residence. End use of water inside the home does not fluctuate based on season the way outdoor end use does. The number of times the average person flushes a toilet remains the same throughout the year regardless of seasonal weather patterns.

Topic 3: Water Supply Estimates and WRF Contributions

The Water Reclamation Facility (WRF) provides two benefits related to supply augmentation: an increase in available water supply due to direct injection **plus** the prolonged ability to pump from the San Simeon Well Field due to the mound created by the injection well and the slowing of outflow to the ocean. As stated in the UWMP, all reinjected water from the WRF is put to beneficial use as gradient control regardless of the volume extracted as drinking water.

While maintaining a water balance in the San Simeon aquifer is important, operation of the WRF provides greater flexibility for CCSD's water operations due to the protective gradient and lagoon discharge features. The proposed Instream Flow Study will better inform the CCSD's Adaptive Management Plan, which is used to ensure project impacts are avoided or properly mitigated. The CCSD monitors the creek lagoon and would modify operations to prevent an inflow of saltwater toward the percolation ponds and freshwater aquifer. During extreme droughts, the CCSD may contact the riparian landowners along San Simeon Creek Road to request pro rata reductions in water use. The protections afforded by operating the WRF are beneficial to all who rely on San Simeon Creek underflow.

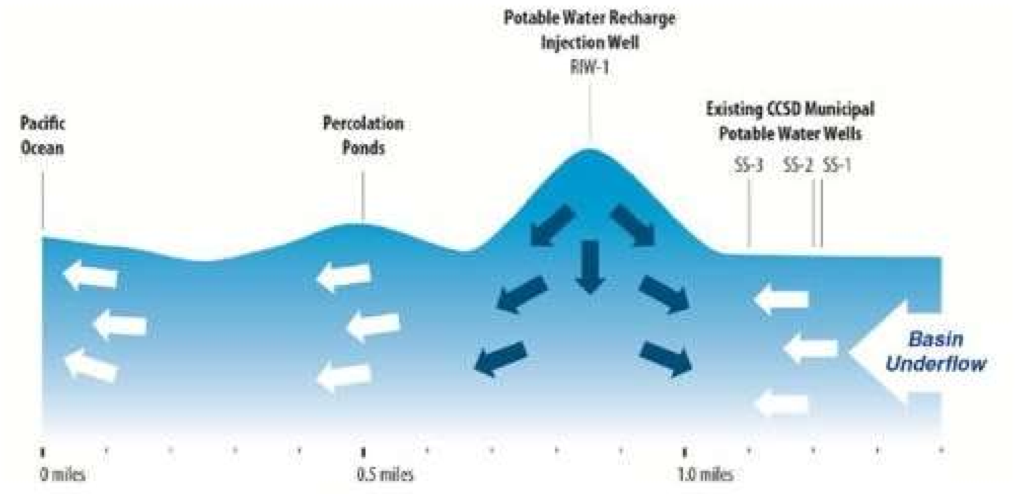


Figure 1 - WRF gradient control benefits

Topic 4: Water Supply Estimates Using Annual Average

The 725 acre-feet per year supply for normal years is based on historic production totals. Shortage analyses are based on the single dry year (section 7.1.3.2) and historic 5 consecutive dry years (section 7.1.3.3). Dry season supply is factored into the annual totals after considering physical constraints of the aquifers and permitting constraints associated with CCSD water licenses.

Topic 5: Shortage Indicator for Remaining Aquifer Capacity

Past groundwater models provide a framework in which to predict remaining aquifer volumes. These are still utilized for informational purposes but have varied in accuracy and will not trump well level and gradient indicators.

Benefits and Limitations of Water Resource Planning

Staff would, again, like to stress that the UWMP and WSCP are both planning documents and do not determine policy or operating protocol for the CCSD. CCSD staff will continue to monitor operations in both aquifers to ensure efficiency of use and stewardship of the delicate coastal ecosystem in which we live and work. The UWMP and WSCPs are living documents and can be amended as better information becomes available or priorities shift. Staff would like to thank all who have taken the time to review, digest, interpret, and critique these plans.

CAMBRIA COMMUNITY SERVICES DISTRICT

TO: Board of Directors AGENDA NO. **7.A.**

FROM: John F. Weigold IV, General Manager
Pamela Duffield, Finance Manager

Meeting Date: June 17, 2021 Subject: Discussion and Consideration of Adoption of Resolution 21-2021 Approving the CCSD Preliminary Budget for Fiscal year 2021-2022 and Adoption of Resolution 22-2021 Establishing the Fiscal Year 2021-2022 Appropriations Limit

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RECOMMENDATIONS:

Staff recommends the Board discuss and consider adoption of Resolution 21-2021 approving the CCSD Preliminary Budget for FY 2021-2022, adoption of Resolution 22-2021 establishing the FY 2021-2022 appropriations limit and provide direction to staff, as deemed appropriate.

FISCAL IMPACT:

The FY 2021-2022 Preliminary Budget would authorize total Revenue Projections, Expenditure Authorities, and changes to the General Fund, Water, SWF and Wastewater Fund balances as shown below:

The overall fiscal impact to the General Fund is a deficit of $169,234 and is calculated as follows:

Fire	($167,118)
Facilities & Resources	($146,027)
Administration	$143,911
PROS	$0
Total	($169,234)

The overall fiscal impact to the Enterprise Funds is a deficit of $293,777 and is calculated as follows:

Water	$ 3,559
WRF	$289,978
WRF-Capital	($200,000)
Wastewater	($387,314)
Total	($293,777)

The specific detail for each fund's deficit is discussed in detail in Attachment A and will be discussed by staff during the Preliminary Budget presentation.

DISCUSSION:

Adoption of a budget is one of the most important actions taken by the Board of Directors. It establishes the District's direction for the near term, and to some extent these decisions also have long term implications. The budget is the District's financial work plan, translated in expenditures, supported by revenues. The budget establishes the priorities of the District for the fiscal year.

FY 2021-2022 Preliminary Budget

The Preliminary Budget includes several components:

- Narrative – The narrative is an in-depth review of each departmental budget within the associated fund. Revenue sources and expenditure requests are discussed, along with significant budget items, trade-offs and goals/objectives/plans.
- Preliminary Budget – The preliminary budget includes department and fund level summaries and detailed line items for all revenues and expenses.
- Administrative Overhead Allocation - The administrative overhead allocation assumes recovery of 100% of administrative costs. The different types of expenses are recovered at different percentages to each department and associated fund.
- Salary Schedule – The salary schedule is inclusive of all current CCSD staff, includes one staffing change request; Facilities & Resources Supervisor reclassified to Facilities & Resources Manager. In addition to the salary schedule, a position allocation list (PAL) is being provided which details the change in staffing from FY 2020-2021 to FY 2021-2022.
- Organizational Chart – The organizational charts represent the current and proposed reporting structures of CCSD which are funded in the preliminary budget. Existing staff positions, vacant positions, as well as the one staff reclassification request is included in this illustration.
- Capital Improvement Projects (CIP) – Water, WRF and Wastewater CIP priority listings are included.
- Unfunded Budget Requests – The Board is being provided a list of each department's budget request, plus the amount that was funded or not funded. It is important for department managers to continue to request items needed to continue providing service to residents and also important for the Board and the community to be aware of funding shortfalls and the associated impacts of these unfunded requests.

During the past fiscal year, staff has continued to review and discuss the CIP priority listings with the Resource & Infrastructure Committee and reviewed the current fiscal year budget and the request for budget adjustments with the Finance Committee. The Finance Committee reviewed the FY 2021-2022 Preliminary Budget on May 25, 2021 and recommended approval with a 4-0 vote, along with revisions to the debt service and capital outlay line items, specifically related to the PGE SST project in the Wastewater Fund budget. Staff and the Finance Committee recommend approval of the FY 2021-2022 Preliminary Budget and Resolution 21-2021.

Establishing the FY 2021-2022 Appropriations Limit –

Annually, the CCSD is required to calculate the expenditure appropriations limit from tax proceeds to determine compliance with Propositions 4 (Gann Initiative) and 111 (Spending Limitation Act of 1990). This calculation is based on the previous year's appropriations limit multiplied by the per capita personal income percentage change and multiplied again by the population percentage change. The State Department of Finance provides both the population change and the per capita personal income change for the previous fiscal year.

The CCSD is responsible for dividing revenues between tax and non-tax and applying the formula to the cumulative appropriations limit. For Fiscal Year 2021-2022, the appropriations limit has been calculated to be $3,266,304.

This calculation means that the CCSD cannot receive more than $3,266,304 in tax-based revenues in Fiscal Year 2021-2022. The estimated tax-based revenues for Fiscal Year 2021-2022 have been calculated to be $2,685,050, approximately $581,254 less than the appropriations limit. Therefore, the CCSD is in compliance with Article XIIIB of the California Constitution and staff recommends approval of Resolution 22-2021.

Attachments: Resolution 21-2021
Resolution 22-2021 and Exhibit A
Attachment 1 – CCSD Preliminary Budget FY 2021/2022

RESOLUTION 21-2021
JUNE 17, 2021

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE CAMBRIA COMMUNITY SERVICES DISTRICT APPROVING THE PRELIMINARY CCSD BUDGET FOR FISCAL YEAR 2021/2022

WHEREAS, the General Manager has submitted for consideration the Preliminary Cambria Community Services District (CCSD) Fiscal Year (FY) 2021/2022 Budget; and

WHEREAS, the draft Preliminary CCSD FY 2021/2022 Budget was introduced during a public hearing on June 17, 2021, and all persons were given an opportunity to be heard and their suggestions carefully considered; and

WHEREAS, a public hearing on August 19, 2021, on the Final CCSD FY 2021/2022 Budget is duly scheduled, will be advertised, and held, and all persons will be given an opportunity to be heard and their suggestions carefully considered.

NOW THEREFORE, BE IT RESOLVED that the Board of Directors has reviewed the Preliminary CCSD FY 2021/2022 Budget (Budget) for the period from July 1, 2021 through June 30, 2022, and hereby finds that the Budget is a sound plan for financing and expenditure control of required CCSD operations and services, and said Budget is hereby approved.

BE IT FURTHER RESOLVED that the Board of Directors is aware of the potential that events beyond control of the CCSD could substantially reduce CCSD revenues and/or increase expenditures. Therefore, the General Manager may temporarily suspend the expenditure of funds within the adopted Budget if in his judgment such temporary suspension is necessary to protect the CCSD’s financial position and the impact of such a temporary suspension on CCSD operations will not be substantially detrimental to CCSD services. The General Manager is directed to administer the business operations of the CCSD as called for in the Operating Budget for FY 2021/2022 and as modified by any such temporary expenditure suspension. The General Manager is further directed to report back to the CCSD Board of Directors, as necessary, with recommendations for revision of the Budget when, and if, Budget impacts are known, and specific CCSD program or service level adjustments can be formulated.

BE IT FURTHER RESOLVED that the CCSD Board of Directors hereby directs the General Manager to levy and collect special assessments and other fees as duly approved by the Board and to administer and expend the tax proceeds in accordance with the enabling legislation.

On the motion of Director ___________________________, seconded by Director

_____________________________, and the following roll call vote, to wit:

AYES:
NAYS:
ABSENT:

PASSED AND ADOPTED this 17th day of June, 2021.

____
Cindy Steidel, President
Board of Directors

ATTEST:

____
Ossana Terterian, Board Secretary

APPROVED AS TO FORM:

____
Timothy J. Carmel, District Counsel

RESOLUTION 22-2021

June 17, 2021

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE CAMBRIA COMMUNITY SERVICES DISTRICT ADOPTING A TAX PROCEEDS EXPENDITURE APPROPRIATIONS LIMIT FOR FISCAL YEAR 2021/2022

WHEREAS, Government Code Sections 7900 et seq. provide for the effective and efficient implementation of Article XIIIB of the California Constitution; and

WHEREAS, Government Code Sections 7900 et seq. provide that each year, the governing body of each local agency shall, by resolution, establish the tax proceeds expenditure appropriations limit.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Cambria Community Services District as follows:

The appropriations limit for Fiscal Year 2021/2022 is hereby established at Three Million Two Hundred Sixty-Six Thousand Three Hundred Four Dollars ($3,266,304).

Documentation used in the determination of the tax proceeds expenditure appropriations limit is attached hereto as Exhibit “A,” and incorporated herein by this reference.

This Resolution is effective upon adoption.

PASSED AND ADOPTED THIS 17th day of June, 2021.

AYES:

NAYS:

ABSENT:

____
Cindy Steidel, President
Board of Directors

ATTEST:

____
Ossana Terterian, Board Secretary

APPROVED AS TO FORM:

____
Timothy J. Carmel, District Counsel

Exhibit A to Resolution 22-2021

CAMBRIA COMMUNITY SERVICES DISTRICT
2021-2022 APPROPRIATIONS LIMIT
AND BUDGETED APPROPRIATIONS SUBJECT TO LIMIT

2020-2021 APPROPRIATIONS COMPARISON

Limit for 2020-2021	$ 3,206,651
Budgeted Appropriations Subject to Limitation	2,603,049
Amount Under Limit	$ 603,602

2021-2022 APPROPRIATIONS LIMIT CALCULATION

Consumer Price Index & Population Ratio (Unincorporated SLO County):		
Per Capita Cost of Living Increase:	5.730%	
Converted to Ratio		1.0573
Population Increase:	-3.660%	
Converted to Ratio		0.9634
Calculation of Factor		1.0186
2021-2022 Limit: 1.0186 X $3,206,651=	$ 3,266,304	

2021-2022 BUDGETED APPROPRIATIONS SUBJECT TO LIMITATION

Secured and Unsecured Taxes	$ 2,670,807
Special District Augmentation Fund	0
Home Owner Property Tax Relief	14,243
Total	$ 2,685,050

2021-2022 APPROPRIATIONS COMPARISON

Limit for FY 2021-2022	$ 3,266,304
Budgeted Appropriations Subject to Limitation	2,685,050
Amount Under Limit	$ 581,254

CAMBRIA COMMUNITY SERVICES DISTRICT
PRELIMINARY BUDGET
FISCAL YEAR 2021-2022

TABLE OF CONTENTS

Miscellaneous Attachments

Summary

The Cambria Community Services District (CCSD) preliminary budget for fiscal year (FY) 2021-2022 has been prepared reflecting several actions that have been approved by the Board of Directors during the current fiscal year. Those actions include review & updating of the budget policies, strategic planning goals for calendar year 2021, and guidance from standing committees covering numerous details associated with the CCSD's finances, operations and capital projects and policies.

Overall, the District's financial condition is improving as a result of the enterprise fund rate increases approved on October 4, 2018, as well as from the District's efforts in fiscal conservation and through the creation of operational efficiencies leveraging technology and updated policies and procedures. The revenue increases provide the District with the ability to cover the cost of providing water and wastewater services and to begin implementation of multi-year capital improvement projects. On May 23, 2019, the Board of Directors approved the second phase of rate increases, effective July 1, 2019. On May 21, 2020, the Board of Directors approved the third and final phase of the rate increases, opting to delay the July 1, 2020 increase until September 1, 2020, due to the economic environment related to the COVID-19 pandemic. These rate increases which were prescribed in Resolution 27-2018 adopted on October 4, 2018 but were not automatic. Additional details associated with enterprise fund activities, including recommendations of the CCSD standing committees guiding the preparation of the preliminary budget are provided in subsequent sections of this report.

While the preliminary budget includes revenues and expenditure plans for FY 2021-2022, it does not include reserves since those are incorporated at the time that the Final Budget is considered by the Board. The prescribed timing of the final budget, which is established by Government Code Section 61110, provides staff the opportunity to perform year-end accounting closure procedures for the CCSD balance sheet in determining the current year's ending reserve balances which are also the beginning reserve balances for FY 2021-2022. Since the District is currently working on the FY 2019-2020 audit, the reserve balances incorporated into the FY 2021-2022 will be staffs' best unaudited estimates for the final budget. Interfund loans are likely the most significant issues that may affect balance sheets and reserves. Based on existing Board direction, staff will continue discussions related to interfund loans with both the Finance Standing Committee and the Board. Future Board discussions will be required in the determination on use of the WRF litigation proceeds.

Service levels in the CCSD General Fund budgets, including Fire, Facilities and Resources, and Parks, Recreation and Open Space are generally consistent with the current fiscal year. Since the General Fund budgets are predominantly funded through taxes and assessments, which are increasing parallel to the rate of inflation, several unfunded items continue to exist. Additional details on General Fund budgets and unfunded items are provided in subsequent sections of this report. Options to increase revenues to address unfunded items are relatively limited but will be explored as part of the Board Adopted Strategic Plan.

The following links to the CCSD website can be used for additional information on recent Board and standing committee actions guiding the preparation of the preliminary budget:

Budget Policies updated May 13, 2021:

https://www.cambriacsd.org/district-policies

Strategic Plan & Board goals for 2021-2024 adopted February 11, 2021:

https://www.cambriacsd.org/strategic-plan

May 21, 2020 approval of water, sustainable water facilities and wastewater rates effective September 1, 2020:

https://www.cambriacsd.org/2020-05-21-board-meeting

Combined Preliminary Budget

The following table illustrates the combined CCSD budgets.

Cambria CSD - Combined Preliminary Budget Fiscal Year 2021-2022	General Fund Budgets	Enterprise Fund Budgets	Budget Subtotals	Eliminating Adjustments	Combined Budgets
Revenues					
Property Taxes	$ 2,639,585	$ 25,000	$ 2,664,585	$ -	$ 2,664,585
Fire Assessments	497,900		497,900		497,900
Franchise Fees	118,000		118,000		118,000
Administrative Cost Reimbursements	2,252,394		2,252,394	(2,252,394)	-
Water Rates		3,177,000	3,177,000		3,177,000
Sustainable Water Facility Rates		1,321,000	1,321,000		1,321,000
Wastewater Rates		$3,171,000	3,171,000		3,171,000
Grants	70,000		70,000		70,000
Interest Income	6,000		6,000	(3,990)	2,010
Other Revenues	130,616	634,845	765,461	-	765,461
Total Revenues	$ 5,714,495	$ 8,328,845	$ 14,043,340	$ (2,256,384)	$ 11,786,956
Expenditures					
Personnel Services	$ 3,369,103	$ 2,346,528	$ 5,715,631		$ 5,715,631
Services and Supplies	$1,602,506	$2,031,824	3,634,330		3,634,330
Capital Outlay	$177,000	$1,554,668	1,731,668		1,731,668
Debt Service	$137,452	$1,034,876	1,172,328	(3,990)	1,168,338
Administrative Cost Allocation	$597,668	$1,654,726	2,252,394	(2,252,394)	-
Total Expenditures	$ 5,883,729	$ 8,622,622	$ 14,506,351	$ (2,256,384)	$ 12,249,967
Net Sources Over / (Under) Uses	$ (169,234)	$ (293,777)	$ (463,011)	$ -	$ (463,011)

Total General Fund revenues are estimated to increase $169,985 (3%) from $5,547,510 estimated for FY 2020-2021 to $5,714,495 in FY 2021-2022. After adjusting for an increase in Administrative Costs reimbursement of $38,951 incurred by the General Fund and charged to the operational budgets, the net revenue increase for the General Fund is estimated to be $128,034. Property taxes are projected to increase $82,000 (3.2%) from $2,603,050 in FY 2020-2021 to $2,685,050 in FY 2021-2022, based on estimates received from the County of San Luis Obispo Treasurer Tax Collector. The combined preliminary budget illustration above includes an offset for property taxes collection charges. The remaining changes relate to loan proceeds for equipment, reimbursements for two fire department grants, and other revenues.

Total General Fund expenditures are estimated to increase $179,523 (3.1%) from $5,704,206 estimated for FY 2020-2021 to $5,883,729 in FY 2021-2022. Overall, the General Fund budgets are anticipated to incur a deficit of $57,755 in FY 2020-2021, and a deficit of $70,481 in FY 2021-2022, which essentially provides for a balanced budget in the proposed budget. Achieving a balanced budget relies on 100% cost recovery for the Administrative Fund. These administrative cost allocations, and other interfund transfers, are eliminated in the CCSD combined budget to determine net revenues and net expenditures after interfund activities.

The Enterprise Fund revenues are estimated to increase $114,802 (1.4%) from $8,213,846 in FY 2020-2021 to $8,328,648 in FY 2021-2022. Enterprise Fund expenditures are estimated to increase $834,118 (10.7%). The increase in expenditures is largely due to deferred maintenance and capital projects in FY 2020-2021. An overall deficit of $293,777 will be funded from reserves in FY 2021-2022 to cover the budgeted costs.

General Fund Budgets

The General Fund Budgets consist of the following:

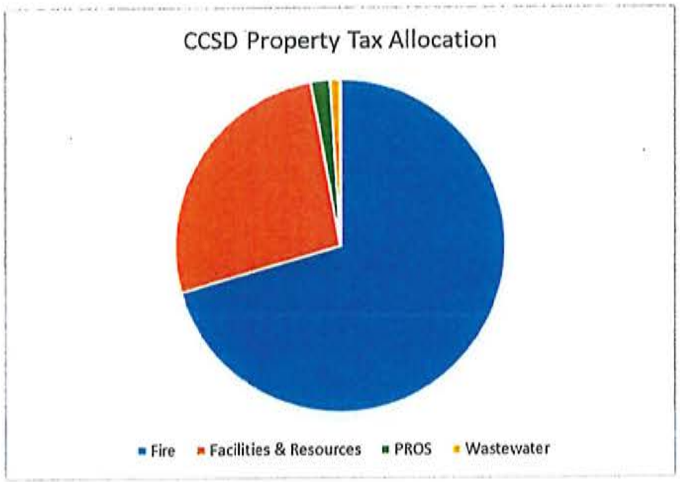
- Fire Fund
- Facilities and Resources Fund
- PROS (Parks, Recreation and Open Space) Fund
- Administrative Fund (Including the Overhead Allocation spreadsheet)

The combined General Fund budgets are illustrated on page 17, with summary and detailed schedules for each budget on pages 16 to 47.

Significant Budget Items

General Fund revenues are primarily property taxes, which are allocated between Fire, Facilities and Resources, and PROS in order to fund budgeted expenditures. Other revenues, such as the Fire Assessments, are restricted to the Fire Fund. The Administrative Fund budget includes a schedule on page 83 illustrating how administrative costs are allocated between the various CCSD budgets. In order to balance the General Fund budgets in FY 2021-2022, the Administrative Cost allocation provides for 100% reimbursement of costs. Although Franchise Fee revenues continue to be shown in the Administrative Fund, they are not used to offset administrative cost and therefore help to ensure that the General Fund is balanced.

The following illustrates the allocation of CCSD property taxes.



General Fund Trade-Offs

Trade-offs in General Fund budgets link to how much property taxes is allocated to one of the budgets versus another budget. The Fire Fund is allocated 71% of the CCSD property taxes, which together with

Fire Assessments of $497,900, provide most of its funding. The Facilities and Resources Fund receives 27% of the CCSD property taxes, which with rental income of the Veterans Hall of $26,000, provide for most of its funding. Allocating more property taxes to one fund, and decreasing the other, would result in trade-offs, possible changes in staffing, and changes in the list of "Unfunded Requests" illustrated on pages 95-96.

When considering trade-offs between General Fund budgets, it is important to recognize that CCSD has taken on added responsibilities in recent years without funding. Funding for maintenance of open space and the maintenance of the Veterans Hall are two primary responsibilities of the Facilities and Resources budget that continue to be underfunded and where service is provided in the best manner possible within available funding. Over time, as the CCSD continues to maintain the Fiscalini Ranch and take ownership of more open space parcels (now at over 500 parcels) with insufficient funding, the General Fund budgets for Fire, Facilities and Resources and Admin will continue to decline and impact operations and safety.

Lastly, $25,000 in property taxes is budgeted for the low-income discounts for wastewater customers. Based on Proposition 218 requirements for the proportional allocation of costs when establishing customer rates and charges, low income discounts cannot be subsidized by other wastewater customers. Property taxes are the sole source of discretionary revenues appropriate to cover the cost of the discounts. Board consideration of providing low-income discounts for water customers is also under consideration and would require additional funding from property tax revenues which are not included in the FY 2021-2022 budget, but which would create additional trade-offs.

Fire and Emergency Services – See budget schedules on pages 18-26

Significant Budget Items

- The CCSD Fire Fund provides for 7 full time personnel and 15 volunteer/reserve fire personnel. Staffing levels are consistent with the current FY 2020-2021 staffing.
- Funded budget items are listed on page 96 and include increased funding for equipment & building repairs and storm damage repairs.
- Capital expenditures total $162,000 and include Phase II of the radio system upgrade, station security upgrades phase I, fuel station computer replacement, storage shed, replacement of an EKG machine and utility truck. Budgeted revenues also include $70,000 in grant and $50,000 in loan proceeds to offset the costs of these upgrades.
- The budget request for FY 2021-2022 included several items that are not funded in the preliminary budget and are listed on page 96. This includes a request for fully funding of security upgrades at the Fire Station which are critical for safety and ongoing operations.

Goals, Objectives and Plans

1) Continue to seek grants for Phase II of the radio system upgrade and the EKG machine & procure in accordance with CCSD policy; prepare funding options for Board consideration if grants are not awarded.
2) Implement Phase I of station security upgrade.
3) Complete storm damage repair projects.
4) Continue to support employee training in maintaining professional licensing or other industry related training.

Facilities and Resources– See budget schedules on pages 27-34

The Facilities and Resources (F&R) budget funds three (3) full-time equivalent staff positions and related expenditures for maintenance and repairs of District assets including real property such as the Veterans Hall Building, Skate Park, Dog Park, Public Restrooms, Open Space and Fiscalini Ranch. Relating to the F&R budget is the PROS budget, which has historically provided funding for start-up or facilities development efforts. Current challenges associated with unfunded budget requests is common for local agencies that can fund facilities development but are hard pressed to fund long-term maintenance efforts. Continued resource demands for open space maintenance and homeless camp cleanups and storage of personal property are having a significant budgetary impact on General Fund resources and staff.

Significant Budget Items

- The CCSD Facilities and Resources Fund provides for 3 full time personnel. Staffing levels for the 2 Maintenance Workers are consistent with the current FY 2020-2021 staffing. A reclassification of the Facilities Supervisor to a Facilities Manager is proposed in the FY 2021-2022 budget.
- Funded budget items are listed on page 96 and include increased funding for building & ground repairs related to storm damage and update the PROS master plan.
- Capital expenditures include $15,000 for roof replacement at the Vets Hall.
- Significant unfunded requests exist and are listed on page 96.
  - Significant unfunded requests exist for maintenance of the Veterans Hall.
  - Significant resource constraints exist which affect staff's ability to maintain open space, streetlights, and public restrooms, which may not meet service level expectations of the community.

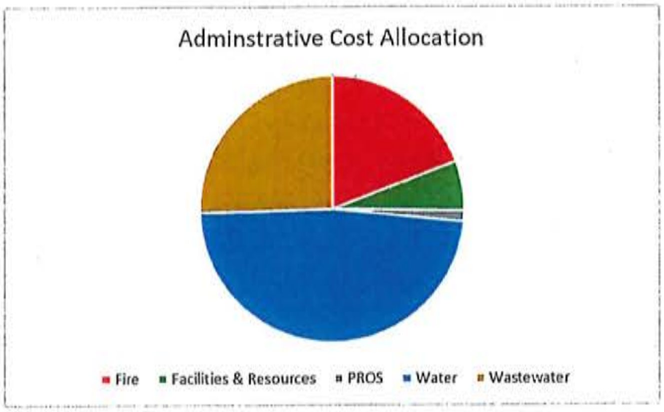
Goals, Objectives and Plans

1) Continue coordinating with PROS.
2) Continue engaging in community dialogue on impacts from homeless encampments.
3) Complete storm damage repair projects.
4) Continue to support employee training in maintaining professional licensing or other industry related training.
5) Continue discussions & review of the fee structure for rental rates of the Veterans Hall.

Administrative Services– See budget schedules on pages 40-47

The CCSD Administrative Fund budget includes the cost of the general manager and staff responsible for the district's accounting and finances, human resources, clerk and records retention, centralized aspects of contract management and related administrative functions.

The following chart illustrates the CCSD allocation of administrative costs.



Overall, combined enterprise fund budgets pay 73.5% of the CCSD administrative costs with water fund budgets (including WRF budgets) covering 48.1% and the wastewater fund covering 25.4%. General fund budgets pay the remaining 26.5% with those costs covered by Fire (19.2%), Facilities and Resources (6.0%) and PROS (1.3%).

Significant Budget Items

- Funded budget items are listed on page 96 and which include an increase in annual property/liability insurance, increase in LAFCO annual fees and professional services to review the fees & charges, last updated in 2013.
- The Administrative Fund surplus for FY 2021-2022 is estimated to be $143,911.
- The surplus assumes that 100% of administrative costs are reimbursed by other operating budgets.
- The surplus helps ensure that the overall General Fund is balanced by covering some of the deficits in the Fire Fund ($167,118) and Facilities and Resources ($146,027).
- Alternatives exist regarding revenues that are included in the Administrative Fund:
  - As an alternative to including revenues in the Administrative Fund, which generate the surplus, those revenues could be allocated directly to the other General Fund budgets similar to the allocation of property taxes; thereby eliminating the deficits illustrated in those budgets.
  - As a second alternative, all discretionary General Fund revenues could be included in the Administrative Fund. Doing so would create deficits in other general fund budgets representing the true value of funding needed from the General Fund.

Goals, Objectives and Plans

1) Support the strategic plan and three-year goals adopted by the Board of Directors on February 11, 2021.
2) Review the District Code and consider whether direction should be provided to draft amendments.
3) Study the District Fees & Charges Schedule to determine if rates need to be amended to cover the cost of service.
4) Continue with progress on the following Organizational Goals:

   a) Staffing, vacancies, and overall staffing levels
   b) Develop and review the annual budget, continue with quarterly financial updates.
   c) Complete the FY 2019-2020 annual audit and begin the FY 2020-2021 audit.
   d) Complete the Implementation of the Tyler Incode Financial Software program
5) Continue work with Standing Committees on various Board assigned tasks.
6) Continue to support employee training in maintaining professional licensing or other industry related training.

Enterprise Fund Budgets

The CCSD Enterprise Fund budgets consist of the following:

- Water Fund
- WRF Operations Fund
- WRF Capital Fund
- Wastewater Fund

The combined Enterprise Fund budgets are illustrated on page 48, including the combined summary information for the three (3) water fund budgets (Water, WRF Operations and WRF Capital Funds) and the Wastewater Fund. Detailed schedules for the enterprise budget are on pages 48-82.

Significant Budget Items

As with the General Fund budgets, some significant budget items are common to all enterprise fund budgets while other issues are budget specific. The following is a list of budget issues common to all enterprise funds.

- The approval of water and wastewater rates and charges on October 4, 2018, the second phase increases effective on July 1, 2019 and the third phase increases effective on September 1, 2020 which helped increase the funding for the District's enterprise services and planned capital project activities for FY 2021-2022. Future years budgets could include rate analysis, as the cost of service increases, but there are no future rate increases approved for the near term.

Trade-Offs

In contrast to the General Fund budgets where trade-offs exist between the budget units depending on the allocation of property tax and general fund discretionary revenues, the enterprise funds have their own dedicated revenues and trade-offs are budget specific. For CCSD water services, there are three "component units" of the budget – the Water Fund, the WRF Operations Fund and the WRF Capital Fund and trade-offs may also exist between those three components.

Goals, Objectives and Plans

Enterprise Funds are managed by the District Engineer/Utilities Department Manager. A couple of important goals for FY 2021-2022 exist for both water and wastewater operations including the following:

- Recent rate increases provide funding for capital improvements and improved proactive maintenance – implementing those efforts in a cost-effective manner will help ensure that the beneficial outcomes of rate increases are maximized.
- Continue to improve regulatory reporting and responsiveness to resource agencies.

More specifically, advancing the Multi-Year Infrastructure Capital Improvement Program (CIP) will need to address staff roles and responsibilities, how the project priorities are phased, how professional and construction services are procured, and refinement of scope, schedules and budgets for individual projects. Overall project prioritization has been completed, reviewed, and endorsed by the Resource and Infrastructure Committee and continued coordination with the committee will be a staff priority in FY 2021-2022. Details on specific projects and programs are discussed in the following sections on each enterprise budget. Capital Improvement Program Project Prioritization schedules are included on pages 90-94.

Continued coordination between the Finance Committee and the Resources and Infrastructure Committee will also be important to advance the capital improvement program. Consideration of debt funding, especially for the wastewater system improvements proposed with the PG&E Turnkey project, will be an important point of coordination since it may likely affect the feasibility of beneficial outcomes.

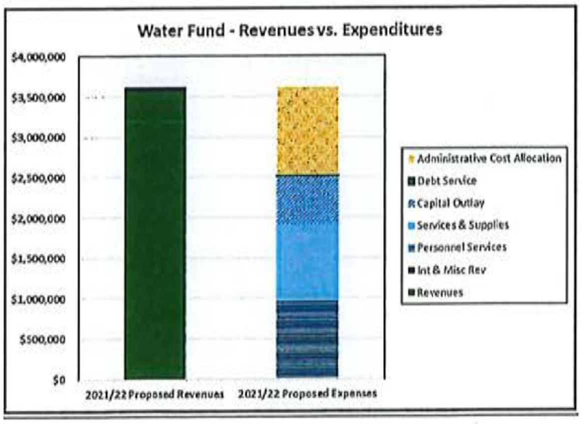
Water Fund – See budget schedules on pages 53-60

Budgeted revenues are estimated to be $3,620,750 and expenditures are estimated to be $3,617,191, resulting in a surplus of $3,559.

Significant Budget Items

- Staffing levels are consistent with the current FY 2020-2021 staffing.
- Funded budget items are listed on page 96 and which include deferred maintenance from FY 2020-2021, storm damage repairs, undergrounding of communication lines, instream flow study, and various plan updates and surveys.
- Capital expenditures total $604,649 and include annual funding for the water meter replacement project, SCADA System Phase II, Stuart Street tank rehabilitation, SS2 electrical panel upgrade, covers for sheltering equipment, and modular office building.

The following chart compares budgeted revenues to budgeted expenditures.



Water Fund Trade-Offs

The Capital Outlay expenditures include trade-offs that will continue to be considered by staff, the Resource and Infrastructure Committee and the Board of Directors during FY 2021-2022.

Capital projects are listed in priority order on page 90. Many of the projects in the water fund are implemented over multiple years, where funding is accumulated over several fiscal years. The proposed capital projects, as discussed above include multi-year and new project requests. Maintaining the Water Fund surplus may be needed for repayment of a long-standing general fund loan.

Goals, Objectives and Plans

Water system goals for FY 2021-2022 include the following:

- Complete the Instream Flow Study.
- Update of Water Use Efficiency Plan.
- Complete storm damage repair projects.
- Continue to support employee training in maintaining professional licensing and other industry related professional development.
- Establish specific goals relating to Capital Improvement Projects.
- During quarterly budget reviews, continue to provide status updates on CIP efforts.
- Continue to develop details on scope, schedules, and budgets for individual high priority projects.

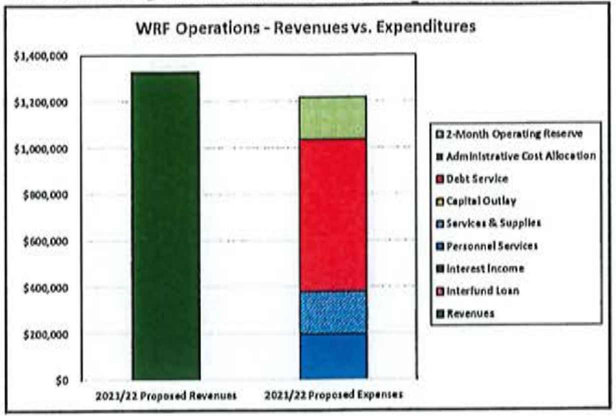
WRF Fund – See budget schedules on pages 61-72

The projected operating deficit in the FY 2020-2021 WRF Operations Fund budget is $243,022, which includes the $180,000 reserve set aside for two months of additional costs while the facilities are operating. This deficit is expected to be offset by anticipated surplus at the end of FY 2020-2021.

Significant Budget Items

- Staffing levels are consistent with the current FY 2020-2021 staffing.
- Funded budget items are listed on pages 96-97 and which include a reverse osmosis filtration audit, chemicals for media preservation, analytic device repair/replacement, and silt density index testing equipment.
- Capital expenditures in the WRF Capital Fund total $200,000, as discussed above.

The following chart compares budgeted revenues to budgeted expenditures.



Additionally, the WRF Capital Fund budget is $200,000 and includes installation of a trailer fill station with spill containment, for off-hauling of brine disposal.

WRF – Trade-Offs

The continuing costs of permitting for WRF facilities is uncertain. The amounts currently budgeted and contracted for environmental services will be encumbered at the end of the FY 2020-2021, which is offsetting the need for new funding in FY 2021-2022.

WRF - Goals, Objectives and Plans

WRF goals for FY 2021-2022 include the following:

- Continue to support employee training in maintaining professional licensing or other industry related professional development.
- Continue working on the Section 7 consultation and acquisition of the Regular Coastal Development Permit.
- Reverse Osmosis Filtration Audit.
- Installation of Trailer Fill Station

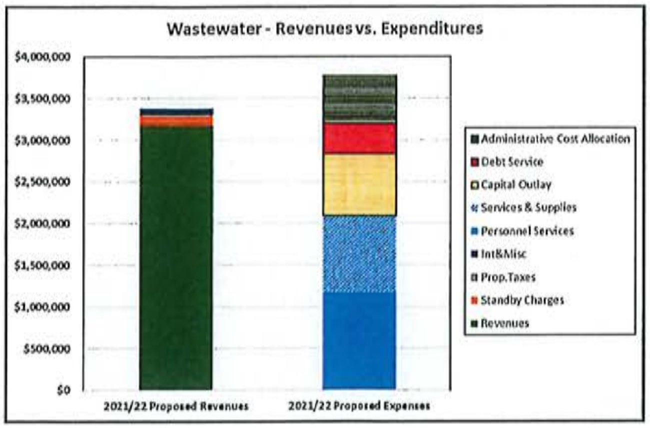
Wastewater Fund – See budget schedules on pages 73-82

The projected deficit of $387,314 in the proposed FY 2021-2022 Wastewater budget, will be offset by unused reserve funds in FY 2020-2021, projected at $499,856, resulting in a net surplus of $112,542.

Significant Budget Items

- Staffing levels are consistent with the current FY 2020-2021 staffing.
- Funded budget items are listed on page 97 and which include maintenance & repairs to various equipment & motors, the lab roof, road repairs, PFAS sampling and supplies.
- Capital expenditures total $750,019 and include the SST-PGE project ECM 7, 8 and 10, annual budget for lift station improvements, and replacements of eastern clarifier drive chain, tractor, F150 truck and van (transport of sewer video camera).

The following chart compares budgeted revenues to budgeted expenditures.



Trade-Offs

The most significant is the historical issue in the deferral of plant maintenance and capital improvement activities. The 2018 Prop 218 rate increase addressed a portion of this historic issue, but unmet funding needs continue to exist. In addition, the Prop 218 estimate for services and supplies, which include plant maintenance accounts, seem to indicate that the estimated cost reductions were based on expected savings in power costs and a reduction in maintenance costs on lift stations, which have not been recognized since the PGE SST project is still in process. Future discussion with the Board of Directors will address the funding available to move forward with the PGE SST efficiency projects. The total PGE SST project is estimated at about $11 million, for thirteen capital projects.

Goals, Objectives and Plans

Wastewater system goals for FY 2021-2022 include the following:

- Continue design efforts working with PG&E on the Turnkey project and provide final recommendations to the Board of Directors.
- Complete various maintenance & repair projects at the plant.
- Work with County of San Luis Obispo to complete the road repairs needed, due to past sewer repair activities.
- Continue to support employee training in maintaining professional licensing or other industry related professional development.
- Establish specific goals relating to Capital Improvement Projects.
- During quarterly budget reviews, continue to provide status updates on CIP efforts.
- Continue to develop details on scope, schedules, and budgets for individual high priority projects.

CAMBRIA COMMUNITY SERVICES DISTRICT

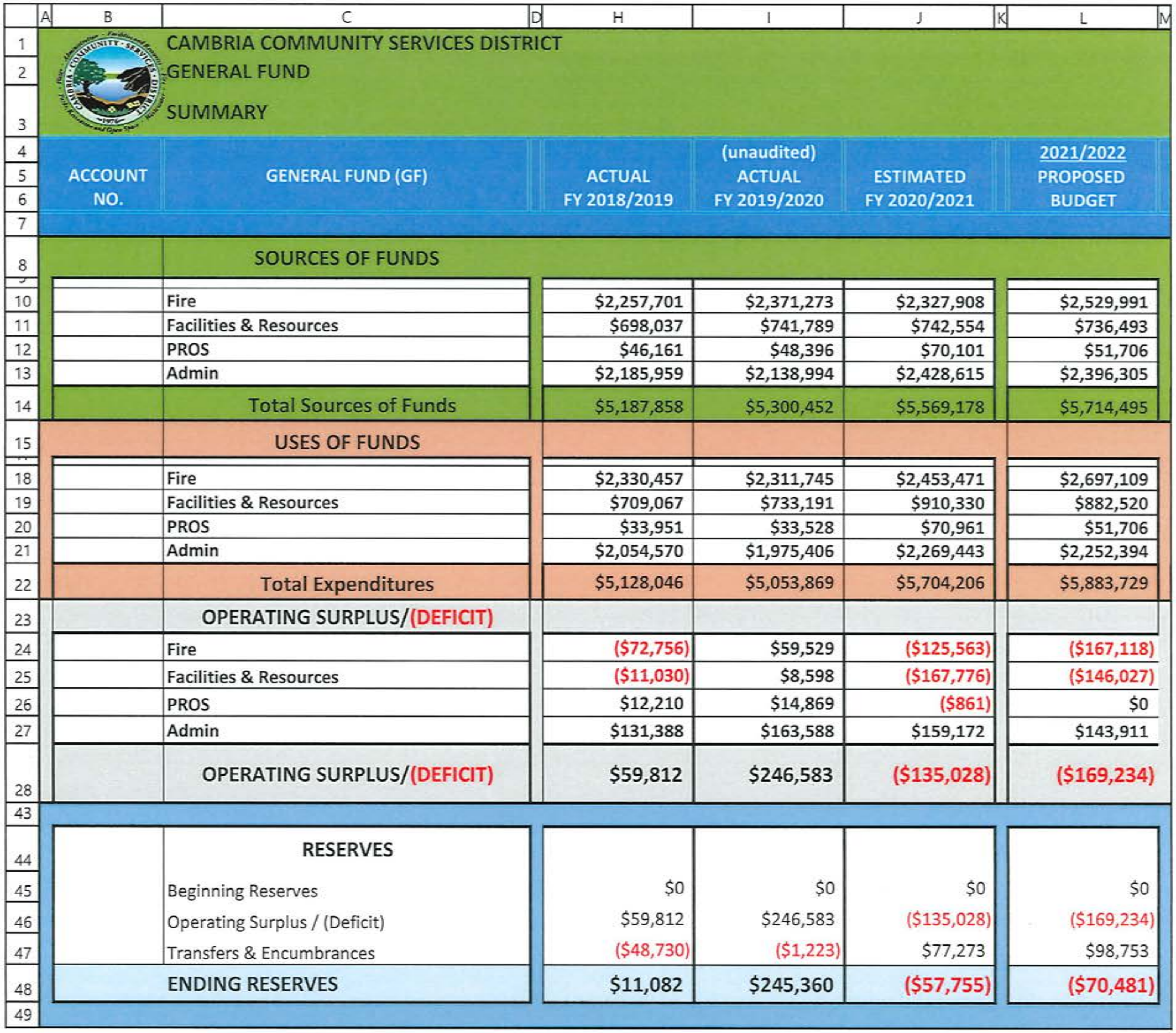
FISCAL YEAR 2021-2022

PRELIMINARY BUDGET

JUNE 17, 2021

GENERAL FUND SUMMARY

- Fire Department – 01
- Facilities & Resources Department – 02
- Parks, Recreation & Open Space Department – 16
- Administration Department - 09



	A	B	C	D	H	I	J	K	L	M
1			CAMBRIA COMMUNITY SERVICES DISTRICT							
2			GENERAL FUND							
3			SUMMARY							
4						(unaudited)			2021/2022	
5		ACCOUNT	GENERAL FUND (GF)		ACTUAL	ACTUAL	ESTIMATED		PROPOSED	
6		NO.			FY 2018/2019	FY 2019/2020	FY 2020/2021		BUDGET	
7										
8			SOURCES OF FUNDS							
10			Fire		$2,257,701	$2,371,273	$2,327,908		$2,529,991	
11			Facilities & Resources		$698,037	$741,789	$742,554		$736,493	
12			PROS		$46,161	$48,396	$70,101		$51,706	
13			Admin		$2,185,959	$2,138,994	$2,428,615		$2,396,305	
14			Total Sources of Funds		$5,187,858	$5,300,452	$5,569,178		$5,714,495	
15			USES OF FUNDS							
18			Fire		$2,330,457	$2,311,745	$2,453,471		$2,697,109	
19			Facilities & Resources		$709,067	$733,191	$910,330		$882,520	
20			PROS		$33,951	$33,528	$70,961		$51,706	
21			Admin		$2,054,570	$1,975,406	$2,269,443		$2,252,394	
22			Total Expenditures		$5,128,046	$5,053,869	$5,704,206		$5,883,729	
23			OPERATING SURPLUS/(DEFICIT)							
24			Fire		($72,756)	$59,529	($125,563)		($167,118)	
25			Facilities & Resources		($11,030)	$8,598	($167,776)		($146,027)	
26			PROS		$12,210	$14,869	($861)		$0	
27			Admin		$131,388	$163,588	$159,172		$143,911	
28			OPERATING SURPLUS/(DEFICIT)		$59,812	$246,583	($135,028)		($169,234)	
43										
44			RESERVES							
45			Beginning Reserves		$0	$0	$0		$0	
46			Operating Surplus / (Deficit)		$59,812	$246,583	($135,028)		($169,234)	
47			Transfers & Encumbrances		($48,730)	($1,223)	$77,273		$98,753	
48			ENDING RESERVES		$11,082	$245,360	($57,755)		($70,481)	
49										

GENERAL FUND

FIRE DEPARTMENT - 01

	B	C	H	I	J	L
1		**CAMBRIA COMMUNITY SERVICES DISTRICT**				
2		**FUND LEVEL ANALYSIS**				
3		**FIRE DEPARTMENT - GENERAL FUND - 01, DEPARTMENT - 01**				
4				(unaudited)		2021/2022
5	ACCOUNT	GENERAL FUND (GF)	ACTUAL	ACTUAL	ESTIMATED	PROPOSED
6	NO.	FIRE DEPARTMENT - 01	FY 2018/2019	FY 2019/2020	FY 2020/2021	BUDGET
7						
8		SOURCES OF FUNDS				
10		Revenues	$2,257,701	$2,371,273	$2,327,908	$2,479,991
11		Other Sources of Funds	$0	$0	$0	$50,000
12		Total Sources of Funds	$2,257,701	$2,371,273	$2,327,908	$2,529,991
13		USES OF FUNDS				
16		Salaries & Wages	$977,784	$962,607	$997,476	$1,032,562
17		Benefits	$509,339	$559,882	$633,950	$637,056
18		**Personnel Services**	**$1,487,123**	**$1,522,490**	**$1,631,426**	**$1,669,618**
19		**Services & Supplies**	**$253,524**	**$245,199**	**$270,530**	**$299,606**
20		**Capital Outlay**	**$62,101**	**$40,729**	**$0**	**$162,000**
21		**Debt Service**	**$133,374**	**$133,374**	**$133,374**	**$133,374**
22		**Administrative Cost Allocation**	**$394,335**	**$369,954**	**$418,142**	**$432,512**
23		**Total Expenditures**	**$2,330,457**	**$2,311,745**	**$2,453,471**	**$2,697,109**
24		**OPERATING SURPLUS/(DEFICIT)**	**($72,756)**	**$59,529**	**($125,563)**	**($167,118)**
39						
40		**RESERVES**				
41		Beginning Reserves				
42		Operating Surplus / (Deficit)	($72,756)	$59,529	($125,563)	($167,118)
43		Transfers & Encumbrances	$27,320	$0	$0	$0
44		**ENDING RESERVES**	**($45,436)**	**$59,529**	**($125,563)**	**($167,118)**
45						

	A	B	C	D	H	I	J	K	L	M
1			CAMBRIA COMMUNITY SERVICES DISTRICT							
2			FUND LEVEL ANALYSIS							
3			FIRE DEPARTMENT - GENERAL FUND - 01, DEPARTMENT - 01						3%	
4						(unaudited)			2021/2022	
5		ACCOUNT	GENERAL FUND (GF)		ACTUAL	ACTUAL	ESTIMATED		PROPOSED	
6		NO.	FIRE DEPARTMENT - 01		FY 2018/2019	FY 2019/2020	FY 2020/2021		BUDGET	
7										
8			SOURCES OF FUNDS							
9			REVENUES							
10		01 4127	Grant/Revenue: County SLO OES FF Radios		0	35,591	0		30,000	
11		01 4200	Interest Income		0	0	0		0	
12		01 4310	Property Tax		1,757,766	1,793,671	1,838,962		1,897,441	
13		01 4311	County Administrative Fee		(18,256)	(17,386)	(17,850)		(17,850)	
14		01 4335	Assessment-Fire		458,508	473,812	483,900		497,900	
15		01 4362	Insurance Reimbursement		11,069	37,564	0			
16		01 4370	Weed Abatement		39,610	36,530	18,000		18,000	
17		01 4373	Inspection Fee Revenue		8,656	7,556	4,896		14,500	
18		01 4390	Miscellaneous Revenue		348	511	0		0	
19		01 4610	Grants Revenue: SAFER		0	0	0		0	
20		01 4618	Grant/Revenue: FEMA Firefighter PPE		0	0	0		0	
21		01 4625	Grant/Revenue: Federal Firefighters Radios		0	0	0		0	
22		01 4625	Grant/Revenue: Asst to Firefighter Grant (AFG)		0	0	0		40,000	
23		01 4390	Reimbursement for Fuel Tank Repairs - CHCD		0	0	0		0	
24		01 4392	Sale of Equipment		0	3,425	0		0	
33					0					
35			Total Revenues		$2,257,701	$2,371,273	$2,327,908		$2,479,991	
36			OTHER SOURCES OF FUNDS							
42			Loan Proceeds for Purchase of Truck		0	0	0		50,000	
43					0					
45			Total Other Sources of Funds		$0	$0	$0		$50,000	
46			Total Sources of Funds		$2,257,701	$2,371,273	$2,327,908		$2,529,991	

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS

FIRE DEPARTMENT - GENERAL FUND - 01, DEPARTMENT - 01 3%

	B	C	H	I	J	L
4–6	ACCOUNT NO.	GENERAL FUND (GF) FIRE DEPARTMENT - 01	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	2021/2022 PROPOSED BUDGET
7						
47		USES OF FUNDS				
49		SALARIES & WAGES				
50	5000	Salary & Wages	585,574	602,761	716,343	739,578
51	5010	Overtime	183,042	142,070	128,000	128,000
52	5020	Standby	1,170	0	5,000	5,000
53	5031	Reserve Firefighter Pay	118,737	117,515	148,133	159,984
54	5040	Sick/Vacation Pay	59,583	67,201	0	0
55	5050	Holiday Pay	29,677	33,061	0	0
57		**Total Salaries & Wages**	**$977,784**	**$962,607**	**$997,476**	**$1,032,562**
58		BENEFITS				
59	5101	Uniform Allowance	2,500	2,500	2,500	2,500
60	5102	Dental Insurance	12,470	13,652	13,570	13,570
61	5103	Medical Insurance	114,086	125,498	137,844	113,457
62	5105	Life Insurance	675	732	1,008	1,008
63	5106	FICA	57,862	56,980	57,090	58,927
64	5107	Medicare	13,955	13,687	14,537	15,046
65	5108	Workers Compensation	31,938	35,075	52,672	54,604
66	5109	PERS - Retirement	209,633	248,589	290,187	318,524
67	5111	Payroll Tax Expense	0	(201)	(105)	0
68	5112	UI Reim Benefit	0	909	2,280	0
69	5120	Other Employee Benefits	2,550	2,600	2,600	2,600
70	5121	Retirees Health	48,244	44,260	44,167	42,520
71	5122	Medical Reimbursements - HRA	15,425	15,600	15,600	14,300
73		**Total Benefits**	**$509,339**	**$559,882**	**$633,950**	**$637,056**
74		**Total Personnel Services**	**$1,487,123**	**$1,522,490**	**$1,631,426**	**$1,669,618**

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS
FIRE DEPARTMENT - GENERAL FUND - 01, DEPARTMENT - 01

3%

	ACCOUNT NO.	GENERAL FUND (GF) FIRE DEPARTMENT - 01	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	2021/2022 PROPOSED BUDGET
75		SERVICES & SUPPLIES				
76	6010	Ads-Legal/Other	1,129	946	419	431
77	6011I	Public Information	0	1,341	1,381	1,422
78	6011W	Public Information - Website	0	902	523	538
79	6014	Public Events	0	0	0	0
80	6031F	Maint & Repair Water Dept -Fire Hydrant	72	0	0	0
81	6032S	M & R-Disposal of Sludge	0	0	0	0
82	6033B	M&R Buildings	4,115	0	3,596	3,704
83	6033B	M&R Buildings - Replace Refrigerator - New				3,000
84	6033F	M&R FD WTR Leak	19,548	2,347	0	0
85	6033F	M&R FD WTR Leak -Repl Furn & Beds - New Request				8,000
86	6033G	Maint & Repair - Grounds (formerly 6042)	934	10,561	261	269
87	6033R	M & R - Ranch	0	190	0	0
88	6033z	M & R - Storm Damage - New Request				12,000
89	6036	M & R - Emergency	0	0	0	0
90	6040	Maintenance & Repair · Equipment	2,626	0	846	1,955
91	6041L	Maint and Repair - Vehicles – Licensed	18,252	32,249	27,782	28,615
92	6041L	Maint and Repair-Vehicles-Licensed - New Reqest				4,385
93	6042	Old M & R Bld/Grd	0	0	0	0
94	6044	Computer/Copier /Printer Srvcs/MaintAgree	2,287	4,101	2,611	2,689
95	6045	Computer/Copier/Printer Supplies/Maint.	39	4,040	324	334
96	6048	Security and Safety	516	1,766	2,046	2,108
97	6048E	Safety - Medical	0	150	0	0
98	6050	Office Supplies	3,387	2,037	208	215
99	6051	Printing & Shipping	869	885	121	200
100	6052	Bank Charges	0			0
101	6053	Printing/Forms	315	39	114	118

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS
FIRE DEPARTMENT - GENERAL FUND - 01, DEPARTMENT - 01

3%

	ACCOUNT NO.	GENERAL FUND (GF) FIRE DEPARTMENT - 01	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	2021/2022 PROPOSED BUDGET
102	6054	Membership -Dues , Publications & Books	5,211	6,163	4,352	4,483
103	6055	Government Fees and Licenses	48,634	0	48,719	50,181
104	6055	Image Trend - EMS	0	40,319	2,546	2,623
105	6055	Image Trend - Fire		2,688	1,910	1,967
107	6060C	Utilities Cell Phone	2,569	0	6,815	7,019
108	6060C	Utilities Cell Phone - New				3,800
109	6060E	Utilities Electricity	8,972	3,386	8,171	8,416
110	6060G	Utilities Gas	2,862	7,805	2,900	2,987
111	6060I	Utilities Internet Access	2,413	2,765	3,853	3,968
112	6060P	Utilities Phone-Land Lines, Faxes, Alarms	5,188	3,149	4,316	4,445
113	6060S	Utilities Sewer	1,277	5,851	1,748	1,800
114	6060W	Utilities Water	1,966	1,570	4,123	4,247
117	6080K	Prof Services-District Counsel	0	0	0	0
118	6080L	Land Conservancy -Lot Inventory, Etc.	740	0	0	0
119	6080M	Prof Services - Miscellaneous/Other	1,812	0	2,929	3,017
120	6080T	Prof Services - Temporary	0	8,086	0	0
121	6086	Outside Services	0	0	0	0
122	6089	Emergency Medical Supplies	7,180	10,834	5,031	5,182
123	6089A	Emergency Med Supp - FEMA FGR COVID 19		0	23,652	0
124	6090	Department Operating Supplies	16,657	20,226	10,901	11,228
125	6093	Small Tools and Equipment	0	2,701	59	60
126	6094	Clothing and Uniform	6,398	0	8,808	9,073
127	6095	Office Furnishings & Equipment	129	1,448	0	0
128	6096	Fuel -Gas and Diesel	21,075	0	20,920	21,548
129	6098	OTS Grant	0	14,691	0	0
130	6115	Meeting Expense	125	0	300	309
131	6120A	Employee ALS Cert/Recruit Training	2,556	231	1,980	2,040
132	6120E	Travel, Training, Seminars – Employees	18,381	3,109	1,965	15,000

	A	B	C	D	H	I	J	K	L	M
1			CAMBRIA COMMUNITY SERVICES DISTRICT							
2			FUND LEVEL ANALYSIS							
3			FIRE DEPARTMENT - GENERAL FUND - 01, DEPARTMENT - 01						3%	
4-6		ACCOUNT NO.	GENERAL FUND (GF) FIRE DEPARTMENT - 01		ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021		2021/2022 PROPOSED BUDGET	
7										
133		6120R	Training - Reimbursement		0	6,816	0		0	
134		6124	Employee Recognition		0	44	438		451	
135		6125	Employee Recruitment		1,451	319	4,497		4,632	
136		6220A	Fire Dept - Aware/Eductn/CERT/Vol Progrm		1,288	0	2,712		2,793	
137		6220B	Fire Dept -SC BA Brthg Aprts/Resptry Test		4,775	0	0		0	
138		6220B	SBCA Flow Test - New Request			3,242	2,000		2,060	
139		6220D	Fire Dept Disaster Preparedness		2,398	0	2,139		2,203	
140		6220E	Fire Dept -EOC Upgrade		0	0	5,000		5,150	
141		6220F	Fire Dept Fr Haz Defensible Spc/Chipping		0	0	2,000		2,060	
142		6220H	Fire Dept - Haz Mat Phys		0	3,646	0		0	
143		6220P	Personal Protective Equipment		1,511	1,124	9,970		10,269	
144		6220R	FHRP Contract		29,356	0	30,339		31,249	
145		6220S	Fire Dept - Surf Rescue/NCOR Program		4,511	1,287	1,710		1,761	
146		6221	Public Education - (Formerly 6220A)			27,664	3,500		3,605	
147		6602	Transit Expense		0	0	0		0	
149			**Total Services & Supplies**		**$253,524**	**$245,199**	**$270,530**		**$299,606**	
150			**CAPITAL OUTLAY**							
151		6170	Capital Asset-Install Radio in 5792		0	0	0			
152		6170B	Chief/Command Pickup (5 Year Lease)		0	0	0			
153		6170C	USAR Equipment (Urban Search & Res		0	0	0			
154		6170D	Image Trend Elite Project Management		0	0	0			
155		6170F	Zoll X Series EKG		34,575	0	0		40,000	
156		6170G	Command Vehicle Buildup		27,526	0	0		0	
157		6170	Fuel Station Computer Replacement			0	0		14,000	
158		6170	Station Security Upgrade- Phase I - Entrance Gates			0	0		20,000	
159		6170	Radio System Upgrade- Phase I, Phase II			40,729	0		30,000	

	A	B	C	D	H	I	J	K	L	M
1			CAMBRIA COMMUNITY SERVICES DISTRICT							
2			FUND LEVEL ANALYSIS							
3			FIRE DEPARTMENT - GENERAL FUND - 01, DEPARTMENT - 01						3%	
4–6		ACCOUNT NO.	GENERAL FUND (GF) FIRE DEPARTMENT - 01		ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021		2021/2022 PROPOSED BUDGET	
7										
160		6170	Storage Shed - Add Additional Shed for Equip Storage						8,000	
161		6170	Replacement of 2003 F350 Utility Truck						50,000	
162										
164			**Total Capital Outlay**		**$62,101**	**$40,729**	**$0**		**$162,000**	
165			**DEBT SERVICE**							
166		2517	Principal on Fire Engine Lease/Purchase		121,455	124,394	127,319		130,311	
167		6190	Interest on Fire Engine Lease/Purchase		11,919	8,980	6,054		3,062	
169			**Total Debt Service**		**$133,374**	**$133,374**	**$133,374**		**$133,374**	
170			**ADMINISTRATIVE COST ALLOCATION**							
171		6200	Allocated Overhead		394,335	369,954	436,178		432,512	
173			**Total Administrative Cost Allocation**		**$394,335**	**$369,954**	**$418,142**		**$432,512**	
174			**Total Expenditures**		**$2,330,457**	**$2,311,745**	**$2,453,471**		**$2,697,109**	

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS
FIRE DEPARTMENT - GENERAL FUND - 01, DEPARTMENT - 01

3%

	ACCOUNT NO.	GENERAL FUND (GF) FIRE DEPARTMENT - 01	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	2021/2022 PROPOSED BUDGET
175						
176		**OPERATING SURPLUS/(DEFICIT)**	**($72,756)**	**$59,529**	**($125,563)**	**($167,118)**
177		**TRANSFERS & ENCUMBRANCES**				
178	01 4625	Transfers In - From General Fund	0	0	0	
179		(Transfers Out)	27,320			
180		Encumbrances - Sources of Funding	0			
181		Encumbrances - (Designated Funds)	0			
183		**NET TRANSFERS & ENCUMBRANCES**	**$27,320**	**$0**	**$0**	**$0**
184		**RESERVES**				
185		Use of Reserves	0			
186		(Additions to Reserves)	0			
187		Other Adjustments	0	0	0	
189		**RESERVES - INCREASE / (DECREASE)**	**$0**	**$0**	**$0**	**$0**
190		**NET BUDGETARY SOURCES/USES**	**($45,436)**	**$59,529**	**($125,563)**	**($167,118)**
191						
192		**RESERVES**				
193		Beginning Reserves				
194		Operating Surplus / (Deficit)	($72,756)	$59,529	($125,563)	($167,118)
195		Transfers & Encumbrances	$27,320	$0	$0	$0
196		**ENDING RESERVES**	**($45,436)**	**$59,529**	**($125,563)**	**($167,118)**

GENERAL FUND

FACILITES & RESOURCES DEPARTMENT – 02

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS
FACILITIES AND RESOURCES - GENERAL FUND - 01, DEPARTMENT - 02

	A	B	C	D	H	I	J	K	L	M
4-6		ACCOUNT NO.	GENERAL FUND (GF) FACILITIES & RESOURCES - 02		ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021		2021/2022 PROPOSED BUDGET	
7										
8			SOURCES OF FUNDS							
10			Revenues		$679,537	$741,789	$702,554		$736,493	
11			Other Sources of Funds		$18,500	$0	$40,000		$0	
12			Total Sources of Funds		$698,037	$741,789	$742,554		$736,493	
13			USES OF FUNDS							
16			Salaries & Wages		$214,823	$228,861	$220,593		$234,601	
17			Benefits		$145,813	$143,646	$177,257		$172,304	
18			**Personnel Services**		**$360,636**	**$372,507**	**$397,850**		**$406,905**	
19			**Services & Supplies**		**$168,137**	**$229,875**	**$295,345**		**$320,935**	
20			**Capital Outlay**		**$32,703**	**$0**	**$72,049**		**$15,000**	
21			**Debt Service**		**$10,988**	**$11,723**	**$8,538**		**$4,078**	
22			**Administrative Cost Allocation**		**$136,604**	**$119,085**	**$136,548**		**$135,602**	
23			Total Expenditures		**$709,067**	**$733,191**	**$910,330**		**$882,520**	
24			**OPERATING SURPLUS/(DEFICIT)**		**($11,030)**	**$8,598**	**($167,776)**		**($146,027)**	
39										
40			**RESERVES**							
41			Beginning Reserves		$0	$0	$0		$0	
42			Operating Surplus / (Deficit)		($11,030)	$8,598	($167,776)		($146,027)	
43			Transfers & Encumbrances		$0	$0	$0		$0	
44			**ENDING RESERVES**		**($11,030)**	**$8,598**	**($167,776)**		**($146,027)**	
45										

CAMBRIA COMMUNITY SERVICES DISTRICT

FUND LEVEL ANALYSIS

FACILITIES AND RESOURCES - GENERAL FUND - 01, DEPARTMENT - 02

	B	C	H	I	J	L
3						3%
4–6	ACCOUNT NO.	GENERAL FUND (GF) FACILITIES & RESOURCES - 02	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	2021/2022 PROPOSED BUDGET
7						
8		SOURCES OF FUNDS				
9		REVENUES				
10	01 4130	Reimbursements - Fire Safe Council	0	32,463	0	0
11	01 4200	Interest Income	0	0	0	0
12	01 4310	Property Tax	655,724	671,552	689,177	711,093
13	01 4311	County Administrative Fee	(2,469)	(2,144)	(2,300)	(2,300)
15	01 4390	Misc Revenue	600	5,718	600	600
16	01 4500	Veterans Hall Rental Fees	24,609	34,200	5,000	26,000
17	01 4525	Veterans Hall Rents- Private Parties	500	0	500	500
18	01 4560	Rent Banner Poles	100	0	200	200
19	01 4570	Rent-Ranch Events	300	0	200	200
20	01 4590	Veterans Hall Clean Fee	173	0	200	200
21	01 4610	Grants/Misc.Rev - EV Station Installation	0	0	8,977	0
23			0			0
36		Total Revenues	$679,537	$741,789	$702,554	$736,493
37		OTHER SOURCES OF FUNDS				
38		Loan Proceeds	18,500	0	40,000	0
39			0			
45		Total Other Sources of Funds	$18,500	$0	$40,000	$0
46		Total Sources of Funds	$698,037	$741,789	$742,554	$736,493

	A	B	C	D	H	I	J	K	L	M
1			CAMBRIA COMMUNITY SERVICES DISTRICT							
2			FUND LEVEL ANALYSIS							
3			FACILITIES AND RESOURCES - GENERAL FUND - 01, DEPARTMENT - 02						3%	
4 5 6		ACCOUNT NO.	GENERAL FUND (GF) FACILITIES & RESOURCES - 02		ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021		2021/2022 PROPOSED BUDGET	
7										
47			**USES OF FUNDS**							
49			**SALARIES & WAGES**							
50		5000	Salary & Wages		182,170	192,069	213,093		227,101	
51		5010	Overtime		6,600	11,185	7,500		7,500	
52		5040	Sick/Vacation Pay		16,761	15,012	0		0	
53		5050	Holiday Pay		9,292	10,595	0		0	
57			**Total Salaries & Wages**		**$214,823**	**$228,861**	**$220,593**		**$234,601**	
58			**BENEFITS**							
59		5101	Uniform Allowance		1,200	800	1,200		1,200	
60		5102	Dental Insurance		5,376	4,005	3,800		3,800	
61		5103	Medical Insurance		47,517	43,902	46,282		41,108	
62		5105	Life Insurance		295	293	432		432	
63		5106	FICA		12,970	12,087	13,057		13,925	
64		5107	Medicare		3,033	2,827	3,262		3,466	
65		5108	Workers Compensation		7,808	7,745	13,139		13,555	
66		5109	PERS - Retirement		40,783	45,514	63,901		64,231	
67		5120	Other Employee Benefits		2,550	2,750	3,200		3,200	
68		5121	Retirees Health		19,206	19,824	24,184		22,187	
69		5122	Medical Reimbursements - HRA		5,075	3,900	4,800		5,200	
73			**Total Benefits**		**$145,813**	**$143,646**	**$177,257**		**$172,304**	
74			**Total Personnel Services**		**$360,636**	**$372,507**	**$397,850**		**$406,905**	
75			**SERVICES & SUPPLIES**							
76		6010	Ads - Legal/Other		518	0	0		0	

CAMBRIA COMMUNITY SERVICES DISTRICT

FUND LEVEL ANALYSIS

FACILITIES AND RESOURCES - GENERAL FUND - 01, DEPARTMENT - 02

3%

	B	C	H	I	J	L
4 5 6	ACCOUNT NO.	GENERAL FUND (GF) FACILITIES & RESOURCES - 02	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	2021/2022 PROPOSED BUDGET
7						
78	6030	Insurance	200	0	0	0
79	6033B	Maintenance & Repairs - Buildings	5,533	12,266	10,663	10,983
80	6033G	M&R - Grounds (incl approx 450 vac lots)	22,568	16,503	21,748	22,401
81	6033E	Maintenance & Repairs - Homeless Cleanup		27,734	64,762	60,000
82	6033G	Sidewalk Repair on Center St.		0	0	0
83	6033L	M & R - Street Lights	1,817	66,168	1,000	1,030
84	6033R	M & R - Ranch	45,832	0	52,895	54,482
85	6033V	M & R - Vet's Hall	9,037	14,397	16,438	16,931
86	6033V	M & R - Vet's Hall Keyless Entry - New Request				2,500
87	6033Z	M & R - Storm Damage			34,530	0
88	6033Z	M & R - Storm Damage - Bldg Repairs - New Request				20,000
89	6033Z	M & R - Storm Damage - Appliance Repl - New Request				2,000
90	6033Z	M & R - Storm Damage - Repl Furniture - New Request				10,000
91	6033Z	M & R - Storm Damage - Replace Shed				10,000
92	6033Z	M & R - Storm Damage - Replace Fencing				6,500
93	6040	M & R - Equipment	26	218	103	106
94	6041L	Maintenance & Repairs - Vehicles Licenses	2,597	947	1,694	1,745
95	6041N	Maint. & Repairs - Vehicles Non-Licensed	4,161	10,796	5,352	5,512
96	6045	Computer/Copier/Printer Supplies/Maint.	1,785	0	254	262
97	6048	Security Safety	622	2,450	0	0
98	6050	Office Supplies	0	0	66	68
99	6053	Printing/Forms	0	48	0	0
100	6055	Government Fees & Licenses	337	0	186	191
101	6058	Cash Over (Short)	0	149	0	0
103	6060C	Utilities - Cell Phone	729	0	1,965	2,024
104	6060E	Utilities - Electicity	20,757	811	19,371	19,952

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS

FACILITIES AND RESOURCES - GENERAL FUND - 01, DEPARTMENT - 02

3%

	ACCOUNT NO.	GENERAL FUND (GF) FACILITIES & RESOURCES - 02	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	2021/2022 PROPOSED BUDGET
105	6060G	Utilities - Gas	2,867	18,389	1,218	1,254
106	6060I	Utilities - Internet	5,519	2,899	5,381	5,543
107	6060P	Utilities - Phone-Land Lines, Faxes, Alarms	830	5,138	719	740
108	6060S	Utilities - Sewer	3,807	765	3,751	3,864
109	6060W	Utilities - Water	5,719	3,891	8,093	8,336
110	6070	Equipment Rental	0	7,120	391	403
112	6080K	Professional Services - District Counsel	0	0	0	0
113	6080M	Professional Services - Misc./Other	5,575	0	10,723	11,044
114	6080T	Temporary Service - (2 Mos)		7,229	0	8,000
115	6090	Department Operating Supplies	11,917	13,859	13,049	13,440
116	6091	Lab Tests	0	0	0	0
117	6093	Small Tools and Equipment	3,384	3,606	4,120	4,244
118	6094	Clothing and Uniform	1,119	1,617	2,221	2,288
119	6096	Fuel - Gas and Diesel	10,579	11,830	14,652	15,092
120	6115	Meeting Expenses	113	19	0	0
121	6120E	Travel, Training, Seminars – Employees	0	500	0	0
122	6125	Employee Recruitment	188	0	0	0
151		**Total Services & Supplies**	**$168,137**	**$229,875**	**$295,345**	**$320,935**
152		**CAPITAL OUTLAY**				
153	1470	Toro Dingo TX 1000	18,500	0	0	0
154	6170	Mower	14,203	0	0	0
159	6170	Capital Assets	0		0	0
163	6170	Trailer - Homeless Personal Property Storage			9,777	0
164	6170	F350 Truck - Replace 1999 F150 Truck			40,000	0
165	6170	EV Station Installation			22,272	

	B	C	H	I	J	L
1		CAMBRIA COMMUNITY SERVICES DISTRICT				
2		FUND LEVEL ANALYSIS				
3		FACILITIES AND RESOURCES - GENERAL FUND - 01, DEPARTMENT - 02				3%
4				(unaudited)		2021/2022
5	ACCOUNT	GENERAL FUND (GF)	ACTUAL	ACTUAL	ESTIMATED	PROPOSED
6	NO.	FACILITIES & RESOURCES - 02	FY 2018/2019	FY 2019/2020	FY 2020/2021	BUDGET
7						
166	6170	Vets Hall Sewer Line				0
167	6170	Vets Hall Electrical Emergency (Generator & Equip)				0
168	6170	Vets Hall - Roofing for American Legion Kitchen Area				15,000
169	6170	Vets Hall Waterline Improvements				0
170	6170	Vets Hall Kitchen Area Improvements				0
171	6170	Vets Hall Restroom Improvements				0
173		**Total Capital Outlay**	**$32,703**	**$0**	**$72,049**	**$15,000**
174		**DEBT SERVICE**				
175		Budget Excess	0	0	0	0
176	6180J	Loan Principal - John Deere	522	0	0	0
177	2516	Loan Principal - Ford	6,740	7,152	4,373	0
178	2520	Loan Principal - Western Fin (Toro)	2,265	3,507	3,646	3,791
179	2516	Interest Expense - Ford Motor	905	493	87	0
180	6180H	Interest Expense - Western Finance	556	571	432	287
181	6180J	Loan Principal	0	0	0	0
182	6180H	Interest Expense	0	0	0	0
185		**Total Debt Service**	**$10,988**	**$11,723**	**$8,538**	**$4,078**
186		**ADMINISTRATIVE COST ALLOCATION**				
187	6200	Allocated Overhead	136,604	119,085	136,548	135,602
189		**Total Administrative Cost Allocation**	**$136,604**	**$119,085**	**$136,548**	**$135,602**
190		**Total Expenditures**	**$709,067**	**$733,191**	**$910,330**	**$882,520**

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS

FACILITIES AND RESOURCES - GENERAL FUND - 01, DEPARTMENT - 02 3%

	B	C	H	I	J	L
4–6	ACCOUNT NO.	GENERAL FUND (GF) FACILITIES & RESOURCES - 02	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	2021/2022 PROPOSED BUDGET
7						
191						
192		**OPERATING SURPLUS/(DEFICIT)**	**($11,030)**	**$8,598**	**($167,776)**	**($146,027)**
193		**TRANSFERS & ENCUMBRANCES**				
194	01 4625	Transfers In - From General Fund	0			
195		(Transfers Out)	0			
196		Encumbrances - Sources of Funding	0			
197		Encumbrances - (Designated Funds)	0			
199		**NET TRANSFERS & ENCUMBRANCES**	**$0**	**$0**	**$0**	**$0**
200		**RESERVES**				
201		Use of Reserves	0			
202		(Additions to Reserves)	0			
203		Other Adjustments	0			
205		**RESERVES - INCREASE / (DECREASE)**	**$0**	**$0**	**$0**	**$0**
206		**NET BUDGETARY SOURCES/USES**	**($11,030)**	**$8,598**	**($167,776)**	**($146,027)**
207						
208		**RESERVES**				
209		Beginning Reserves				
210		Operating Surplus / (Deficit)	($11,030)	$8,598	($167,776)	($146,027)
211		Transfers & Encumbrances	$0	$0	$0	$0
212		**ENDING RESERVES**	**($11,030)**	**$8,598**	**($167,776)**	**($146,027)**

GENERAL FUND

PARKS, RECREATION & OPEN SPACE DEPARTMENT – 16

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS

PARKS, RECREATION & OPEN SPACE - GENERAL FUND - 01, DEPARTMENT - 16

ACCOUNT NO.	GENERAL FUND (GF) PROS DEPARTMENT - 16	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	2021/2022 PROPOSED BUDGET
	SOURCES OF FUNDS				
	Revenues	$46,161	$48,396	$70,101	$51,706
	Other Sources of Funds	$0	$0	$0	$0
	Total Sources of Funds	$46,161	$48,396	$70,101	$51,706
	USES OF FUNDS				
	Salaries & Wages	$0	$0	$0	$0
	Benefits	$0	$0	$0	$0
	Personnel Services	$0	$0	$0	$0
	Services & Supplies	$1,419	$7,730	$1,320	$22,152
	Capital Outlay	$0	$0	$39,965	$0
	Debt Service	$0	$0	$0	$0
	Administrative Cost Allocation	$32,532	$25,798	$29,676	$29,554
	Total Expenditures	$33,951	$33,528	$70,961	$51,706
	OPERATING SURPLUS/(DEFICIT)	$12,210	$14,869	($861)	$0
	RESERVES				
	Beginning Reserves	$0	$0	$0	$0
	Operating Surplus / (Deficit)	$12,210	$14,869	($861)	$0
	Transfers & Encumbrances	$0	$0	$0	$0
	ENDING RESERVES	$12,210	$14,869	($861)	$0

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS

PARKS, RECREATION & OPEN SPACE - GENERAL FUND - 01, DEPARTMENT - 16

3%

	ACCOUNT NO.	GENERAL FUND (GF) PROS DEPARTMENT - 16	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	2021/2022 PROPOSED BUDGET
8		SOURCES OF FUNDS				
9		REVENUES				
10	01 4001	Franchise Fees	0	0	0	0
11	01 4310	Property Tax	45,989	48,707	49,911	51,516
12	01 4311	County Administrative Fee	(333)	(310)	(315)	(315)
13	01 4390	Miscellaneous Revenue	505	0	505	505
31	01 4620	Grant - County SLO Beautification Infrastructure			20,000	
32			0			
34		Total Revenues	$46,161	$48,396	$70,101	$51,706
35		OTHER SOURCES OF FUNDS				
39	01 4395	Proposition 1A Reserve	0			
40	01 4615	Reserve Transfer In	0			
44		Total Other Sources of Funds	$0	$0	$0	$0
45		Total Sources of Funds	$46,161	$48,396	$70,101	$51,706
46		USES OF FUNDS				
48		SALARIES & WAGES				
49			0			
56		Total Salaries & Wages	$0	$0	$0	$0
57		BENEFITS				
58			0			
72		Total Benefits	$0	$0	$0	$0

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS
PARKS, RECREATION & OPEN SPACE - GENERAL FUND - 01, DEPARTMENT - 16

3%

	ACCOUNT NO.	GENERAL FUND (GF) PROS DEPARTMENT - 16	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	2021/2022 PROPOSED BUDGET
73		**Total Personnel Services**	$0	$0	$0	$0
74		**SERVICES & SUPPLIES**				
75	6011I	Public Information - General	276	0	0	0
76	6033P	M & R - Skate Park Repairs/Design		6,730	290	0
77	6053	Printing Forms	1,144	1,000	1,030	0
78	6115	Meeting Expense	0	0	0	0
134	6080	Professional Svs - Update PROS Master Plan				19,152
135	6080	Professional Svs - Grant Writer	0	0	0	3,000
137		**Total Services & Supplies**	$1,419	$7,730	$1,320	$22,152
138		**CAPITAL OUTLAY**				
139	6170	Design - Fiscalini East Ranch Park Restroom	0	0	20,000	0
140	6170	Design - Skate Park			19,965	
141						
147		**Total Capital Outlay**	$0	$0	$39,965	$0
148		**DEBT SERVICE**				
149			0	0		0
152		**Total Debt Service**	$0	$0	$0	$0
153		**ADMINISTRATIVE COST ALLOCATION**				
154			32,532	25,798	29,676	29,554
156		**Total Administrative Cost Allocation**	$32,532	$25,798	$29,676	$29,554
157		**Total Expenditures**	$33,951	$33,528	$70,961	$51,706

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS

PARKS, RECREATION & OPEN SPACE - GENERAL FUND - 01, DEPARTMENT - 16

ACCOUNT NO.	GENERAL FUND (GF) PROS DEPARTMENT - 16	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	3% 2021/2022 PROPOSED BUDGET
	OPERATING SURPLUS/(DEFICIT)	**$12,210**	**$14,869**	**($861)**	**$0**
	TRANSFERS & ENCUMBRANCES				
01 4625	Transfers In - From General Fund	0	0		0
	(Transfers Out)	0	0		0
	Encumbrances - Sources of Funding	0	0		0
	Encumbrances - (Designated Funds)	0	0		0
	NET TRANSFERS & ENCUMBRANCES	**$0**	**$0**	**$0**	**$0**
	RESERVES				
	Use of Reserves	0	0		0
	(Additions to Reserves)	0	0		0
	Other Adjustments	0	0		0
	RESERVES - INCREASE / (DECREASE)	**$0**	**$0**	**$0**	**$0**
	NET BUDGETARY SOURCES/USES	**$12,210**	**$14,869**	**($861)**	**$0**
	RESERVES				
	Beginning Reserves				
	Operating Surplus / (Deficit)	$12,210	$14,869	($861)	$0
	Transfers & Encumbrances	$0	$0	$0	$0
	ENDING RESERVES	**$12,210**	**$14,869**	**($861)**	**$0**

GENERAL FUND

ADMINISTRATION DEPARTMENT – 09

	A	B	C	D	H	I	J	K	L	M
1			CAMBRIA COMMUNITY SERVICES DISTRICT							
2			FUND LEVEL ANALYSIS							
3			ADMINISTRATIVE DEPARTMENT - GENERAL FUND - 01, DEPARTMENT - 09							
4						(unaudited)			2021/2022	
5		ACCOUNT	GENERAL FUND (GF)		ACTUAL	ACTUAL	ESTIMATED		PROPOSED	
6		NO.	ADMINISTRATIVE DEPARTMENT - 09		FY 2018/2019	FY 2019/2020	FY 2020/2021		BUDGET	
7										
8			SOURCES OF FUNDS							
10			Revenues		$131,676	$163,588	$159,172		$143,911	
11			Other Sources of Funds		$2,054,283	$1,975,406	$2,269,443		$2,252,394	
12			Total Sources of Funds		$2,185,959	$2,138,994	$2,428,615		$2,396,305	
13			USES OF FUNDS							
16			Salaries & Wages		$894,863	$785,434	$844,133		$796,262	
17			Benefits		$384,749	$419,643	$475,113		$496,318	
18			**Personnel Services**		**$1,279,612**	**$1,205,077**	**$1,319,246**		**$1,292,580**	
19			**Services & Supplies**		**$726,475**	**$766,051**	**$878,424**		**$959,814**	
20			**Capital Outlay**		**$48,483**	**$4,277**	**$71,773**		**$0**	
21			**Debt Service**		**$0**	**$0**	**$0**		**$0**	
22			**Administrative Cost Allocation**		**$0**	**$0**	**$0**		**$0**	
23			**Total Expenditures**		**$2,054,570**	**$1,975,406**	**$2,269,443**		**$2,252,394**	
24			**OPERATING SURPLUS/(DEFICIT)**		**$131,388**	**$163,588**	**$159,172**		**$143,911**	
39										
40			**RESERVES**							
41			Beginning Reserves		$0	$0	$0		$0	
42			Operating Surplus / (Deficit)		$131,388	$163,588	$159,172		$143,911	
43			Transfers & Encumbrances		($76,050)	($1,223)	$77,273		$98,753	
44			**ENDING RESERVES**		**$55,338**	**$162,365**	**$236,445**		**$242,664**	
45										

CAMBRIA COMMUNITY SERVICES DISTRICT

FUND LEVEL ANALYSIS

ADMINISTRATIVE DEPARTMENT - GENERAL FUND - 01, DEPARTMENT - 09

	B	C	H	I	J	L
3						3%
4				(unaudited)		2021/2022
5	ACCOUNT	GENERAL FUND (GF)	ACTUAL	ACTUAL	ESTIMATED	PROPOSED
6	NO.	ADMINISTRATIVE DEPARTMENT - 09	FY 2018/2019	FY 2019/2020	FY 2020/2021	BUDGET
7						
8		SOURCES OF FUNDS				
9		**REVENUES**				
10	01 4001	Franchise Fees	86,289	100,573	118,000	118,000
11	01 4013	Vacation Rental Registration Fee	486	405	600	600
13	01 4200	Interest Income	33,381	28,093	20,966	6,000
14	01 4310	Property Tax–All	0	30,732	15,366	15,366
15	01 4311	County Administrative Fee	0	0	0	0
16	01 4385	Radio Vault Rent	2,400	2,400	2,400	2,400
17	01 4389	Public Records Request	18	0	0	0
18	01 4390	Miscellaneous Revenue	9,101	1,385	1,840	1,545
19			0			
33		Total Revenues	$131,676	$163,588	$159,172	$143,911
34		**OTHER SOURCES OF FUNDS**				
35		Allocated Administrative Overhead	2,054,283	1,975,406	2,269,443	2,252,394
40						
42		Total Other Sources of Funds	$2,054,283	$1,975,406	$2,269,443	$2,252,394
43		Total Sources of Funds	$2,185,959	$2,138,994	$2,428,615	$2,396,305

	A	B	C	D	H	I	J	K	L	M
1			CAMBRIA COMMUNITY SERVICES DISTRICT							
2			FUND LEVEL ANALYSIS							
3			ADMINISTRATIVE DEPARTMENT - GENERAL FUND - 01, DEPARTMENT - 09						3%	
4						(unaudited)			2021/2022	
5		ACCOUNT	GENERAL FUND (GF)		ACTUAL	ACTUAL	ESTIMATED		PROPOSED	
6		NO.	ADMINISTRATIVE DEPARTMENT - 09		FY 2018/2019	FY 2019/2020	FY 2020/2021		BUDGET	
7										
44			USES OF FUNDS							
46			SALARIES & WAGES							
47		5000	Salary & Wages		740,206	647,449	797,170		745,262	
48		5010	Overtime		12,677	9,136	20,000		15,000	
49		5030	Director's		30,200	32,800	36,000		36,000	
50		5040	Sick Leave/Vacation Pay		84,923	61,957	0		0	
51		5050	Holiday Pay		26,857	34,093	0		0	
53										
54			Total Salaries & Wages		$894,863	$785,434	$844,133		$796,262	
55			BENEFITS							
56		5102	Dental Insurance - Ameritas		9,380	9,355	9,390		9,319	
57		5103	Medical Insurance		76,123	61,016	73,252		70,794	
58		5105	Life Insurance		469	668	1,094		1,094	
59		5106	FICA		40,614	47,328	50,614		52,716	
60		5107	Medicare		12,856	11,331	12,537		12,114	
61		5108	Workers Compensation		6,432	6,617	4,604		4,542	
62		5109	Retirement-PERS		139,778	176,997	206,866		207,020	
63		5111	Payroll Tax Expense		18	(279)	0		0	
64		5112	Unemployment Insurance		3,067	7,166	0		0	
65		5120	Other Employee Benefits		9,783	10,670	31,480		39,180	
66		5121	Retirees Health		76,495	74,954	90,076		82,639	
67		5122	Medical Reimbursements - HRA		9,733	13,820	15,200		16,900	
72					0		0			
74			Total Benefits		$384,749	$419,643	$475,113		$496,318	

	A	B	C	D	H	I	J	K	L	M
1			CAMBRIA COMMUNITY SERVICES DISTRICT							
2			FUND LEVEL ANALYSIS							
3			ADMINISTRATIVE DEPARTMENT - GENERAL FUND - 01, DEPARTMENT - 09						3%	
4						(unaudited)			2021/2022	
5		ACCOUNT	GENERAL FUND (GF)		ACTUAL	ACTUAL	ESTIMATED		PROPOSED	
6		NO.	ADMINISTRATIVE DEPARTMENT - 09		FY 2018/2019	FY 2019/2020	FY 2020/2021		BUDGET	
7										
75			**Total Personnel Services**		**$1,279,612**	**$1,205,077**	**$1,319,246**		**$1,292,580**	
76			**SERVICES & SUPPLIES**							
77		6010	Ads - Legal/Other		626	986	236		243	
78		6011I	Public Information - General		2,347	2,052	1,175		1,175	
79		6011W	Public Information - Website		5,802	3,203	2,400		3,120	
80		6013	Donations		0	0	0		0	
81		6014	Public Events		287	279	287		296	
82		6030	Insurance		111,908	129,809	172,812		224,979	
83		6033B	Maintenance & Repairs - Buildings		6,435	15,181	9,975		10,275	
84		6033G	Maintenance & Repairs - Grounds		3,100	2,284	2,462		2,535	
85		6033V	Maintenance & Repairs - Vet's Hall		0	0	0		0	
86		6041L	Maintenance & Repairs-Vehicles Licenses		445	218	1,720		1,772	
87		6044	Computer/Copier /Printer Srvcs/MaintAgre		66,027	103,506	113,777		109,590	
95		6045	Computer/Copier/Printer Supplies/Upgrade		7,496	4,847	7,641		7,870	
96		6048	Security & Safety		504	869	787		811	
97		6048E	Safety-Med		450	32	39		40	
98		6050	Office Supplies		7,327	5,341	4,344		4,474	
99		6051	Postage & Shipping		3,931	1,745	2,304		2,374	
100		6052	Bank Charges		1,626	354	4,766		4,909	
101		6053	Printing/Forms		1,806	2,380	2,358		2,428	
102		6054	Membership -Dues , Publications & Books		13,643	8,326	10,291		10,599	
103		6055	Government Fees and Licenses		45,950	29,162	23,288		23,987	
104			LAFCO		0	0	18,286		22,100	
105		6058	Cash Over (Short)		(24)	(31)	0		0	
106		6060C	Utilities Cell Phone		4,369	5,364	3,578		3,685	
107		6060E	Utilities Electricity		5,741	6,238	6,606		6,804	

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS

ADMINISTRATIVE DEPARTMENT - GENERAL FUND - 01, DEPARTMENT - 09

3%

	ACCOUNT NO.	GENERAL FUND (GF) ADMINISTRATIVE DEPARTMENT - 09	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	2021/2022 PROPOSED BUDGET
108	6060G	Utilities Gas	220	205	182	188
109	6060I	Utilities Internet Access	10,964	11,044	12,423	12,795
110	6060P	Utilities Phone-Land Lines, Faxes, Alarms	6,160	6,785	8,847	9,112
111	6060S	Utilities Sewer	396	482	587	605
112	6060W	Utilities Water	178	242	369	380
113	6070	Equipment Rental	502	502	532	548
114	6075	Rental Expense Office Space	33,177	30,150	30,636	31,555
115	6080A	Prof Services - Audit	2,500	14,750	38,150	30,000
116	6080F	Prof Services - Finance	2,100	0	0	0
117	6080K	Prof Services-District Counsel	149,310	188,728	202,047	208,108
118	6080L	Prof Services-Legal	99,802	96,124	69,712	71,804
119	6080M	Prof Services - Miscellaneous/Other	14,964	17,562	39,354	40,534
120		Prof Services - Fees & Charges Study - New Request	0	0	0	20,000
121	6080T	Professional Services - Temporary	65,248	23,938	30,000	30,900
122	6086	Outside Non-Professional Services	25,713	24,376	23,183	23,879
123	6088	Claims	0	0	0	0
124	6090	Department Operating Supplies	1,006	1,870	2,107	2,171
125	6094	Clothing/Uniforms	19	477	491	506
126	6095	Office Furniture/Equipment	2,787	3,210	16,005	8,605
127	6096	Fuel	614	190	102	105
128	6115	Meeting Expenses	3,681	3,023	4,236	4,363
129	6120D	Travel, Training, Seminars – Directors	367	2,251	2,318	2,387
130	6120E	Travel, Training, Seminars – Employees	9,824	9,811	999	9,980
131	6120G	Training - LCW (Incl Library Subscription)	0	4,940	4,865	5,011
132	6124	Employee Recognition	250	103	141	146
133	6125	Employee Recruitment	6,898	3,144	2,005	2,065
134			0			0

	A	B	C	D	H	I	J	K	L	M
1			CAMBRIA COMMUNITY SERVICES DISTRICT							
2			FUND LEVEL ANALYSIS							
3			ADMINISTRATIVE DEPARTMENT - GENERAL FUND - 01, DEPARTMENT - 09						3%	
4						(unaudited)			2021/2022	
5		ACCOUNT	GENERAL FUND (GF)		ACTUAL	ACTUAL	ESTIMATED		PROPOSED	
6		NO.	ADMINISTRATIVE DEPARTMENT - 09		FY 2018/2019	FY 2019/2020	FY 2020/2021		BUDGET	
7										
149			Total Services & Supplies		$726,475	$766,051	$878,424		$959,814	
150			CAPITAL OUTLAY							
151		6170I	Purchase Administrative Office		0	0	0			
152		6170	Purchase Administrative Software		32,742	4,277	64,573		0	
153		6170	Purchase Fixed Asset Module			0	1,200		0	
154		6170	Purchase Work Order Module			0	6,000		0	
155		6170	Remodel Administration Office		15,741	0	0		0	
156		6170	Capital Assets - Replace Servers		0		0			
157										
160			Total Capital Outlay		$48,483	$4,277	$71,773		$0	
161			DEBT SERVICE							
162		6180J	Loan Principal - Ford Fusion		0		0			
163		6180H	Interest Expense - Ford Fusion		0		0			
165			Total Debt Service		$0	$0	$0		$0	
166			ADMINISTRATIVE COST ALLOCATION							
167		▨	▨		▨	▨	▨		▨	
169			Total Administrative Cost Allocation		$0	$0	$0		$0	
170			Total Expenditures		$2,054,570	$1,975,406	$2,269,443		$2,252,394	

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS
ADMINISTRATIVE DEPARTMENT - GENERAL FUND - 01, DEPARTMENT - 09

ACCOUNT NO.	GENERAL FUND (GF) ADMINISTRATIVE DEPARTMENT - 09	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	3% 2021/2022 PROPOSED BUDGET
	OPERATING SURPLUS/(DEFICIT)	**$131,388**	**$163,588**	**$159,172**	**$143,911**
	TRANSFERS & ENCUMBRANCES				
01 4625	Transfers In - From General Fund	0	0	0	
	(Transfers Out - To General Fund)	0	0	0	
	Encumbrances - Sources of Funding	(76,050)	(77,273)	0	0
	Encumbrances - (Designated Funds)	0	76,050	77,273	0
	NET TRANSFERS & ENCUMBRANCES	**($76,050)**	**($1,223)**	**$77,273**	**$0**
	RESERVES				
	Use of Reserves	0	0		
	(Additions to Reserves)	0	0		
	Other Adjustments	0	0		
	RESERVES - INCREASE / (DECREASE)	**$0**	**$0**	**$0**	**$0**
	NET BUDGETARY SOURCES/USES	**$55,338**	**$162,365**	**$236,445**	**$143,911**
	RESERVES				
	Beginning Reserves				
	Operating Surplus / (Deficit)	$131,388	$163,588	$159,172	$143,911
	Transfers & Encumbrances	($76,050)	($1,223)	$77,273	$98,753
	ENDING RESERVES	**$55,338**	**$162,365**	**$236,445**	**$242,664**

ENTERPRISE FUND SUMMARY

- Water Department – 11
- Water Reclamation Facility (WRF) Operations Department – 39
- WRF Capital Department – 40
- Wastewater Department - 12

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS
ENTERPRISE FUNDS

ACCOUNT NO.	ENTERPRISE FUNDS	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	2021/2022 PROPOSED BUDGET
	SOURCES OF FUNDS				
	Water	$3,179,134	$3,405,887	$3,606,226	$3,620,750
	WRF	$1,024,481	$1,225,528	$1,302,347	$1,327,180
	WRF-Capital	$68,706	$0	$1,750,000	$0
	Total Water	**$4,272,321**	**$4,631,415**	**$6,658,573**	**$4,947,930**
	Wastewater	$2,530,561	$2,992,124	$3,322,082	$3,380,915
	Total Sources of Funds	$6,802,882	$7,623,539	$9,980,655	$8,328,845
	USES OF FUNDS				
	Water	$1,975,864	$2,454,644	$3,661,399	$3,617,191
	WRF	$1,333,951	$993,995	$984,099	$1,037,202
	WRF-Capital	$227,040	$202,335	$230,905	$200,000
	Total Water	**$3,536,855**	**$3,650,973**	**$4,876,403**	**4,854,393**
	Wastewater	$2,312,555	$2,558,811	$2,912,101	$3,768,229
	Total Expenditures	**$5,849,411**	**$6,209,784**	**$7,788,504**	**$8,622,622**
	OPERATING SURPLUS/(DEFICIT)				
	Water	$1,203,270	$951,242	($55,173)	$3,559
	WRF	($309,470)	$231,533	$318,248	$289,978
	WRF-Capital	($158,334)	($202,335)	$1,519,095	($200,000)
	Total Water	**$735,465**	**$980,441**	**$1,782,170**	**$93,537**
	Wastewater	$218,005	$433,314	$409,981	($387,314)
	OPERATING SURPLUS/(DEFICIT)	**$953,471**	**$1,413,755**	**$2,192,151**	**($293,777)**

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS
ENTERPRISE FUNDS

ACCOUNT NO.	ENTERPRISE FUNDS	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	2021/2022 PROPOSED BUDGET
	RESERVES				
	Beginning Reserves				
	Water	0	0	0	0
	WRF	0	0	0	0
	WRF-Capital	0	0	0	0
	Total Water	$0	$0	$0	$0
	Wastewater	0	0	0	0
	Beginning Reserves	**$0**	**$0**	**$0**	**$0**
	Operating Surplus / (Deficit)				
	Water	$1,203,270	$951,242	($55,173)	$3,559
	WRF	($309,470)	$231,533	$318,248	($243,022)
	WRF-Capital	($158,334)	($202,335)	$1,519,095	($200,000)
	Total Water	$735,465	$980,441	$1,782,170	($439,463)
	Wastewater	$218,005	$433,314	$409,981	($387,314)
	Operating Surplus / (Deficit)	**$953,471**	**$1,413,755**	**$2,192,151**	**($826,777)**
	Transfers & Encumbrances				
	Water	($175,965)	($529,383)	$653,107	$0
	WRF	($5,198)	$5,198	$0	$0
	WRF-Capital	($95,439)	($17,348)	$105,858	$0
	Total Water	($276,602)	($541,533)	$758,965	$0
	Wastewater	$0	($45,617)	$89,875	$0
	Transfers & Encumbrances	**($276,602)**	**($587,150)**	**$848,840**	**$0**
	ENDING RESERVES	**$676,869**	**$826,605**	**$3,040,991**	**($826,777)**

WATER FUND

WATER DEPARTMENT – 11

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS

WATER FUND - 11, DEPARTMENT - 11

ACCOUNT NO.	WATER FUND WATER DEPARTMENT - 11	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	2021/2022 PROPOSED BUDGET
	SOURCES OF FUNDS				
	Revenues	**$3,104,262**	**$3,405,887**	**$3,606,226**	**$3,620,750**
	Other Sources of Funds	**$74,871**	**$0**	**$0**	**$0**
	Total Sources of Funds	$3,179,134	$3,405,887	$3,606,226	$3,620,750
	USES OF FUNDS				
	Salaries & Wages	$475,681	$489,678	$596,150	$608,981
	Benefits	$269,502	$279,261	$350,814	$372,900
	Personnel Services	**$745,183**	**$768,939**	**$946,964**	**$981,881**
	Services & Supplies	**$465,918**	**$601,088**	**$702,101**	**$931,197**
	Capital Outlay	**$169,330**	**$98,269**	**$895,378**	**$604,649**
	Debt Service	**$9,690**	**$26,547**	**$26,548**	**$16,936**
	Administrative Cost Allocation	**$585,742**	**$959,801**	**$1,090,408**	**$1,082,527**
	Total Expenditures	**$1,975,864**	**$2,454,644**	**$3,661,399**	**$3,617,191**
	OPERATING SURPLUS/(DEFICIT)	**$1,203,270**	**$951,242**	**($55,173)**	**$3,559**
	RESERVES				
	Beginning Reserves	0	0	0	
	Operating Surplus / (Deficit)	$1,203,270	$951,242	($55,173)	$3,559
	Transfers & Encumbrances	($175,965)	($529,383)	$653,107	$0
	ENDING RESERVES	**$1,027,305**	**$421,859**	**$597,934**	**$3,559**

	A	B	C	D	H	I	J	K	L	M
1			CAMBRIA COMMUNITY SERVICES DISTRICT							
2			FUND LEVEL ANALYSIS							
3			WATER FUND - 11, DEPARTMENT - 11						3%	
4-6		ACCOUNT NO.	WATER FUND WATER DEPARTMENT - 11		ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021		2021/2022 PROPOSED BUDGET	
7										
8			SOURCES OF FUNDS							
9			**REVENUES**							
10		11 4000	Service Sales		2,681,464	3,080,614	3,145,667		3,177,000	
11		11 4007	Returned Ck Fee		815	750	500			
12		11 4008	Acct Setup/clse		4,586	5,313	3,388			
13		11 4009	Off Hours		0	0	0			
14		11 4010	Water Penalty		45,316	28,282	(161)			
15		11 4011	Serv/Disc/Recon		410	0	0			
16		11 4012	Meter Tampering		0	0	0			
17		11 4014	Water Serv Fees		6,317	15,838	1,931			
18		11 4023	Penalty/Surcharge		0	0	0			
19		11 4050	Administrative Fee Revenue		6,803	10,280	4,345			
20		11 4100	Connect Rev-SFR		0	0	10,000		10,000	
21		11 4101	Wait List Maintenance Fee		62,922	56,961	62,000		62,000	
22		11 4110	Remodel Impact Fees		61,395	31,427	70,000		70,000	
23		11 4120	Connect Rev-Com		0	0	0			
24		11 4122	Retrofit In-Lieu Fee		44,050	(7,551)	0			
25		11 4124	Assignment Fees		6,196	2,500	16,091		4,150	
26		11 4128	Admin Fees		0	0	70,000		70,000	
27		11 4130	Voluntary Lot Merger		0	0	0			
28		11 4311	County Administrative Fee		(7,800)	(7,800)	0			
29		11 4360	Standby Availability Charges		177,654	177,699	178,000		178,000	
30		11 4373	Inspection Fee Revenue		11,254	7,261	4,965		9,100	
31		11 4390	Miscellaneous Revenue		2,882	2,814	0		1,000	
32		11 4390	Water Conservation Grant		0	0	7,500		7,500	
33		11 4200	Interest Income		0	1,500	32,000		32,000	

	B	C	H	I	J	L
1		CAMBRIA COMMUNITY SERVICES DISTRICT				
2		FUND LEVEL ANALYSIS				
3		WATER FUND - 11, DEPARTMENT - 11				3%
4				(unaudited)		2021/2022
5	ACCOUNT	WATER FUND	ACTUAL	ACTUAL	ESTIMATED	PROPOSED
6	NO.	WATER DEPARTMENT - 11	FY 2018/2019	FY 2019/2020	FY 2020/2021	BUDGET
7						
35		Total Revenues	$3,104,262	$3,405,887	$3,606,226	$3,620,750
36		OTHER SOURCES OF FUNDS				
37	11 4397	Loan Proceeds - Dump Truck	74,871	0	0	
44		Total Other Sources of Funds	$74,871	$0	$0	$0
45		Total Sources of Funds	$3,179,134	$3,405,887	$3,606,226	$3,620,750
46		USES OF FUNDS				
48		SALARIES & WAGES				
49	5000	Salary & Wages	355,560	392,633	542,900	555,731
50	5010	Overtime	38,428	32,245	35,000	35,000
51	5020	Standby	18,080	18,250	18,250	18,250
52	5040	Sick/Vacation Pay	46,166	28,476	0	0
53	5050	Holiday Pay	17,448	18,074	0	0
56		Total Salaries & Wages	$475,681	$489,678	$596,150	$608,981
57		BENEFITS				
58	5101	Uniform Allowance	2,000	1,920	2,000	2,000
59	5102	Dental Insurance	7,929	7,173	6,940	7,668
60	5103	Medical Insurance	77,248	64,545	66,776	68,361
61	5105	Life Insurance	534	568	958	982
62	5106	FICA	26,624	30,062	35,815	35,841
63	5107	Medicare	6,753	7,000	8,752	8,938
64	5108	Workers Compensation	13,386	15,022	29,519	28,979
65	5109	PERS - Retirement	89,563	90,015	123,546	146,328
66	5120	Other Employee Benefits	1,564	2,192	5,450	5,450
67	5121	Retirees Health	34,631	51,291	56,992	54,287

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS
WATER FUND - 11, DEPARTMENT - 11

	ACCOUNT NO.	WATER FUND WATER DEPARTMENT - 11	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	3% 2021/2022 PROPOSED BUDGET
68	5122	Medical Reimbursements - HRA	9,269	9,472	14,066	14,066
72		**Total Benefits**	$269,502	$279,261	$350,814	$372,900
73		**Total Personnel Services**	$745,183	$768,939	$946,964	$981,881
74		**SERVICES & SUPPLIES**				
75	6010	Ads - Legal/Other	339	172	0	0
76	6011I	Public Information - General	0	1,545	292	301
77		Water Conservation Mailer - New Request	0	0	0	1,500
78	6030	Insurance (new dump truck)	1,639	0	0	0
79	6031	Old M & R Lift Station	0	0	0	0
80	6031D	Maintenance & Repairs	52,025	85,687	6,955	7,164
81	6031F	Maintenance & Repairs - Fire Hydrants	39	446	469	483
82	6031G	Maintenance & Repairs - Generators	835	530	1,486	1,530
83	6031L	Maintenance & Repairs - Leimert Booster	833	0	824	848
84	6031M	Maintenance & Repairs - Water Meters	1,492	3,906	533	549
85		Production Meter Testing	0	0	5,872	6,000
86	6031P	Pumps	0	0	34	35
87	6031Q	Maintenance & Repairs - SR3 Well	3,267	6,050	8,309	8,558
88	6031R	Maintenance & Repairs - SR4 Well/Filter	28,398	5,221	4,544	4,681
89	6031S	Maint. & Repairs - Water Storage Tanks	3,433	3,276	4,430	4,563
90		Annual Tank Inspection (Pine Knolls)	0	9,124	10,388	10,700
91		Annual Tank Maintenance & Rehab (Contract)	0	0	46,172	47,557
92	6031T	Maint. & Repairs -Water Treatment Systems	9,512	910	317	327
93	6031V	Maint. & Repairs-Wtr.Values (Cord Pave)	0	180	3,090	0
94	6031W	Maintenance & Repairs - Wells	15,942	12,132	2,891	2,978
95		SS Well Field Dosing Lines & Analyzers	0	0	7,500	7,500
96	6031Y	Maint. & Repairs -Water Yard/Booster St.	600	1,267	12,023	12,383
97	6031Z	Maintenance	0	27	41	42

	B	C	H	I	J	L
1		CAMBRIA COMMUNITY SERVICES DISTRICT				
2		FUND LEVEL ANALYSIS				
3		WATER FUND - 11, DEPARTMENT - 11				3%
4				(unaudited)		2021/2022
5	ACCOUNT	WATER FUND	ACTUAL	ACTUAL	ESTIMATED	PROPOSED
6	NO.	WATER DEPARTMENT - 11	FY 2018/2019	FY 2019/2020	FY 2020/2021	BUDGET
7						
98	6032D	M & R WW Disp Eff	0	0	0	0
99	6032L	M & R WW Lift Station	0	0	0	0
100	6032T	M & R WW Treatment	0	0	0	0
101	6033B	Maintenance & Repairs - Buildings	3,129	10,221	2,629	2,708
102	6033B	Paint Building & Office		2,700	9,800	0
103	6033B	Deferred Maint from FY 20/21 - New Request		0	0	17,000
104	6033G	Maintenance & Repairs - Grounds	652	12,170	15,963	16,442
105	6033Z	Maintenance & Repairs - Storm Damage			8,326	8,575
106		Storm Damage - Vault Repairs, Dosing Pump, Pressure Regulators				32,921
107	6035L	M & R - Leak Repairs			7,364	7,585
108	6035R	M & R - Road Repairs			41,751	70,000
109	6035V	M & R - Valve Repairs			99	5,000
110	6036	Maintenance & Repairs- Emergency Events	0	34,838	10,300	10,609
111	6037	Maintenance & Repairs - SCADA	28,797	32,869	1,942	38,700
112	6040	Maintenance & Repairs - Equipment	73	107	1,000	1,030
113	6041L	Maintenance & Repairs - Vehicles Licenses	4,753	8,814	3,294	3,393
114	6041N	Maint. & Repairs - Vehicles Non-Licensed	2,175	4,419	268	276
115	6044	Computer/Copier/Printer Services	564	0	866	892
116	6045	Computer/Copier/Printer Goods	3,560	536	3,793	4,700
117		Reporting Software (Plan-It, Mapping)		263	2,060	2,122
118		Replace 1 Computers		4,379	5,150	1,500
119	6048	Security & Safety	1,466	0	1,697	1,748
120	6050	Office Supplies	515	496	971	1,001
121	6051	Printing & Shipping	9,113	5,886	6,448	6,642
122	6052	Bank Charges	0	0	0	0
123	6053	Printing/Forms	3,064	3,144	4,167	4,292
124	6054	Membership Dues, Publications/Books	3,303	4,988	5,106	5,259
125	6055	Government Fees & Licenses	29,045	28,562	32,599	33,577

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS
WATER FUND - 11, DEPARTMENT - 11

	A	B	C	D	H	I	J	K	L	M
3									3%	
4-7		ACCOUNT NO.	WATER FUND WATER DEPARTMENT - 11		ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021		2021/2022 PROPOSED BUDGET	
126		6059	Bad Debt Expense		(8)	2	(1)		0	
127		6060C	Utilities - Cell Phone		2,085	1,948	2,649		2,728	
128		6060E	Utilities - Electricity		132,809	129,509	145,277		149,635	
129		6060G	Utilities - Gas		0	0	0		0	
130		6060I	Utilities - Internet		4,067	4,908	5,543		5,710	
131		6060P	Utilities - Phone-Land Lines, Faxes, Alarms		4,755	5,578	5,484		5,649	
132		6060S	Utilities - Sewer		1,196	2,980	2,024		2,084	
133		6060W	Utilities - Water		0	0	0		0	
134		6063	M & R Communications Equipment		0	17,336	6,518		6,714	
135			Undergrounding of Comm Lines - New Request						12,000	
136		6078	Land Lease - Well Site		40,150	41,504	42,127		44,013	
137		6080E	Professional Services - Engineering		0	0	0		0	
138		6080E	Urban Water Mgmt Plan			3,359	71,729		73,881	
139		6080G	Professional Services - GIS Development		1,712	8,532	6,480		6,674	
140		6080K	Professional Services - District Counsel		0	0	0		0	
141		6080L	Land Conservancy - Lot Inventory, Etc.		2,655	0	0		0	
142		6080M	Professional Services - Misc./Other		6,871	7,649	17,182		17,698	
143			Water Use Efficiency Plan Update		0	0	10,000		17,500	
144			Water Audit Tool & Training - New Request		0	0	0		5,000	
145			Retrofit Saturation Survey - New Request		0	0	0		2,500	
146			Instream Flow Study - New Request		0	0	0		75,000	
147		6080T	Professional Services - Temporary		0	701	5,006		5,000	
148		6080V	Voluntary Lot Merger Program		6,418	3,311	3,590		3,697	
149		6086	Outside Services		0	0	0		0	
150		6089	Emergency Medical Supplies		89	0	92		95	
151		6090	Department Operating Supplies		12,137	27,614	20,180		20,785	
152		6090B	Sensor Cleaning		0	0	0		0	
153		6091	Lab Tests		11,753	12,383	12,128		12,492	

CAMBRIA COMMUNITY SERVICES DISTRICT

FUND LEVEL ANALYSIS

WATER FUND - 11, DEPARTMENT - 11

	A	B	C	D	H	I	J	K	L	M
3									3%	
4–6		ACCOUNT NO.	WATER FUND WATER DEPARTMENT - 11		ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021		2021/2022 PROPOSED BUDGET	
7										
154		6091B	Operating Supplies		1,746	1,150	80		82	
155		6091C	Operating Supplies - Chemicals		0	0	9,288		9,567	
156		6091G	Calibration		1,500	9,197	9,379		9,660	
157		6091H	Lab Testing		0	0	0		0	
158		6092	Lab Supplies		0	1,929	2,649		2,728	
159		6093	Small Tools and Equipment		5,456	2,864	2,445		2,518	
160		6094	Clothing and Uniform		3,811	1,867	572		589	
161		6095	Office Furniture			3,021	1,000		1,030	
162		6096	Fuel - Gas and Diesel		11,224	13,214	13,816		14,231	
163		6115	Meeting Expenses		242	192	124		128	
164		6120E	Travel, Training, Seminars-Employees,		3,994	6,049	3,843		8,000	
165		6125	Employee Recruitment		2,693	1,909	138		142	
166		6610	Retrofit Program		0	17	1,000		0	
167		6611	Rebate Program - Cisterns, Toilets, Washers		0	7,500	12,500		12,500	
168		6011	Rebate Program - Grant Offset				7,500		7,500	
177			**Total Services & Supplies**		**$465,918**	**$601,088**	**$702,101**		**$931,197**	
178			**CAPITAL OUTLAY**							
181		6170	Capital Assets		0					
182			Replace 2005 F150 Truck			0	35,000		0	
183			Security Improvements @ WTP			0	0		0	
184		6170	Trailer-Mounted Vacuum Exactor		46,169	0	0			
185		6170	Air Compressor & Jack Hammer		22,557	0	0			
186		6170	Dump Truck Replacement (Ford F-650)		74,871	0	0			
187		6170	Zone 2 to 7 Trans Main SR Crk Ped Brdg		2,241	2,230	215,527		0	
188		6170	Replacement of Leimert Service Lines		0	0	0			
189		6170	Water Meter Replacement/Upgrade		0	500	332,500		97,000	
192		6170	Rodeo Grounds Pump Station Replacement		0	0	0		0	

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS

WATER FUND - 11, DEPARTMENT - 11

	B	C	H	I	J	L
1						
2						
3						3%
4				(unaudited)		2021/2022
5	ACCOUNT	WATER FUND	ACTUAL	ACTUAL	ESTIMATED	PROPOSED
6	NO.	WATER DEPARTMENT - 11	FY 2018/2019	FY 2019/2020	FY 2020/2021	BUDGET
7						
193	6170	SCADA System - L/T Water Portion	23,492	25,965	0	0
195	6170	SCADA System		0	0	0
198		SCADA System - Phase II			240,351	9,649
199	6170	Generator		50,449	0	0
200	6170	Pump Replacement		19,126	0	0
201	6170	Water Conservation Database			10,000	0
202	6170	Rodeo Grounds Pump Station - Design/Permitting			62,000	0
203	6170	Stuart St Tank Rehabilitation				458,000
204		SS2 Electrical Panel Upgrade				15,000
205		Cover for Sheltering of Equipment				15,000
206		Modular Office Building for Plant				10,000
210		**Total Capital Outlay**	**$169,330**	**$98,269**	**$895,378**	**$604,649**
211		**DEBT SERVICE**				
212	6180J	Loan Principal-Ford F-250	8,659	8,726	9,158	0
213	6180H	Interest Expense	1,031	885	453	0
214	6180J	Loan Principal-City National Bank	0	0	0	0
215	6180H	Interest Expense	0	0	0	0
216	6180J	Loan Principal-Muni Fin Ford Dump Trk	0	13,754	14,339	14,948
217	6180H	Interest Expense - Muni Fin Ford Dump Trk	0	3,182	2,597	1,988
219		**Total Debt Service**	**$9,690**	**$26,547**	**$26,548**	**$16,936**
220		**ADMINISTRATIVE COST ALLOCATION**				
221		Administrative Cost Allocation - Water Fund	585,742	584,105	664,980	660,103
222		Administrative Cost Allocation - WRF Fund		281,772	319,071	316,818
223		Administrative Cost Allocation - WRF-C Fund		93,924	106,357	105,606
226		**Total Administrative Cost Allocation**	**$585,742**	**$959,801**	**$1,090,408**	**$1,082,527**
227		**Total Expenditures**	**$1,975,864**	**$2,454,644**	**$3,661,399**	**$3,617,191**

	A	B	C	D	H	I	J	K	L	M
1			CAMBRIA COMMUNITY SERVICES DISTRICT							
2			FUND LEVEL ANALYSIS							
3			WATER FUND - 11, DEPARTMENT - 11						3%	
4						(unaudited)			2021/2022	
5		ACCOUNT	WATER FUND		ACTUAL	ACTUAL	ESTIMATED		PROPOSED	
6		NO.	WATER DEPARTMENT - 11		FY 2018/2019	FY 2019/2020	FY 2020/2021		BUDGET	
7										
228										
229			**OPERATING SURPLUS/(DEFICIT)**		**$1,203,270**	**$951,242**	**($55,173)**		**$3,559**	
230			**TRANSFERS & ENCUMBRANCES**							
231		01 4625	Transfers In - From General Fund		0					
232			(Transfers Out)		0					
233			Encumbrances - Sources of Funding		(175,965)	(653,107)				
234			Encumbrances - (Designated Funds)		0	123,724	653,107			
236			**NET TRANSFERS & ENCUMBRANCES**		**($175,965)**	**($529,383)**	**$653,107**		**$0**	
237			**RESERVES**							
238			Use of Reserves		0					
239			(Additions to Reserves - Vehicle Repl)		0	0	0			
240			Other Adjustments		0					
242			**RESERVES - INCREASE / (DECREASE)**		**$0**	**$0**	**$0**		**$0**	
243			**NET BUDGETARY SOURCES/USES**		**$1,027,305**	**$421,859**	**$597,934**		**$3,559**	
244										
245			**RESERVES**							
246			Beginning Reserves							
247			Operating Surplus / (Deficit)		$1,203,270	$951,242	($55,173)		$3,559	
248			Transfers & Encumbrances		($175,965)	($529,383)	$653,107		$0	
249			**ENDING RESERVES**		**$1,027,305**	**$421,859**	**$597,934**		**$3,559**	
250										

WATER FUND

WRF OPERATIONS – 39

WRF CAPITAL - 40

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS
WATER RECLAMATION FACILITY - WATER FUND 39 - OPERATIONS DEPARTMENT - 25

ACCOUNT NO.	WATER FUND WRF DEPARTMENT - 25	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	2021/2022 PROPOSED BUDGET
	SOURCES OF FUNDS				
	Revenues	$1,024,481	$1,225,528	$1,302,347	$1,327,180
	Other Sources of Funds	$0	$0	$0	$0
	Total Sources of Funds	$1,024,481	$1,225,528	$1,302,347	$1,327,180
	USES OF FUNDS				
	Salaries & Wages	$86,454	$79,444	$132,411	$129,161
	Benefits	$38,650	$48,881	$63,908	$68,501
	Personnel Services	$125,104	$128,325	$196,319	$197,662
	Services & Supplies	$221,401	$141,143	$128,355	$180,115
	Capital Outlay	$29,802	$65,100	$0	$0
	Debt Service	$659,424	$659,426	$659,426	$659,425
	Administrative Cost Allocation	$298,221	$0	$0	$0
	Total Expenditures	**$1,333,951**	**$993,995**	**$984,099**	**$1,037,202**
	OPERATING SURPLUS/(DEFICIT)	**($309,470)**	**$231,533**	**$318,248**	**$289,978**
	RESERVES				
	Beginning Reserves	$0	$0	$0	$0
	Operating Surplus / (Deficit)	($309,470)	$231,533	$318,248	($243,022)
	Transfers & Encumbrances	($5,198)	$5,198	$0	$0
	ENDING RESERVES	**($314,668)**	**$236,731**	**$318,248**	**($243,022)**

	B	C	H	I	J	L
1		CAMBRIA COMMUNITY SERVICES DISTRICT				
2		FUND LEVEL ANALYSIS				
3		WATER RECLAMATION FACILITY - WATER FUND 39 - OPERATIONS DEPARTMENT - 25				3%
4				(unaudited)		2021/2022
5	ACCOUNT	WATER FUND	ACTUAL	ACTUAL	ESTIMATED	PROPOSED
6	NO.	WRF DEPARTMENT - 25	FY 2018/2019	FY 2019/2020	FY 2020/2021	BUDGET
7						
8		SOURCES OF FUNDS				
9		REVENUES				
10	39 4041	WRF Water Base	310,624	493,430	488,167	513,000
11	39 4042	WRF Base Vac	27,550	0	0	
12	39 4043	WRF Base Com Ld	23,613	0	0	
13	39 4044	WRF Base Com Wt	48,642	0	0	
14	39 4051	WRF Water Usage	327,607	731,745	808,000	808,000
15	39 4052	WRF Use Vac Rnt	28,112	0	0	
16	39 4053	WRF Use Com Ld	154,475	0	0	
17	39 4054	WRF Use Com Wtr	102,277	0	0	
22	39 4061	WRF Facil Resd	0			
23	39 4062	WRF Facil Vac R	0			
24	39 4063	WRF Facil Cm Ld	0			
25	39 4064	WRF Facil Cm Wt	0			
26	39 4200	Interest Income	1,582	353	6,180	6,180
37		**Total Revenues**	**$1,024,481**	**$1,225,528**	**$1,302,347**	**$1,327,180**
38		**OTHER SOURCES OF FUNDS**				
44	39 4620	Grant Revenue - Capital	0			
46		**Total Other Sources of Funds**	$0	$0	$0	**$0**
47		**Total Sources of Funds**	$1,024,481	$1,225,528	$1,302,347	$1,327,180

	B	C	D	H	I	J	K	L	M
1		CAMBRIA COMMUNITY SERVICES DISTRICT							
2		FUND LEVEL ANALYSIS							
3		WATER RECLAMATION FACILITY - WATER FUND 39 - OPERATIONS DEPARTMENT - 25						3%	
4					(unaudited)			2021/2022	
5	ACCOUNT	WATER FUND		ACTUAL	ACTUAL	ESTIMATED		PROPOSED	
6	NO.	WRF DEPARTMENT - 25		FY 2018/2019	FY 2019/2020	FY 2020/2021		BUDGET	
7									
48		USES OF FUNDS							
50		SALARIES & WAGES							
51	5000	Salary & Wages		69,655	71,016	128,411		128,161	
52	5010	Overtime		3,202	2,069	4,000		1,000	
53	5020	Standby		20	0	0		0	
54	5040	Sick/Vacation Pay		10,110	3,300	0		0	
55	5050	Holiday Pay		3,467	3,059	0		0	
59		**Total Salaries & Wages**		**$86,454**	**$79,444**	**$132,411**		**$129,161**	
60		BENEFITS							
61	5101	Uniform Allowance		434	80	0		0	
62	5102	Dental Insurance		2,971	1,414	1,369		1,369	
63	5103	Medical Insurance		12,931	11,818	15,646		15,718	
64	5105	Life Insurance		84	87	171		171	
65	5106	FICA		4,980	4,939	8,164		7,963	
66	5107	Medicare		1,247	1,155	1,954		1,907	
67	5108	Workers Compensation		1,288	1,006	4,473		4,469	
68	5109	PERS - Retirement		13,167	26,330	28,249		33,022	
69	5120	Other Employee Benefits		1,142	1,354	2,335		2,335	
70	5122	Medical Reimbursements - HRA		406	699	1,547		1,547	
75		**Total Benefits**		**$38,650**	**$48,881**	**$63,908**		**$68,501**	
76		**Total Personnel Services**		**$125,104**	**$128,325**	**$196,319**		**$197,662**	
77		SERVICES & SUPPLIES							
78	6031F	Maintenance & Repairs - Fire Hydrants		0	0	0		0	
79	6031G	Maintenance & Repairs - Generators		0	0	0		0	

	B	C	H	I	J	L
1		**CAMBRIA COMMUNITY SERVICES DISTRICT**				
2		**FUND LEVEL ANALYSIS**				
3		**WATER RECLAMATION FACILITY - WATER FUND 39 - OPERATIONS DEPARTMENT - 25**				3%
4				(unaudited)		2021/2022
5	ACCOUNT	WATER FUND	ACTUAL	ACTUAL	ESTIMATED	PROPOSED
6	NO.	WRF DEPARTMENT - 25	FY 2018/2019	FY 2019/2020	FY 2020/2021	BUDGET
7						
80	6031Z	Maintenance	10,129	0	74	76
81	6031	Off-Hauling RO Brine	0	0	0	0
82	6033B	Maintenance & Repairs - Buildings	570	0	6,067	6,249
83	6033G	Maintenance & Repairs - Grounds	2,115	599	1,171	1,206
84	6033G	Replace Analyzers (2)		0	0	0
85		Maintenance & Repairs - Grounds			3,000	3,090
86	6033G	Pickling Filters for Preservation		59,639	0	0
87	6036	Maintenance & Repairs- Emergency	20,437	4,150	4,275	4,403
88	6041L	Maintenance & Repairs - Vehicles Licenses	217	500	136	140
89	6044	Comp/Copier/Printer Services	167	1,048	1,079	1,112
90	6051	Postage & Shipping	1,612	0	0	0
91	6055	Government Fees & Licenses	41,316	30,739	31,661	32,611
92	6060C	Utilities - Cell Phone	324	1,079	1,040	1,071
93	6060E	Utilities - Electricity	14,050	7,830	9,229	9,506
94	6060P	Utilities - Phone	0	0	0	0
95	6070	Equipment Rent	21,840	5,261	0	0
96	6070	Reduce Tank Rental to 3 Months		0	0	0
97	6080K	Professional Services - District Counsel	0	0	0	0
98	6080L	Professional Services - Legal	0	0	0	0
99	6080M	Professional Services - Misc./Other	8,460	12,214	6,667	6,867
100		Reverse Osmosis Filtration Audit - New Request	0	0	0	12,000
101	6080T	Professional Services - Temporary	0	0	5,006	5,157
102	6086	Outside Services	18	0	0	0
103	6090	Department Operating Supplies	1,895	654	2,760	2,843
104		Chemicals for Media Preservation - New Request	0	0	0	7,000
105		Analytic Device Repairs/Replacement - New Request	0	0	0	15,000
106	6090B	Sensor Cleaning	0	0	0	0
107	6091	Lab Tests	10,891	270	10,300	10,609

	B	C	H	I	J	L
1		CAMBRIA COMMUNITY SERVICES DISTRICT				
2		FUND LEVEL ANALYSIS				
3		WATER RECLAMATION FACILITY - WATER FUND 39 - OPERATIONS DEPARTMENT - 25				3%
4–6	ACCOUNT NO.	WATER FUND WRF DEPARTMENT - 25	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	2021/2022 PROPOSED BUDGET
7						
108	6091B	Operating Supplies	473	162	22	23
109	6091C	Operating Supplies - Chemicals	473	162	1,387	1,429
110	6091E	Baseline Biological Monitoring AMP	0	12,120	42,467	50,000
111	6091F	Remote Monitoring	6,000	0	0	6,000
112	6091G	Calibration	0	0	0	0
113	6091H	Lab Testing	0	0	0	0
114	6092	Lab Supplies	1,981	0	0	0
115		Silt Density Index Testing Equipment - New Request	0	0	0	1,650
116	6094	Clothing and Uniform	70	0	0	0
117	6095	Office Furniture		1,159	0	0
118	6096	Fuel - Gas and Diesel	4,153	3,190	1,934	1,992
119	6115	Meeting Expense	0	0	0	0
120	6120E	Travel, Training, Seminars – Employees	454	368	0	0
121	6125	Employee Recruitment	0	0	78	80
122	6195	Vehicles	2,106	0	0	0
123	6829D	Performance Bonds	71,649	0	0	0
124	6829M	Financial Services	0	0	0	0
125	6829S	EWS Environmental	0	0	0	0
160		**Total Services & Supplies**	**$221,401**	**$141,143**	**$128,355**	**$180,115**
161		**CAPITAL OUTLAY**				
162	6170E	Impoundment Basin	29,802	65,100	0	0
163		Capital Assets	0			0
170		**Total Capital Outlay**	**$29,802**	**$65,100**	**$0**	**$0**
171		**DEBT SERVICE**				
172	6195	Vehicle	0		0	0

	B	C	D	H	I	J	K	L	M
1		CAMBRIA COMMUNITY SERVICES DISTRICT							
2		FUND LEVEL ANALYSIS							
3		WATER RECLAMATION FACILITY - WATER FUND 39 - OPERATIONS DEPARTMENT - 25						3%	
4					(unaudited)			2021/2022	
5	ACCOUNT	WATER FUND		ACTUAL	ACTUAL	ESTIMATED		PROPOSED	
6	NO.	WRF DEPARTMENT - 25		FY 2018/2019	FY 2019/2020	FY 2020/2021		BUDGET	
7									
173	6180P	Loan Principal		340,465	354,604	369,327		384,662	
174	6180I	Interest Expense		318,959	304,822	290,099		274,763	
177		**Total Debt Service**		**$659,424**	**$659,426**	**659,426**		**659,425**	
178		**ADMINISTRATIVE COST ALLOCATION**							
179		Administrative Cost Allocation - See Water Fund		298,221	0	0		0	
181		**Total Administrative Cost Allocation**		**$298,221**	**$0**	**$0**		**$0**	
182		**Total Expenditures**		**$1,333,951**	**$993,995**	**$984,099**		**$1,037,202**	

CAMBRIA COMMUNITY SERVICES DISTRICT

FUND LEVEL ANALYSIS

WATER RECLAMATION FACILITY - WATER FUND 39 - OPERATIONS DEPARTMENT - 25

	B	C	H	I	J	L
3						3%
4-6	ACCOUNT NO.	WATER FUND WRF DEPARTMENT - 25	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	2021/2022 PROPOSED BUDGET
7						
183						
184		**OPERATING SURPLUS/(DEFICIT)**	**($309,470)**	**$231,533**	**$318,248**	**$289,978**
185		**TRANSFERS & ENCUMBRANCES**				
186	01 4625	Transfers In - From General Fund	0			
187		(Transfers Out)	0			
188		Encumbrances - Sources of Funding	(5,198)			
189		Encumbrances - (Designated Funds)	0	5,198	0	
191		**NET TRANSFERS & ENCUMBRANCES**	**($5,198)**	**$5,198**	**$0**	**$0**
192		**RESERVES**				
193		Use of Reserves	0			
194		(Additions to Reserves - 2 Month Operations)	0	(173,000)	(180,000)	(180,000)
195		2 Mo Ops, Not used FY 19/20, move to FY 20/21	(173,000)	173,000	(173,000)	0
196		2 Mo Ops, Not used FY 20/21, move to FY 21/22			353,000	(353,000)
198		**RESERVES - INCREASE / (DECREASE)**	**($173,000)**	**$0**	**$0**	**($533,000)**
199		**NET BUDGETARY SOURCES/USES**	**($487,668)**	**$236,731**	**$318,248**	**($243,022)**
200						
201		**RESERVES**				
202		Beginning Reserves				
203		Operating Surplus / (Deficit)	($309,470)	$231,533	$318,248	($243,022)
204		Transfers & Encumbrances	($5,198)	$5,198	$0	$0
205		**ENDING RESERVES**	**($314,668)**	**$236,731**	**$318,248**	**($243,022)**

	A	B	C	D	H	I	J	K	L	M
1			CAMBRIA COMMUNITY SERVICES DISTRICT							
2			FUND LEVEL ANALYSIS							
3			WATER RECLAMATION FACILITY - WATER FUND 40 - CAPITAL DEPARTMENT - 30							
4 5 6		ACCOUNT NO.	WATER FUND WRF CAPITAL DEPARTMENT - 30		ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021		2021/2022 PROPOSED BUDGET	
8			SOURCES OF FUNDS							
10			Revenues		$68,706	$0	$1,750,000		$0	
11			Other Sources of Funds		$0	$0	$0		$0	
12			Total Sources of Funds		$68,706	$0	$1,750,000		$0	
13			USES OF FUNDS							
16			Salaries & Wages		$0	$0	$0		$0	
17			Benefits		$0	$0	$0		$0	
18			**Personnel Services**		**$0**	**$0**	**$0**		**$0**	
19			**Services & Supplies**		**$0**	**$0**	**$0**		**$0**	
20			**Capital Outlay**		**$137,878**	**$202,335**	**$230,905**		**$200,000**	
21			**Debt Service**		**$0**	**$0**	**$0**		**$0**	
22			**Administrative Cost Allocation**		**$89,162**	**$0**	**$0**		**$0**	
23			Total Expenditures		$227,040	$202,335	$230,905		$200,000	
24			**OPERATING SURPLUS/(DEFICIT)**		**($158,334)**	**($202,335)**	**$1,519,095**		**($200,000)**	
39										
40			**RESERVES**							
41			Beginning Reserves		$0	$0	$0		$0	
42			Operating Surplus / (Deficit)		($158,334)	($202,335)	$1,519,095		($200,000)	
43			Transfers & Encumbrances		($95,439)	($17,348)	$105,858		$0	
44			**ENDING RESERVES**		**($253,773)**	**($219,682)**	**$1,624,953**		**($200,000)**	
45										

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS
WATER RECLAMATION FACILITY - WATER FUND 40 - CAPITAL DEPARTMENT - 30

	B	C	H	I	J	L
4-6	ACCOUNT NO.	WATER FUND WRF CAPITAL DEPARTMENT - 30	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	2021/2022 PROPOSED BUDGET
8		SOURCES OF FUNDS				
9		REVENUES				
10	4390	Miscellaneous Revenue	68,706	0	0	
11	4703	Settlement Proceeds			1,750,000	
33		Total Revenues	$68,706	$0	$1,750,000	$0
34		OTHER SOURCES OF FUNDS				
35			0			
42		Total Other Sources of Funds	$0	$0	$0	$0
43		Total Sources of Funds	$68,706	$0	$1,750,000	$0
44		USES OF FUNDS				
46		SALARIES & WAGES				
47			0			
54		Total Salaries & Wages	$0	$0	$0	$0
55		BENEFITS				
56			0			
70		Total Benefits	$0	$0	$0	$0
71		Total Personnel Services	$0	$0	$0	$0
72		SERVICES & SUPPLIES				
73			0			
134		Total Services & Supplies	$0	$0	$0	$0

	A	B	C	D	H	I	J	K	L	M
1			**CAMBRIA COMMUNITY SERVICES DISTRICT**							
2			**FUND LEVEL ANALYSIS**							
3			**WATER RECLAMATION FACILITY - WATER FUND 40 - CAPITAL DEPARTMENT - 30**							
4						**(unaudited)**			**2021/2022**	
5		**ACCOUNT**	**WATER FUND**		**ACTUAL**	**ACTUAL**	**ESTIMATED**		**PROPOSED**	
6		**NO.**	**WRF CAPITAL DEPARTMENT - 30**		**FY 2018/2019**	**FY 2019/2020**	**FY 2020/2021**		**BUDGET**	
135			**CAPITAL OUTLAY**							
136										
137		6170	Interim SWF AWTP Off-Hauling Facilities		0	0	0		0	
138		6170	Impoundment Basin Design Evaluation		6,639	444	4,802		0	
139		40-1829C-30	CIP Brackish Environmental		6,728	0	0		0	
140		40-1829I-30	CIP Brackish Legal		100,941	138,608	49,289		0	
141		40-1829K-30	CIP SWF Public Outreach		2,333	0	0		0	
142		6910	Section 7 ESA Consultation		21,236	31,281	80,592		0	
149		6170	Off Hauling / Secondary Containment			0	0		0	
150		6170	Increase in Off Hauling Estimate			0	0		0	
151		6170	Tank Purchase			27,563	0		0	
152		6170	Urban Water Mgmt Plan Update - CDP Portion			4,439	96,221		0	
153		6170	Trailer Fill Station (Tanks, Piping, Spill Containment & Pad)			0	0		200,000	
157			**Total Capital Outlay**		**$137,878**	**$202,335**	**$230,905**		**$200,000**	
158			**DEBT SERVICE**							
159					0					
162			**Total Debt Service**		**$0**	**$0**	**$0**		**$0**	
163			**ADMINISTRATIVE COST ALLOCATION**							
164			Administrative Cost Allocation - See Water Fund		89,162	0	0		0	
166			**Total Administrative Cost Allocation**		**$89,162**	**$0**	**$0**		**$0**	
167			**Total Expenditures**		**$227,040**	**$202,335**	**$230,905**		**$200,000**	

	B	C	H	I	J	L
1		CAMBRIA COMMUNITY SERVICES DISTRICT				
2		FUND LEVEL ANALYSIS				
3		WATER RECLAMATION FACILITY - WATER FUND 40 - CAPITAL DEPARTMENT - 30				
4				(unaudited)		2021/2022
5	ACCOUNT	WATER FUND	ACTUAL	ACTUAL	ESTIMATED	PROPOSED
6	NO.	WRF CAPITAL DEPARTMENT - 30	FY 2018/2019	FY 2019/2020	FY 2020/2021	BUDGET
168						
169		**OPERATING SURPLUS/(DEFICIT)**	**($158,334)**	**($202,335)**	**$1,519,095**	**($200,000)**
170		**TRANSFERS & ENCUMBRANCES**				
171	01 4625	Transfers In - From General Fund	0			
172		(Transfers Out)	0			
173		Encumbrances - Sources of Funding	(95,439)	(105,858)		
174		Encumbrances - (Designated Funds)	0	88,510	105,858	
176		**NET TRANSFERS & ENCUMBRANCES**	**($95,439)**	**($17,348)**	**$105,858**	**$0**
177		**RESERVES**				
178		Use of Reserves	0	0		
179		(Additions to Reserves)	0	0		
180		Other Adjustments	0	0		
182		**RESERVES - INCREASE / (DECREASE)**	**$0**	**$0**	**$0**	**$0**
183		**NET BUDGETARY SOURCES/USES**	**($253,773)**	**($219,682)**	**$1,624,953**	**($200,000)**
184						
185		**RESERVES**				
186		Beginning Reserves				
187		Operating Surplus / (Deficit)	($158,334)	($202,335)	$1,519,095	($200,000)
188		Transfers & Encumbrances	($95,439)	($17,348)	$105,858	$0
189		**ENDING RESERVES**	**($253,773)**	**($219,682)**	**$1,624,953**	**($200,000)**

WASTEWATER FUND

WASTEWATER DEPARTMENT – 12

	A	B	C	D	H	I	J	K	L	M
1			CAMBRIA COMMUNITY SERVICES DISTRICT							
2			FUND LEVEL ANALYSIS							
3			WASTEWATER DEPARTMENT - FUND - 12, DEPARTMENT - 12							
4						(unaudited)			2021/2022	
5		ACCOUNT	WASTEWATER FUND		ACTUAL	ACTUAL	ESTIMATED		PROPOSED	
6		NO.	WASTEWATER DEPARTMENT - 12		FY 2018/2019	FY 2019/2020	FY 2020/2021		BUDGET	
7										
8			SOURCES OF FUNDS							
10			**Revenues**		**$2,474,021**	**$2,992,124**	**$3,322,082**		**$3,380,915**	
11			**Other Sources of Funds**		**$56,540**	**$0**	**$0**		**$0**	
12			Total Sources of Funds		$2,530,561	$2,992,124	$3,322,082		$3,380,915	
13			USES OF FUNDS							
16			Salaries & Wages		$436,297	$503,699	$701,995		$704,646	
17			Benefits		$256,275	$329,491	$432,848		$462,339	
18			**Personnel Services**		**$692,572**	**$833,190**	**$1,134,843**		**$1,166,985**	
19			**Services & Supplies**		**$632,886**	**$705,260**	**$739,844**		**$920,512**	
20			**Capital Outlay**		**$277,551**	**$329,648**	**$104,875**		**$750,019**	
21			**Debt Service**		**$191,860**	**$189,945**	**$355,907**		**$358,514**	
22			**Administrative Cost Allocation**		**$517,687**	**$500,769**	**$576,633**		**$572,199**	
23			**Total Expenditures**		**$2,312,555**	**$2,558,811**	**$2,912,101**		**$3,768,229**	
24			**OPERATING SURPLUS/(DEFICIT)**		**$218,005**	**$433,314**	**$409,981**		**($387,314)**	
39										
40			**RESERVES**							
41			Beginning Reserves		$0	$0	$0		$0	
42			Operating Surplus / (Deficit)		$218,005	$433,314	$409,981		($387,314)	
43			Transfers & Encumbrances		$0	($45,617)	$89,875		$0	
44			**ENDING RESERVES**		**$218,005**	**$387,697**	**$499,856**		**($387,314)**	
45										

	B	C	H	I	J	L
1		CAMBRIA COMMUNITY SERVICES DISTRICT				
2		FUND LEVEL ANALYSIS				
3		WASTEWATER DEPARTMENT - FUND - 12, DEPARTMENT - 12				3%
4				(unaudited)		FY 2021/2022
5	ACCOUNT	WASTEWATER FUND	ACTUAL	ACTUAL	ESTIMATED	PROPSED
6	NO.	WASTEWATER DEPARTMENT - 12	FY 2018/2019	FY 2019/2020	FY 2020/2021	BUDGET
7						
8		SOURCES OF FUNDS				
9		**REVENUES**				
10	12 4000	Service Sales	$2,360,009	$2,851,825	$3,112,167	$3,171,000
11	12 4200	Interest Income	$4,000	$0	$4,000	$4,000
12	12 4311	County Administrative Fee	($8,085)	($7,705)	($8,085)	($8,085)
13	12 4360	Standby Availability Charges	$115,517	$115,547	$119,000	$119,000
14	12 4390	Miscellaneous Revenue	$2,580	$7,342	$70,000	$70,000
31	12 4310	Property Taxes - Low Income Reduction Offset	$0	$25,116	$25,000	$25,000
32			$0			
34		Total Revenues	$2,474,021	$2,992,124	$3,322,082	$3,380,915
35		**OTHER SOURCES OF FUNDS**				
41	12 4397	Loan Proceeds - Crane Truck	$56,540	0	0	
42			$0			
43		**Total Other Sources of Funds**	**$56,540**	**$0**	**$0**	**$0**
44		Total Sources of Funds	$2,530,561	$2,992,124	$3,322,082	$3,380,915
45		**USES OF FUNDS**				
47		**SALARIES & WAGES**				
48	5000	Salary & Wages	$339,611	402,821	656,843	$661,396
49	5010	Overtime	$26,195	39,710	26,902	$25,000
50	5020	Standby	$18,100	18,400	18,250	$18,250
51	5040	Sick/Vacation Pay	$34,680	21,776	0	$0
52	5050	Holiday Pay	$17,711	20,992	0	$0

	B	C	H	I	J	L
1		CAMBRIA COMMUNITY SERVICES DISTRICT				
2		FUND LEVEL ANALYSIS				
3		WASTEWATER DEPARTMENT - FUND - 12, DEPARTMENT - 12				3%
4				(unaudited)		FY 2021/2022
5	ACCOUNT	WASTEWATER FUND	ACTUAL	ACTUAL	ESTIMATED	PROPSED
6	NO.	WASTEWATER DEPARTMENT - 12	FY 2018/2019	FY 2019/2020	FY 2020/2021	BUDGET
7						
55		Total Salaries & Wages	$436,297	$503,699	$701,995	$704,646
56		BENEFITS				
57	5101	Uniform Allowance	$1,600	2,000	2,800	$2,400
58	5102	Dental Insurance	$7,265	10,299	13,246	$13,253
59	5103	Medical Insurance	$58,870	81,240	110,573	$102,428
60	5105	Life Insurance	$492	626	1,151	$1,151
61	5106	FICA	$26,214	32,377	42,378	$42,474
62	5107	Medicare	$6,213	7,572	10,276	$10,299
63	5108	Workers Compensation	$14,685	21,363	41,829	$42,021
64	5109	PERS - Retirement	$79,849	112,145	142,445	$180,339
65	5112	Unemployment Insurance	$6,751	0	0	$0
66	5120	Other Employee Benefits	$1,127	2,050	6,215	$6,215
67	5121	Retirees Health	$44,186	47,990	48,148	$46,172
68	5122	Medical Reimbursements - HRA	$9,024	11,829	13,787	$15,587
72		Total Benefits	$256,275	$329,491	$432,848	$462,339
73		Total Personnel Services	$692,572	$833,190	$1,134,843	$1,166,985
74		SERVICES & SUPPLIES				
75	6010	Ads - Legal/Other	$542	$172	$0	$0
76	6011I	Public Information - General	$0	$0	$0	$0
77		Mailer-What Not to Flush (Move to FY21/22)	$0	$0	$0	$1,000
78	6030	Insurance	$0	$0	$0	$0
79	6031Z	Maintenance	$0	$0	$0	$0
80	6032C	M & R WW Collection System	$448	$6,414	$16,932	$17,440
81	6032D	M & R WW - Disposal Effluent	$0	$9,626	$8,333	$13,220

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS
WASTEWATER DEPARTMENT - FUND - 12, DEPARTMENT - 12

3%

	ACCOUNT NO.	WASTEWATER FUND WASTEWATER DEPARTMENT - 12	ACTUAL FY 2018/2019	(unaudited) ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	FY 2021/2022 PROPSED BUDGET
82	6032E	M & R WW - Easements	$0	$0	$0	$0
83	6032G	M & R Wastewater Generators	$6,358	$16,390	$1,338	$19,000
84	6032L	M & R Wastewater Lift Stations	$34,263	$18,915	$11,292	$12,400
85	6032M	M & R-WW Manhole Raising(Cord Paving)	$10,848	$40,952	$42,078	$43,340
86	6032P	M & R- Pumps	$0	$0	$0	$0
87	6032S	M & R- WW Disposal of Sludge	$89,866	$81,556	$79,874	$82,270
88	6032T	M & R-Wastewater Treatment Plant	$43,385	$25,894	$35,970	$37,049
89	6032T	M & R - Equipment & Motor Repairs (New Request)				$45,000
90	6033B	Maintenance & Repairs - Buildings	$8,527	$13,530	$6,248	$6,435
91		Maintenance & Repairs - Paint Building		$2,700	$20,000	$0
92		M & R - Lab Bldg Roof Repairs - New Request				$40,000
93	6033G	Maintenance & Repairs - Grounds	$1,420	$3,874	$10,239	$5,000
94	6033Z	Maintenance & Repairs - Storm Damage			$2,203	$2,269
95	6035	Major Maintenance	$0	$0	$0	$0
96	6035R	Road Repairs - Due to Sewer Repairs - New Request		$0	$0	$60,000
97	6035T	Major Maintenance-CCTV & Hydro Clean	$0	$0	$0	$0
98	6036	M & R- Emergency Events	$0	$0	$0	$0
99	6036T	Unplanned Maintenance	$0	$0	$0	$0
100	6037	M & R- SCADA	$5,269	$9,964	$427	$439
101		M&R - SCADA - Equipment			$3,000	$3,090
102	6040	M & R- Equipment	$0	$27	$38	$39
103	6041L	Maintenance & Repairs - Vehicles Licenses	$3,467	$5,571	$4,912	$5,059
104	6041N	Maint. & Repairs - Vehicles Non-Licensed	$1,758	$1,083	$3,895	$5,000
105	6041V	Maint. & Repairs - Vehicles - Vactor	$600	$2,436	$1,432	$3,000
106	6044	Computer Services	$362	$290	$649	$669

CAMBRIA COMMUNITY SERVICES DISTRICT
FUND LEVEL ANALYSIS

WASTEWATER DEPARTMENT - FUND - 12, DEPARTMENT - 12

3%

	B	C	H	I	J	L
4				(unaudited)		FY 2021/2022
5–6	ACCOUNT NO.	WASTEWATER FUND WASTEWATER DEPARTMENT - 12	ACTUAL FY 2018/2019	ACTUAL FY 2019/2020	ESTIMATED FY 2020/2021	PROPSED BUDGET
7						
107	6045	Computer/Copier/Printer Supplies/Maint.	$3,329	$722	$4,844	$4,989
108	6045	Replace Computers (SCADA)	$0	$8,724	$6,180	$6,365
109	6048	Security & Safety	$4,709	$5,708	$1,688	$1,739
110	6050	Office Supplies	$4,105	$3,984	$3,469	$3,573
111	6051	Printing & Shipping	$8,757	$5,953	$6,122	$6,305
112	6052	Bank Services	$0	$0	$0	$0
113	6053	Printing/Forms	$2,093	$3,089	$2,936	$3,024
114	6054	Membership Dues, Publications/Books	$156	$949	$1,696	$1,747
115	6055	Government Fees & Licenses	$89,255	$100,865	$102,656	$105,735
116	6055	SWPPP Update		$3,750	$2,000	$2,060
117	6055	Haz-Com Update		$1,000	$2,000	$2,060
118	6055	Fuel Storage Emergency Response Update		$0	$0	$0
119	6055	Odor Control Update		$1,000	$1,000	$1,000
120	6055	Operation Maint & Mgmt Program Update		$0	$4,000	$0
121	6060C	Utilities - Cell Phone	$2,071	$2,119	$2,961	$3,050
122	6060E	Utilities - Electricity	$233,703	$241,802	$243,022	$250,313
123	6060G	Utilities - Gas	$1,128	$1,960	$1,917	$1,974
124	6060I	Utilities - Internet	$5,977	$7,211	$7,915	$8,152
125	6060P	Utilities - Phone-Land Lines, Faxes, Alarms	$7,913	$7,587	$7,439	$7,663
126	6060W	Utilities - Water	$1,475	$2,829	$8,835	$9,100
127	6063	M & R Communications Equipment	$0	$0	$0	$0
128	6070	Equipment Rental	$0	$492	$1,030	$1,061
129	6080	Professional Services - Engineering	$0	$0	$0	$0
130	6080G	Professional Services - GIS Development	$3,432	$4,660	$6,400	$6,592
131	6080K	Professional Services - District Counsel	$0	$0	$0	$0

	A	B	C	D	H	I	J	K	L	M
1			CAMBRIA COMMUNITY SERVICES DISTRICT							
2			FUND LEVEL ANALYSIS							
3			WASTEWATER DEPARTMENT - FUND - 12, DEPARTMENT - 12						3%	
4						(unaudited)			FY 2021/2022	
5		ACCOUNT	WASTEWATER FUND		ACTUAL	ACTUAL	ESTIMATED		PROPSED	
6		NO.	WASTEWATER DEPARTMENT - 12		FY 2018/2019	FY 2019/2020	FY 2020/2021		BUDGET	
7										
132		6080L	Land Conservancy - Lot Inventory, Etc.		$0	$0	$0		$0	
133		6080M	Professional Services - Misc./Other		$5,616	$7,445	$3,539		$3,645	
134		6080T	Professional Services - Temporary		$2,333	$0	$5,006		$5,157	
135		6086	Outside Services		$2,333	$0	$0		$0	
136		6089	Emergency & Medical Supplies		$65	$0	$0		$0	
137		6090	Department Operating Supplies		$24	$395	$542		$558	
138		6091	Lab Tests		$21,470	$25,852	$36,285		$37,374	
139			PFAS Sampling - New Request						$10,000	
140		6091C	Operating Supplies - Chemicals		$2,333	$0	$6,615		$6,813	
141		6091H	Lab Testing		$0	$0	$0		$0	
142		6092	Lab Supplies		$3,047	$3,134	$4,591		$4,728	
143			PFAS Sampling Supplies - New Request						$2,000	
144		6093	Small Tools and Equipment		$1,800	$1,728	$132		$136	
145		6094	Clothing and Uniform		$1,714	$3,052	$2,060		$2,122	
146		6095	Office Furniture/Equipment		$965	$1,800	$0		$0	
147		6096	Fuel - Gas and Diesel		$10,513	$12,358	$12,983		$13,372	
148		6115	Meeting Expenses		$212	$192	$118		$122	
149		6120D	Travel, Training, Seminars-Directors		$0	$0	$0		$0	
150		6120E	Travel, Training, Seminars-Employees,		$3,725	$3,522	$866		$6,120	
151		6124	Employee Recognition		$0	$0	$0		$0	
152		6125	Employee Recruitment		$1,523	$1,983	$138		$142	
155			**Total Services & Supplies**		**$632,886**	**$705,260**	**$739,844**		**$920,512**	
156			**CAPITAL OUTLAY**							
158					$0	$0	$0			

	A	B	C	D	H	I	J	K	L	M
1			CAMBRIA COMMUNITY SERVICES DISTRICT							
2			FUND LEVEL ANALYSIS							
3			WASTEWATER DEPARTMENT - FUND - 12, DEPARTMENT - 12						3%	
4						(unaudited)			FY 2021/2022	
5		ACCOUNT	WASTEWATER FUND		ACTUAL	ACTUAL	ESTIMATED		PROPSED	
6		NO.	WASTEWATER DEPARTMENT - 12		FY 2018/2019	FY 2019/2020	FY 2020/2021		BUDGET	
7										
159			Security Improvements @ WWTP		0	0	15,000		$0	
160			Replace 1996 F150 Rack Truck		0	24,193	0			
161		6170	Capital Assets		$0	$0	$0			
162		6170F	WWTP Influent Screen Installation		$157,555	$0	$0			
163		6170F	Hand Rails On Digesters		$5,383	$11,617	$0			
164		6170F	Hand Rails on Main Walkway/Pump		$42,840	$0	$0			
169		6170	LS A-1 Control Panel Upgrade		$15,232	$31,251	$0			
170		6170	Crane Truck		$56,540	$0	$0			
171										
172			*SST PG&E Turnkey Project*							
173		6170	Wastewater SST - PG&E Turnkey			$160,000	$0		$0	
174		6170	Wastewater SST - PG&E Turnkey (ECM 7)			$0	$0		$204,947	
175		6170	Wastewater SST - PG&E Turnkey (ECM 8 Switch Gear)			$0	$0		$204,947	
176		6170	Secondary Water System Impv (ECM 10)		0		0		$80,000	
177										
179		6170	Video Camera System			$73,465	$0			
180		6170	Lift Station Improvements (B-3, B-4)			$17,696	$89,875		$65,125	
181		6170	Pump Replacement			$11,425	$0			
182		6170	Eastern Clarifier - Replace Drive Chain						$40,000	
183		6170	Replace Tractor						$70,000	
184		6170	Replace F150 Truck						$30,000	
185		6170	Replace Van Transport of Sewer Video Camera Sy		0		0		$55,000	
186										
190			**Total Capital Outlay**		**$277,551**	**$329,648**	**$104,875**		**$750,019**	

CAMBRIA COMMUNITY SERVICES DISTRICT

FUND LEVEL ANALYSIS

WASTEWATER DEPARTMENT - FUND - 12, DEPARTMENT - 12

3%

	B	C	H	I	J	L
4				(unaudited)		FY 2021/2022
5	ACCOUNT	WASTEWATER FUND	ACTUAL	ACTUAL	ESTIMATED	PROPSED
6	NO.	WASTEWATER DEPARTMENT - 12	FY 2018/2019	FY 2019/2020	FY 2020/2021	BUDGET
7						
191		DEBT SERVICE				
192	2603	Loan Principal	$128,000	$132,000	$136,000	$145,000
193	6180C	Interest Expense	$35,900	$29,985	$23,888	$17,495
194	6180	Interest Expense - Interfund Loan	$27,960	$27,960	$5,926	$3,990
195	6180	Principal - Interfund Loan	$0	$0	$96,817	$98,753
196	6180J	Loan Principal-Muni Fin Ford Crane Trk	$0	$0	$10,387	$10,828
197	6180H	Interest Expense - Muni Fin Ford Crane Trk	$0	$0	$2,403	$1,962
198	6180J	Loan Principal-Muni Fin Vactor Trk	$0	$0	$69,093	$71,235
199	6180H	Interest Expense - Muni Fin Vactor Trk	$0	$0	$11,394	$9,252
202		Total Debt Service	$191,860	$189,945	$355,907	$358,514
203		ADMINISTRATIVE COST ALLOCATION				
204		Administrative Cost Allocation	517,687	500,769	576,633	$572,199
206		Total Administrative Cost Allocation	$517,687	$500,769	$576,633	$572,199
207		Total Expenditures	$2,312,555	$2,558,811	$2,912,101	$3,768,229

	A	B	C	D	H	I	J	K	L	M
1			CAMBRIA COMMUNITY SERVICES DISTRICT							
2			FUND LEVEL ANALYSIS							
3			WASTEWATER DEPARTMENT - FUND - 12, DEPARTMENT - 12						3%	
4						(unaudited)			FY 2021/2022	
5		ACCOUNT	WASTEWATER FUND		ACTUAL	ACTUAL	ESTIMATED		PROPSED	
6		NO.	WASTEWATER DEPARTMENT - 12		FY 2018/2019	FY 2019/2020	FY 2020/2021		BUDGET	
7										
208										
209			**OPERATING SURPLUS/(DEFICIT)**		**$218,005**	**$433,314**	**$409,981**		**($387,314)**	
210			**TRANSFERS & ENCUMBRANCES**							
211		01 4625	Transfers In - From General Fund		$0	$0	$0			
212			(Transfers Out)		$0	$0	$0			
213			Encumbrances - Sources of Funding		$0	($89,875)	$0			
214			Encumbrances - (Designated Funds)		$0	$44,258	$89,875		0	
216			**NET TRANSFERS & ENCUMBRANCES**		**$0**	**($45,617)**	**$89,875**		**$0**	
217			**RESERVES**							
218			Use of Reserves	0						
219			(Additions to Reserves)	0						
220			Other Adjustments	0						
222			**RESERVES - INCREASE / (DECREASE)**		**$0**	**$0**	**$0**		**$0**	
223			**NET BUDGETARY SOURCES/USES**		**$218,005**	**$387,697**	**$499,856**		**($387,314)**	
224										
225			**RESERVES**							
226			Beginning Reserves							
227			Operating Surplus / (Deficit)		$218,005	$433,314	$409,981		($387,314)	
228			Transfers & Encumbrances		$0	($45,617)	$89,875		$0	
229			**ENDING RESERVES**		**$218,005**	**$387,697**	**$499,856**		**($387,314)**	

ALLOCATION OF ADMINISTRATIVE OVERHEAD

CAMBRIA COMMUNITY SERVICES DISTRICT
ALLOCATION OF ADMINISTRATIVE OVERHEAD CALCULATION
FINANCE COMMITTEE DIRECTION - MEETING MAY 25, 2021
FOR FISCAL YEAR 2021/2022 PROPOSED BUDGET

"E" COSTS	AMOUNT TO ALLOCATE	FIRE	F&R	PROS	WATER	WASTE WATER	SWF-OPERATING	SWF-Capital	TOTAL CHECK
ALLOCATION %	100.0%	16.7%	16.7%	16.7%	16.7%	16.7%	12.5%	4.2%	100.0%
Public Information-General	1,175	196	196	196	196	196	147	49	1,175
Public Information-Website	3,120	520	520	520	520	520	390	130	3,120
TOTAL "E" COSTS ALLOCATED	4,295	716	716	716	716	716	537	179	4,295

"L" COSTS	AMOUNT TO ALLOCATE	FIRE	F&R	PROS	WATER	WASTE WATER	SWF	SWF	TOTAL CHECK
ALLOCATION %	100.0%	17.0%	6.0%	1.2%	30.6%	25.2%	15.0%	5.0%	**100.0%**
Personnel Services	1,292,580	219,739	77,555	15,511	395,529	325,730	193,887	64,629	1,292,580
Prof. Ser.-District Counsel	208,108	35,378	12,486	2,497	63,681	52,443	31,216	10,405	208,108
Prof. Ser.-Legal	71,804	12,207	4,308	862	21,972	18,095	10,771	3,590	71,804
Office Rent	31,555	5,364	1,893	379	9,656	7,952	4,733	1,578	31,555
Travel, Training ('EES & Directors)	17,378	2,954	1,043	209	5,318	4,379	2,607	869	17,378
Meetings, Employee Recruitment	6,428	1,093	386	77	1,967	1,620	964	321	6,428
TOTAL "L" COSTS ALLOCATED	1,627,853	276,735	97,671	19,534	498,123	410,219	244,178	81,393	1,627,853

"R" COSTS	AMOUNT TO ALLOCATE	FIRE	F&R	PROS	WATER	WASTE WATER	SWF	SWF	TOTAL CHECK
ALLOCATION %	100.0%	25.0%	6.0%	1.5%	26.0%	26.0%	11.6%	3.9%	100.0%
All Other Costs	620,246	155,062	37,215	9,304	161,264	161,264	72,104	24,035	620,246
TOTAL "R" COSTS ALLOCATED	620,246	155,062	37,215	9,304	161,264	161,264	72,104	24,035	620,246
TOTAL ALL COSTS ALLOCATED	**2,252,394**	**432,512**	**135,602**	**29,554**	**660,103**	**572,199**	**316,818**	**105,606**	**2,252,394**
ALLOCATION per PROPOSED BUDGET	2,252,394	432,512	135,602	29,554	1,082,527	572,199	0	0	2,252,394
INCREASE/(DECREASE	-	0	(0)	(0)	(422,424)	(0)	316,818	105,606	-
								DIFFERENCE	-

Legend:
"E" Equal Allocation All Departments
"L" % of Administation Effort Allocation to Each Department
"R" % Based on Size of Department

STAFFING INFORMATION

- DRAFT SALARY SCHEDULE – FY 2021-2022
- DRAFT POSITION ALLOCATION LISTING (PAL)
- DRAFT ORGANIZATIONAL CHARTS:
- FY 2020-2021 CURRENT & FY 2021-2022 PROPOSED

CAMBRIA COMMUNITY SERVICES DISTRICT
SALARY SCHEDULE
FOR THE PERIOD JULY 1, 2021 THROUGH JUNE 30, 2022

Updated May 20, 2021

POSITION TITLE	STEP A	STEP B	STEP C	STEP D	STEP E	10 YEARS SERVICE STEP E+5%	15 YEARS SERVICE STEP E+7.5%	20 YEARS SERVICE STEP E+10%
SERVICE EMPLOYEES INTERNATIONAL UNION (ANNUAL AMOUNTS)								
Administration								
Clerical Assistant	36,068	37,872	39,765	41,754	43,841	46,033	47,129	48,225
Administrative Technician I	43,022	45,173	47,432	49,804	52,294	54,908	56,216	57,523
Administrative Technician II	51,227	53,789	56,478	59,302	62,267	65,381	66,937	68,494
Board Secretary	51,227	53,789	56,478	59,302	62,267	65,381	66,937	68,494
Administrative Technician III	62,227	65,339	68,606	72,036	75,638	79,419	81,310	83,201
Finance Specialist-Payroll/Benefits	62,227	65,339	68,606	72,036	75,638	79,419	81,310	83,201
Facilites & Resources								
Maintenance Technician	46,582	48,911	51,357	53,925	56,621	59,452	60,867	62,283
Water, SWF & Wastewater Operations								
Water Treatment OIT	46,350	48,667	51,101	53,656	56,339	59,156	60,564	61,972
Water Treatment Operator I	48,478	50,902	53,447	56,119	58,925	61,871	63,344	64,818
Water Treatment Operator II	54,916	57,662	60,545	63,573	66,751	70,089	71,758	73,426
Water Systems Operator T3/D2	62,209	65,319	68,585	72,015	75,615	79,396	81,286	83,177
WasteWater Collection System Worker	48,651	51,083	53,637	56,319	59,135	62,092	63,570	65,049
WasteWater Systems OIT	51,212	53,773	56,461	59,284	62,248	65,361	66,917	68,473
WasteWater Systems Operator I	53,831	56,522	59,348	62,316	65,431	68,703	70,339	71,974
Laboratory Technician	59,478	62,452	65,574	68,853	72,296	75,910	77,718	79,525
WasteWater Systems Operator II	60,676	63,710	66,895	70,240	73,752	77,440	79,284	81,127
WasteWater Systems Operator III	67,041	70,393	73,913	77,609	81,489	85,563	87,601	89,638
CAMBRIA FIREFIGHTERS (IAFF LOCAL: 4635) (ANNUAL AMOUNTS)								
Fire Captain	77,246	81,109	85,164	89,422	93,894	98,588	100,936	103,283
Fire Engineer	64,064	67,267	70,630	74,162	77,870	81,763	83,710	85,657
CAMBRIA FIREFIGHTERS (IAFF LOCAL: 4635) (HOURLY AMOUNTS)								
Firefighter (SAFER Grant)	13.65	14.33	15.05	15.80	16.59	N/A	N/A	N/A
CAMBRIA RESERVE FIREFIGHTERS (HOURLY RATE: NO STEPS)								
Reserve Recruit Firefighter **	14.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Reserve Firefighter **	14.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Reserve Fire Engineer **	15.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Reserve Lieutenant **	16.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CAMBRIA EXEMPT EMPLOYEES (ANNUAL AMOUNTS)								
~~Deputy District Clerk~~	~~65,080~~	~~68,334~~	~~71,751~~	~~75,338~~	~~79,105~~	~~N/A~~	~~N/A~~	~~N/A~~
~~Deputy District Clerk (Confidential)~~	~~68,334~~	~~71,751~~	~~75,338~~	~~79,105~~	~~83,061~~	~~N/A~~	~~N/A~~	~~N/A~~
~~Management Analyst~~	~~65,080~~	~~68,334~~	~~71,751~~	~~75,338~~	~~79,105~~	~~N/A~~	~~N/A~~	~~N/A~~
~~Facilities & Resources Supervisor~~	~~76,444~~	~~80,266~~	~~84,279~~	~~88,493~~	~~92,918~~	~~N/A~~	~~N/A~~	~~N/A~~
Administrative Analyst - HR & IT	83,297	87,462	91,835	96,427	101,248	N/A	N/A	N/A
Facilities & Resources Manager	89,556	94,034	98,735	103,672	108,856	N/A	N/A	N/A
Program Manager	89,556	94,034	98,735	103,672	108,856	N/A	N/A	N/A
Water Systems Superintendent	100,698	105,733	111,020	116,571	122,400	N/A	N/A	N/A
Wastewater Systems Superintendent	100,698	105,733	111,020	116,571	122,400	N/A	N/A	N/A
~~Administrative Services Officer/District Clerk~~	~~113,803~~	~~119,494~~	~~125,468~~	~~131,742~~	~~138,329~~	~~N/A~~	~~N/A~~	~~N/A~~
Finance Manager	110,058	115,561	121,339	127,406	133,776	N/A	N/A	N/A
District Engineer/Utilities Department Manager	122,166	128,275	134,688	141,423	148,494	N/A	N/A	N/A
Fire Chief	122,166	128,275	134,688	141,423	148,494	N/A	N/A	N/A
Administrative Department Manager	122,166	128,275	134,688	141,423	148,494	N/A	N/A	N/A
~~Administrative Department Manager (Confidential)~~	~~128,275~~	~~134,688~~	~~141,423~~	~~148,494~~	~~155,919~~	~~N/A~~	~~N/A~~	~~N/A~~
General Manager	170,000	170,000	170,000	170,000	170,000	N/A	N/A	N/A
~~CAMBRIA LIMITED TERM EMPLOYEE (HOURLY RATE: NO STEPS)~~								
~~Retired Annuitant - District Engineer~~	~~70.00~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~

** Increase rate $1.00 per year January 1, 2019-January 1, 2022

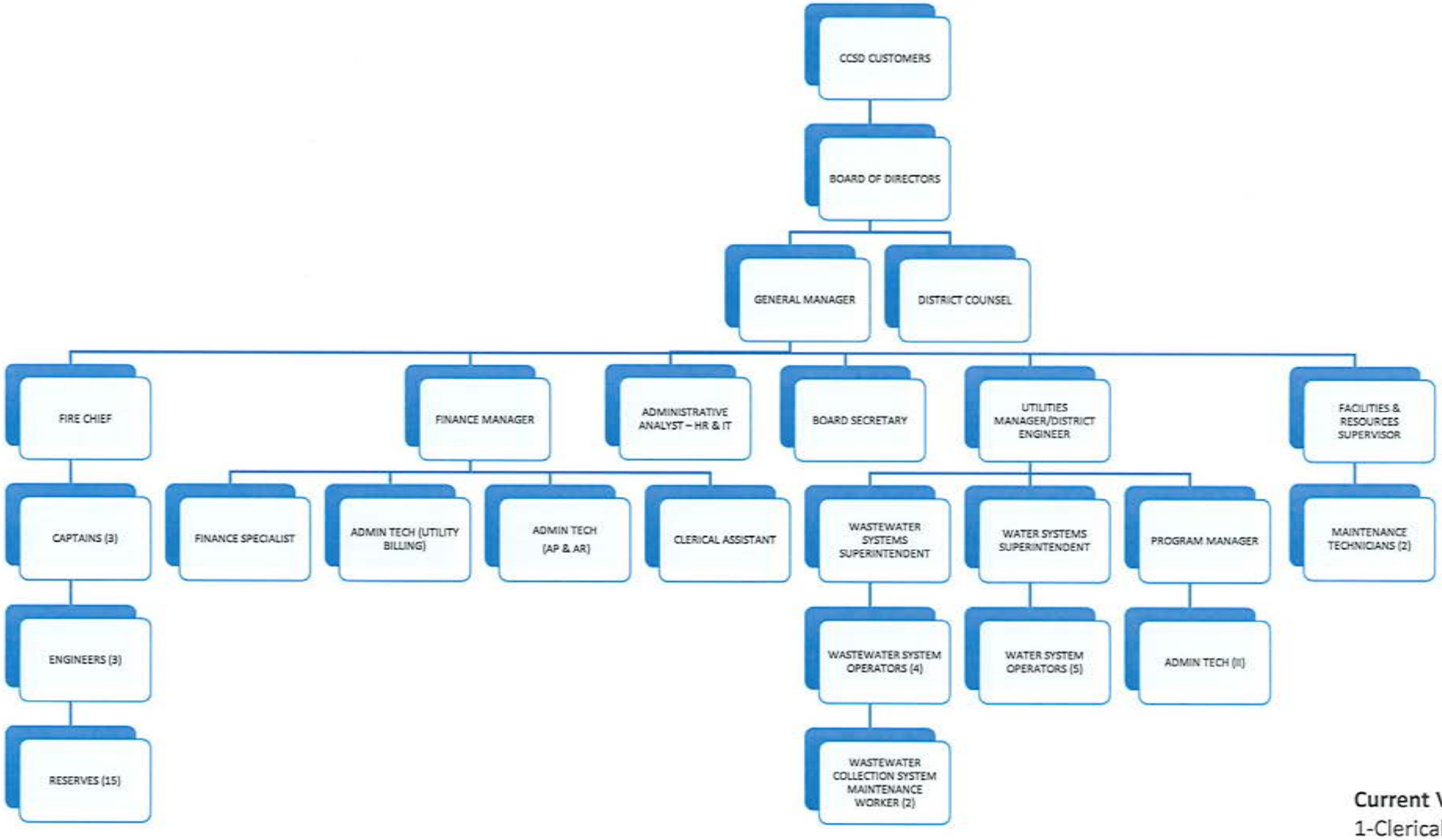
~~Position with Confidential designation receives 5% pay differential~~

Red denotes a change

CAMBRIA COMMUNITY SERVICES DISTRICT POSITION ALLOCATION LIST (PAL)

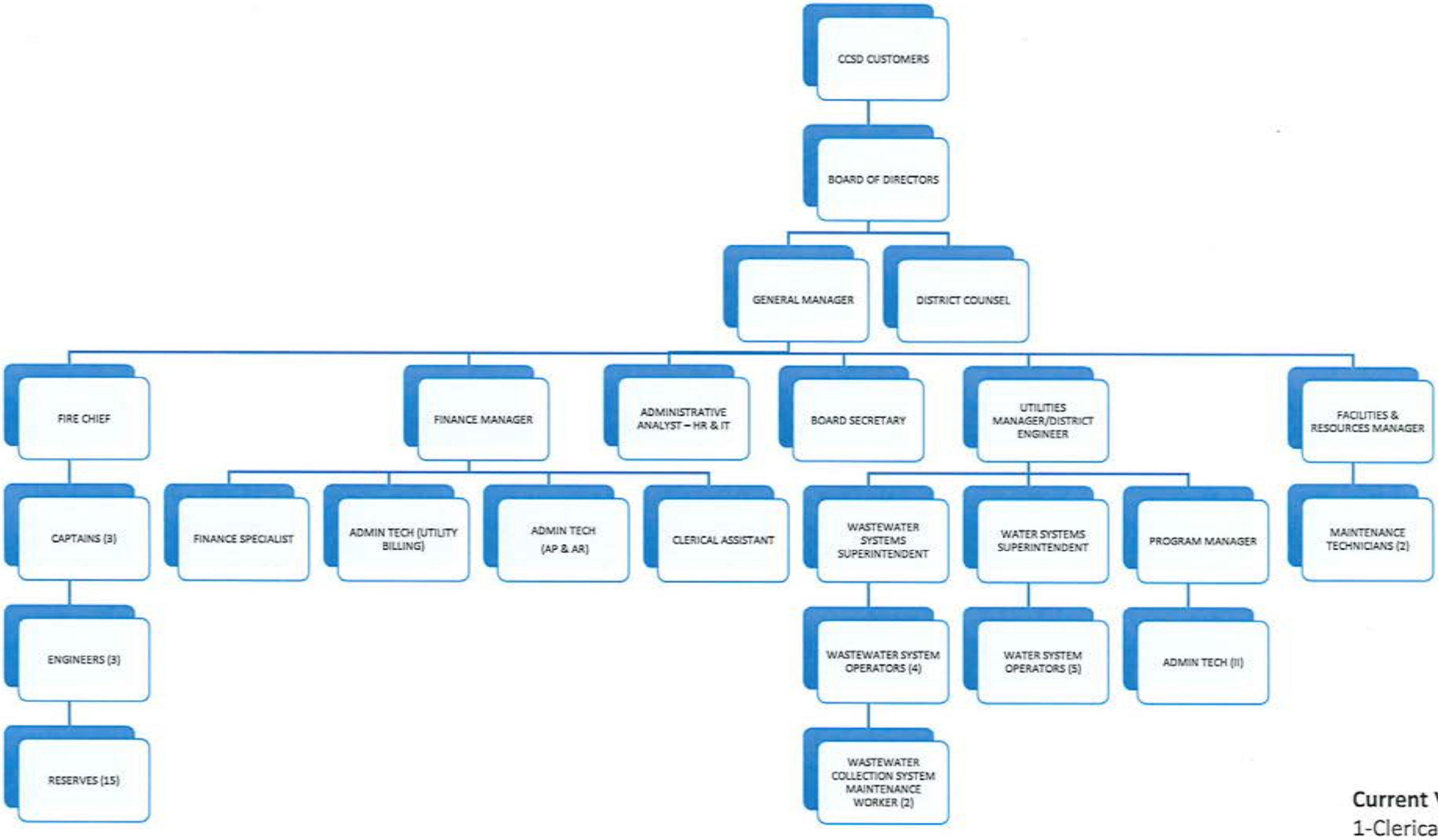
Job Class	Job Class Name		FY 2020-21 Adopted	FY 2021-22 Requested	Change from FY 2020-21 Adopted
Permanent	**Administration and Facilities & Resources**				
	GENERAL MANAGER		1.00	1.00	0.00
	ADMINISTRATIVE DEPARTMENT MANAGER (CONFIDENTIAL)		1.00	0.00	1.00
	FINANCE MANAGER		1.00	1.00	0.00
	DEPUTY DISTRICT CLERK (CONFIDENTIAL)		1.00	0.00	1.00
	ADMINISTRATIVE ANALYST - HR & IT		0.00	1.00	-1.00
	FINANCE SPECIALIST-PAYROLL/BENEFITS		1.00	1.00	0.00
	ADMINISTRATIVE TECHNICIAN I, II OR III		2.00	2.00	0.00
	BOARD SECRETARY		0.00	1.00	-1.00
	CLERICAL ASSISTANT		1.00	1.00	0.00
	FACILITIES & RESOURCES MANAGER		0.00	1.00	-1.00
	FACILITIES & RESOURCES SUPERVISOR		1.00	0.00	1.00
	MAINTENANCE TECHNICIANS		2.00	2.00	0.00
Permanent Totals			11.00	11.00	0.00
Permanent	**Utilities**				
	DISTRICT ENGINEER/UTILITIES DEPARTMENT MANAGER		1.00	1.00	0.00
	WASTEWATER SYSTEMS SUPERINTENDENT		1.00	1.00	0.00
	WASTEWATER SYSTEM OPERATORS OIT, I, II OR III		4.00	4.00	0.00
	WASTEWATER COLLECTION SYSTEM MAINTENANCE WORKER		2.00	2.00	0.00
	WATER SYSTEMS SUPERINTENDENT		1.00	1.00	0.00
	WATER SYSTEM OPERATOR T3/D2		1.00	2.00	1.00
	WATER TREATMENT OPERATOR OIT, I OR II		4.00	3.00	-1.00
	PROGRAM MANAGER		1.00	1.00	0.00
	ADMINISTRATIVE TECHNICIAN II		1.00	1.00	0.00
Permanent Totals			16.00	16.00	0.00
Permanent	**Fire**				
	FIRE CHIEF		1.00	1.00	0.00
	FIRE CAPTAIN		3.00	3.00	0.00
	FIRE ENGINEER		3.00	3.00	0.00
	RESERVE RECRUIT FIREFIGHTER		0.00	0.00	0.00
	RESERVE FIREFIGHTER		15.00	15.00	0.00
	RESERVE FIRE ENGINEER		0.00	0.00	0.00
	RESERVE LIEUTENANT		0.00	0.00	0.00
	FIREFIGHTER (SAFER GRANT)		0.00	0.00	0.00
Permanent Totals			22.00	22.00	0.00
Department Totals			**49.00**	**49.00**	**0.00**
	Limited				
	STRATEGIC AND ORGANIZATIONAL ADVISOR		0.00	0.00	0.00
	RETIRED ANNUITANTS		1.00	0.00	-1.00
Limited Totals			1.00	0.00	-1.00

Cambria Community Services District Organizational Chart
Current Fiscal Year 2020/2021



Current Vacant Positions
1-Clerical Assistant (part-time)

Cambria Community Services District Organizational Chart
Proposed Fiscal Year 2021/2022



Current Vacant Positions
1-Clerical Assistant (part-time)

CAPITAL IMPROVEMENT PROJECTS

	B	C	D	E	F	G
1	**General Fund CIP (Revised 5/6/2021)**					
2	**General Fund Projects**	**Ranking**	**FY Project Cost**	**10-Yr Cost**		**Notes**
3	***Administration Department Projects***					
4	Tyler Incode	1	$ -	$ 76,050		
5	Replace District Car	3	$ -	$ 30,000		
6						
7		**Subtotal**	**$ -**	**$ 106,050**		
8	***Facilities & Resources/PROS Projects***					
9	F350 Truck - Replace 1999 F150 Truck	1	$ -	$ 40,000		
10	Electric Vehicle Charging Station (Vets Hall)	1	$ -	$ 22,272		
11	Electric Vehicle Charging Station (East Village Parking Lot)	1	$ -	$ 17,000		
12	Skate Park Improvements	1	$ -	$ -		
13	Restroom Facilities @ Fiscalini Ranch Preserve	1	$ -	$ 20,000		
14	Vets Hall Sewer Line	1	$ -	$ 40,000		
15	Vets Hall Electrical Emergency (Generator & Equipment)	1	$ -	$ 80,000		
16	Re-Roof Entire Vets Hall Building & American Legion Kitchen Area	1	$ -	$ 55,000		
17	Vets Hall Water Line	2	$ -	$ 10,000		
18	Vets Hall Kitchen Improvements (Replace cabinets, countertops, sinks)	3	$ -	$ 20,000		
19	Vets Hall Restroom Improvements (Replace particians, countertops, sinks & flooring)	3	$ -	$ 17,500		
20		**Subtotal**	**$ -**	**$ 321,772**		
21	***Fire Department Projects***					
22	Radio System Upgrade Phase 2	1	$ -	$ 40,729		
23	Fire Department Station Security	2	$ -	$ 80,000		
24	Zoll X Series EKG	2	$ -	$ 40,000		
25	Extrication Tool	2	$ -	$ 60,000		
26	Utility Truck	2	$ -	$ 50,000		
27	Fuel Station Computer Replacement	3	$ -	$ 14,000		50% cost paid by CCHD
28	Replace Fire Truck - Engine Type 1	3	$ -	$ 700,000		FY 2027
29	Purchase New Fire Truck - Engine Type 3	3	$ -	$ 400,000		FY 2022
30	Replace Water Tender	3	$ -	$ 250,000		FY 2024
31	Facility Training Center (Sea Train Container)	3	$ -	$ 100,000		
32	Fire Station Expansion	3	$ -	$ 3,000,000		Includes Admin Office
33		**Subtotal**	**$ -**	**$ 4,734,729**		
34			**GRAND TOTAL**	**$ 5,162,551**		
35			Priority 1 Total	$ 391,051		
36			Priority 2 Total	$ 240,000		
37			Priority 3 Total	$ 4,531,500		
38			Priority 4 Total	$ -		
39				$ -		

A	C	D	E	F	G
Water CIP (Revised 5/6/2021)					
	Ranking	**FY Project Cost**	**10-Yr Cost**		**Notes**
Water Distribution System Projects					
Pressure Zone 2 to Zone 7 transmission main replacement @ SR Creek pedestrian bridge	1	$ -	$ 215,527		
Water Meter Replacements & Upgrades (phased)	1	$ -	$ 1,050,000		
Piney Way erosion control inspection report and follow-up protection efforts for existing pipeline	1	$ -	$ 10,000		
SS2 Electrical Panel Upgrade	1	$ -	$ 15,000		
Subzone metering of distribution system	2	$ -	$ 150,000		
Cover for Sheltering of Equipment @ Plant (50%)	2	$ -	$ 15,000		
Modular Office Building @ Plant	2	$ -	$ 10,000		
Replacement of problematic service lines within Leimert	3	$ -	$ 130,000		
Water Master Plan Amendment (revised fire flow modeling/tank sizing check)	3	$ -	$ 35,000		
Inspection & spot repair to water transmission main under S. Parks wetlands area; or lining of transmission main plus study & predesign	4	$ -	$ 80,000		
Pine Knolls - Iva Court zone 1 pipeline expansion	4		$ 165,000		
	Subtotal	**$ -**	**$ 1,875,527**		
Tank & Booster Pump Station Projects					
SCADA System - Phased Upgrades (Adding historian, reporting, etc)	1	$ -	$ 250,000		
Stuart Street Tank Rehabilitation	1	$ -	$ 458,000		
Electrical transfer switch and conduit to well SS-3	2	$ -	$ 25,000		
Rodeo Grounds Pump Station Replacement (aka Zone 2 Booster pump station)	3	$ -	$ 1,016,000		
	Subtotal	**$ -**	**$ 1,749,000**		
Vehicles and Trailer-Mounted Equipment					
Replacement 2005 F-150 Truck with F-250 (for towing Ditch Witch)	1	$ -	$ 35,000		
	Subtotal	**$ -**	**$ 35,000**		
Water conservation					
Database for water conservation program/tracking with parcel links & APN file conversion	1	$ -	$ 10,000		
	Subtotal	**$ -**	**$ 10,000**		
		GRAND TOTAL	**$ 3,669,527**		
		Priority 1 Total	$ 2,043,527		
		Priority 2 Total	$ 200,000		
		Priority 3 Total	$ 1,181,000		
		Priority 4 Total	$ 245,000		
Completed Projects	**Ranking**	**FY Project Cost**	**10-Yr Cost**	**Actual Cost**	**Notes**
Vehicles and Trailer- Mounted Equipment					
Replacement Dump Truck	1	$ -	$ 74,871	$ 74,871	
Trailer-Mounted Air Compressor	2	$ -	$ 22,557	$ 22,557	
Trailer-Mounted Vacuum Extractor	2	$ -	$ 46,169	$ 46,169	
Tank & Booster Pump Station Projects					
San Simeon well field generator replacement	2	$ -	$ 50,449	$ 50,449	
			194,046	**194,046**	
WRF CIP (Revised 5/6/2021)					
	Ranking	**FY Project Cost**	**10 yr Cost**		**Notes**
Permitting & Planning					
Urban Water Management Plan - CDP Portion	1	$ -	$ 20,463		
Groundwater modeling/piezometer installation/monitoring	1	$ -	$ 75,758		
EIR consulting (follow up agency discussions to support the WRF's Regular CDP)	1	$ -	$ 28,609		
Section 7 ESA consulting, annual AMP report, & AMP update	1	$ -	$ 100,000		
	Subtotal	**$ -**	**$ 128,609**		
Interim, short-term SWF Modifications					
Brine Tank Secondary Containment, Grading, Rock	1	$ -	$ 20,000		
	Subtotal	**$ -**	**$ 20,000**		
Advanced Water Treatment Plant					
Miscelaneous instrumentation / monitoring upgrades	2	$ -	$ 10,000		
	Subtotal	**$ -**	**$ 10,000**		
Long-Term Improvement Modifications					
Consutling assistance for coordination with Army Corps on WRDA grant (meetings, redefine work plan, & update scope of work)	1	$ -	$ 40,000		
Future permanent mods at WRF for trailer fill station [transfer tanks, piping, & spill contrainment/loading pad] (1,2)	2	$ -	$ 200,000		
AWTP pull-barn style covers for outdoor equipment & control panels (1,2)	2	$ -	$ 50,000		
Sems, Hach WIMS, or custom programmer for logging/reporting software and tablets	3	$ -	$ 25,000		
Installation of remote sensing instrumentation at SS creek (needs ROE agreement with State Parks)	3	$ -	$ 10,000		
Solar Array System (1,2)	3	$ -	$ 375,000		
	Subtotal	**$ -**	**$ 700,000**		
		GRAND TOTAL	**$ 858,609**		
		Priority 1 Total	$ 188,609		
		Priority 2 Total	$ 260,000		
		Priority 3 Total	$ 410,000		
		Priority 4 Total	-		
Completed Projects	**Ranking**	**FY Project Cost**	**Actual Cost**	**Actual Cost**	**Notes**
Advanced Water Treatment Plant					
Filters / membrane replacements and build reserves for future	2	$ -	$ 59,639	$ 59,639	
Interim, short-term SWF Modifications					
Short-term flood damage mitigation	1	$ -	$ 12,566	$ 12,566	
Hauling of last 18" of water and cleaning impoundment	1	$ -	$ 94,515	$ 94,515	
			166,720	**166,720**	

	B	C	D	E	F	G
1	**Wastewater CIP (Revised 5/6/2021)**					
2	**Wastewater Projects**	**Ranking**	**FY Project Cost**	**10-Yr Cost**		**Notes**
3	***Treatment Plant Projects in SST (All SST Cost Estimates Current as of 6/2/2020)***					
4	Investment Grade Audit (30% Design for all ECMs)	SST	$ -	$ 688,404		
5	Electrical Upgrades (ECM 7) - Conduits between PG&E transformer and service witchboard, switchboard, connections to existing switchboard, connections to generator)	SST	$ -	$ 337,963		
6	Secondary Water System (3W) Improvements (ECM 10) - Submersible pumps, hydrpneumatic tank, demo, electrical/I&C	SST	$ -	$ 218,985		
7	Sewer Lift Stations (ECM 12) - Lift Station B1, Lift Station B4, Lift Station 4: Electrical/I&C	SST	$ -	$ 2,739,235		
8	Influent Lift Station Modifications (ECM 2) - Bypassing; VFDs; Equipment & Material Demo; Pumps, guiderails, valves, and piping installation; upper concrete wet well deck & hatches (installation); electrical/I&C; new concrete and repair coatings	SST	$ -	$ 1,025,772		
9	Modified Ludzak-Ettinger Process Upgrade (ECM 3) - MLE conversion based on Carollo 2015 Study minus VFD costs; header repair	SST	$ -	$ 1,012,326		
10	Influent Flow Equalization (ECM 1) - New or refurbished EQ tanks based on Carollo 10% design	SST	$ -	$ 922,043		
11	Effluent Pump Station Improvements (ECM 11) - Demo; surge tank replacement; instrumentation; replace air release valves; pipeline cleaning and flushing; electrical/I&C	SST	$ -	$ 374,580		
12	RAS and WAS Pumping Improvements (ECM 5) - RAS pumping system; WAS pumping system; scum pumps replacement; skimming troughs replacement; electrical/I&C	SST	$ -	$ 733,792		
13	SCADA System (ECM 9) - New SCADA system based on Carolla 10% Design	SST	$ -	$ 455,259		
14	Backup Power (ECM 8) - 365 kW NG Generator; Demo; Propane backup	SST	$ -	$ 479,327		
15	Blower System Improvements (ECM 4) - Replace 2 blowers; duct replacement	SST	$ -	$ 457,179		
16	Sludge Thickening (ECM 6) - Rehabilitate rotary drum thickener and screw press; new transfer pumps; stabilization tanks; aeration system and control valve; demo of clarifiers; rolloff area with roof; electrical/I&C	SST	$ -	$ 971,987		
17		**Subtotal**	**$ -**	**$ 10,416,852**		
18	***Treatment Plant Projects Not in SST***					
19	Security Improvements	1	$ -	$ 15,000		
20	Replace Tractor	1	$ -	$ 40,000		
21	Replace Van - Transport of Sewer Video Camera System	1	$ -	$ 55,000		
22	Replace F150	1	$ -	$ 30,000		
23	Walkway Grating on Digester Tanks		$ -	$ 20,000		
24	Clarifier Improvements					
25	Eastern clarifier - Replace chain drive	1	$ -	$ 40,000		
26	Eastern clarifier - Replace drive unit's metalic hubs with non-corrosive hubs	1	$ -	$ 35,000		
27	Eastern clarifier - Replace clarifier chain, wear shoes, skid plates, & sprockets	2	$ -	$ 40,000		
28	Western clarifier - Replace clarifier chain, wear shoes, skid plates, & sprockets	2	$ -	$ 40,000		
29	Cover for Sheltering of Equipment @ Plant (50%)	2	$ -	$ 15,000		
30		**Subtotal**	**$ -**	**$ 330,000**		
31	***Collection System Projects***					
32	Lift Station A (Nottingham & Leighton/Park Hill)					
33	New Submersible Pumps, MCC, Bypass Piping, Control Panel at Grade Elevation	1	$ -	$ 490,000		
34	Lift Station A-1 (Sherwood & Harvey/Marine Terrace)					
35	New Submersible Pumps, Bypass Piping	1	$ -	$ 265,000		
36	Lift Station B - (SR Creek/Behind Park Hill)					
37	New Control Panel, Generator, Wet Well, Submersible Pumps, and Valve Vault	3	$ -	$ 435,000		
38	Lift Station B-2 (Wood Dr./E. Lodge Hill)					
39	New Control Panel at Grade Elevation	1	$ -	$ 425,000		
40	Lift Station B-3 (Green St./W. Lodge Hill)					
41	New Control Panel	1	$ -	$ 250,000		
42	New Submersible Pumps, MCC, Bypass Piping	3	$ -	$ 250,000		
43	Collection System Assessment software (E.g, t4 Spatial or other)	3	$ -	$ 10,000		
44		**Subtotal**	**$ -**	**$ 2,125,000**		
46			**GRAND TOTAL**	**$ 12,871,852**		
48			Priority 1 Total	$ 1,665,000		
49			Priority 2 Total	$ 95,000		
50			Priority 3 Total	$ 695,000		
51			Priority 4 Total	-		
52			SST Total	$ 10,416,852	$ -	
54	Completed Projects	Ranking	FY Project Cost	10-Yr Cost	Actual Cost	Notes
55	***Vehicles and Trailer- Mounted Equipment***					
56	Pearpoint or equal TV inspection camera (removed cost from mid year total to meet reduced funding balance, 11/20/2018.)	1	$ -	$ 75,000	$ 75,000	
57	F-350 Service Truck with Crane Body	1	$ -	$ 57,040	$ 56,540	
58	Vactor truck - replace with new $430K truck that meets emssion requirements (7 yr loan @ 4.5%)	1		$ 518,000	$ 402,435	
59	Replacement Rack Truck (F-150)	-	$ -	$ 24,193	$ 24,193	
60	***Treatment Plant Projects Not in SST***					
61	Influent screen, support platform design, & installation	1	$ -	$ 164,509	$ 156,675	

	B	C	D	E	F	G
1	**Wastewater CIP (Revised 5/6/2021)**					
2	**Wastewater Projects**	**Ranking**	**FY Project Cost**	**10-Yr Cost**	**Notes**	
62	***Collection System Projects***					
63	Lift Station A-1 MCC, SCADA Improvements	1	$ -	$ 45,000	$ 50,835	
65				**GRAND TOTAL**	**$ 765,678**	
68						

DEPARTMENT LINE ITEM BUDGET REQUESTS

Cambria Community Services District
FY 2021/22 Department Line Item Budget Requests

Fund	Department	Budget Item Request Description	Line Item Request Amount	FY 2021/22 Funded Amount	FY 2021/22 Unfunded Amount
General Fund	Fire	Addition of 3 Firefighters (Step B Salary & Benefits)	334,803	-	334,803
General Fund	Fire	Addition of Clerical Assistant (Step B Salary & Benefits)	61,915	-	61,915
General Fund	Fire	Maint & Repair - Building -Replace Refrigerator	3,000	3,000	-
General Fund	Fire	Maint & Repair - Replace Furniture & Beds damaged during water leak (Insurance Claim Offset)	8,000	8,000	-
General Fund	Fire	Maint & Repair - Storm Damage (Fencing/Shed/Window Screens)	12,000	12,000	-
General Fund	Fire	Maint & Repair - Vehicles Licensed	4,385	4,385	-
General Fund	Fire	Fuel Station Computer Replacement	14,000	14,000	-
General Fund	Fire	Zoll X Series EKG (Grant Offset)	40,000	40,000	-
General Fund	Fire	Radio System Upgrade - Phase II (Grant Offset)	30,000	30,000	-
General Fund	Fire	Station Security Upgrade - Phase I of III	80,000	20,000	60,000
General Fund	Fire	Storag Shed - Additional Shed for Storage of Equipment	8,000	8,000	-
General Fund	Fire	Replacement of F350 Utility Truck (Loan Offset)	50,000	50,000	-
		Sub-Total	**646,103**	**189,385**	**456,718**
General Fund	Facilities & Resources	Reclass of Facilities & Resources Supervisor to Facilities & Resources Manager (Step D & Benefits)	9,110	9,110	-
General Fund	Facilities & Resources	Addition of Maintenance Worker (Step B & Benefits)	79,488	-	79,488
General Fund	Facilities & Resources	Maintenance & Repairs - Vets Hall Keyless Entry	2,500	2,500	-
General Fund	Facilities & Resources	Maintenance & Repairs - Storm Damage - Bldg Repairs	20,000	20,000	-
General Fund	Facilities & Resources	Maintenance & Repairs - Storm Damage - Replace Appliances	2,000	2,000	-
General Fund	Facilities & Resources	Maintenance & Repairs - Storm Damage - Replace Office Furn	10,000	10,000	-
General Fund	Facilities & Resources	Maintenance & Repairs - Storm Damage - Replace Shed	10,000	10,000	-
General Fund	Facilities & Resources	Maintenance & Repairs - Storm Damage - Replace Fencing	6,500	6,500	-
General Fund	Facilities & Resources	Vets Hall Replace Sewer Main Line Replacement	40,000	-	40,000
General Fund	Facilities & Resources	Vets Hall Electrical Emergency (Generator & Equip)	80,000	-	80,000
General Fund	Facilities & Resources	Vets Hall Replace Legion Kitchen Roof	15,000	15,000	-
General Fund	Facilities & Resources	Vets Hall Waterline Improvements	10,000	-	10,000
General Fund	Facilities & Resources	Vets Hall Kitchen Area Improvements	20,000	-	20,000
General Fund	Facilities & Resources	Vets Hall Restroom Improvements	17,500	-	17,500
		Sub-Total	**322,098**	**75,110**	**246,988**
General Fund	PROS	Skate Park Construction & Infrastructure (PROS Comm Request)	220,000		220,000
General Fund	PROS	East Ranch Bathroom (PROS Comm Request)	360,000	-	360,000
General Fund	PROS	Update PROS Master Plan (PROS Comm Request)	80,000	19,152	60,848
		Sub-Total	**660,000**	**19,152**	**640,848**
General Fund	Administration	Property/Liability Insurance - Premium Increase 30%	51,914	51,914	-
General Fund	Administration	LAFCO Annual Fees (Increase of 15%)	3,814	3,814	-
General Fund	Administration	Professional Services - Fees & Charges Study	20,000	20,000	-
		Sub-Total	**75,728**	**75,728**	**-**
		Total General Fund	**1,703,929**	**359,375**	**1,344,554**
Water Fund	Water	Water Conservation Mailer	1,500	1,500	-
Water Fund	Water	Deferred Maintenance from FY 2020/21	17,000	17,000	-
Water Fund	Water	Maintenance & Repairs - Storm Damage Vault Repairs, Dosing Pump Replacement, Pressure Regulator Replacements	32,921	32,921	
Water Fund	Water	Undergrounding of Communications Lines	12,000	12,000	-
Water Fund	Water	Water Use Efficiency Plan Update	17,500	17,500	-
Water Fund	Water	Water Audit Tool & Training	5,000	5,000	-
Water Fund	Water	Retrofit Saturation Survey	2,500	2,500	-
Water Fund	Water	Instream Flow Study	75,000	75,000	-
Water Fund	Water	Water Meter Replacement Program	97,000	97,000	-
Water Fund	Water	Stuart Street Tank Rehabilitation	458,000	458,000	-
Water Fund	Water	SS2 Electrical Panel Upgrade	15,000	15,000	-
Water Fund	Water	Cover for Sheltering of Equipment	15,000	15,000	-
Water Fund	Water	Modular Office Building for Plant	10,000	10,000	-
		Sub-Total	**758,421**	**758,421**	**-**
Water Fund	WRF - Operations	Reverse Osmosis Filtration Audit	12,000	12,000	-
Water Fund	WRF - Operations	Chemicals for Media Preservation	7,000	7,000	-
Water Fund	WRF - Operations	Analytic Device Repair/Replacement	15,000	15,000	-
Water Fund	WRF - Operations	Silt Density Index Testing Equipment	1,650	1,650	-
Water Fund	WRF - Operations	Pull-Barn Style Cover for Equipment	50,000	-	50,000
		Sub-Total	**85,650**	**35,650**	**50,000**

Cambria Community Services District
FY 2021/22 Department Line Item Budget Requests

Fund	Department	Budget Item Request Description	Line Item Request Amount	FY 2021/22 Funded Amount	FY 2021/22 Unfunded Amount
Water Fund	WRF - Capital	Trailer Fill Station (Tanks, Piping, Spill Containment & Pad)	200,000	200,000	-
		Sub-Total	**200,000**	**200,000**	-
Wastewater Fund	Wastewater	Mailer-What Not to Flush (Moved from FY 2020/21 to FY 2021/22)	1,000	1,000	-
Wastewater Fund	Wastewater	Maintenance & Repairs - Equipment & Motor Repairs	45,000	45,000	-
Wastewater Fund	Wastewater	Maintenance & Repairs - Lab Building Roof Repairs	40,000	40,000	-
Wastewater Fund	Wastewater	Maintenance & Repairs - Road Paving Repairs - Due to Sewer Repairs (Contract with County of SLO)	60,000	60,000	-
Wastewater Fund	Wastewater	PFAS (Per and Polyfluoroalkyl Substances) Sampling	10,000	10,000	-
Wastewater Fund	Wastewater	PFAS (Per and Polyfluoroalkyl Substances) Sampling Supplies	2,000	2,000	-
Wastewater Fund	Wastewater	Lift Station Improvements (B-3 & B-4)	65,125	65,125	-
Wastewater Fund	Wastewater	Eastern Clarifier - Replace Drive Chain	40,000	40,000	-
Wastewater Fund	Wastewater	Replace John Deere Tractor	70,000	70,000	-
Wastewater Fund	Wastewater	Replace 2005 F150 Truck	30,000	30,000	-
Wastewater Fund	Wastewater	Replace Van - Transport of Video Camera System	55,000	55,000	-
Wastewater Fund	Wastewater	Secondary Water System Improvements (ECM 10)	80,000	80,000	-
Wastewater Fund	Wastewater	SST Project Loan - Pri/Int	409,894	409,894	
		Sub-Total	**498,125**	**498,125**	-
		Total Enterprise Funds	**1,542,196**	**1,492,196**	**50,000**

RESERVES

Cambria Community Services District
Reserve Estimates - Cash Basis
Proposed Budget FY 2021/2022

	General Fund	Wastewater Fund	Water Department	WRF Operations	WRF Capital	Total Water Fund	Total Enterprise (WW & Water)	Total CCSD
RESERVES								
Cash in Bank per Audit at June 30, 2019	$ 2,977,298	$ -	$ (262,531)	$ (216,380)	$ 637,980	$ 159,069	$ 159,069	$ 3,136,367
Fiscal Year 2019/20 Estimated Increases / (Decreases)	$ 245,360	$ 387,697	$ 421,859	$ 236,731	$ (219,682)	$ 438,908	$ 826,605	$ 1,071,965
Estimated Cash Based Reserves at June 30, 2020	**$ 3,222,658**	**$ 387,697**	**$ 159,328**	**$ 20,351**	**$ 418,298**	**$ 597,977**	**$ 985,674**	**$ 4,208,332**
Fiscal Year 2020/21 Estimates:								
Estimated Operating Surplus / (Deficit) based on actual activity to 6/30/21, transfers, encumbrances and project carryforwards	$ (57,755)	$ 499,856	$ 597,934	$ 318,248	$ 1,624,953	$ 2,541,135	$ 3,040,991	$ 2,983,236
Estimated Cash Based Reserves at June 30, 2021	**$ 3,164,903**	**$ 887,553**	**$ 757,262**	**$ 338,599**	**$ 2,043,251**	**$ 3,139,112**	**$ 4,026,665**	**$ 7,191,568**
Fiscal Year 2021/22 Proposed Budget								
Operating Surplus / (Deficit)	$ (70,481)	$ (387,314)	$ 3,559	$ (243,022)	$ (200,000)	$ (439,463)	$ (826,777)	$ (897,258)
Estimated Cash Based Reserves at June 30, 2022	**$ 3,094,422**	**$ 500,239**	**$ 760,821**	**$ 95,577**	**$ 1,843,251**	**$ 2,699,649**	**$ 3,199,888**	**$ 6,294,310**
INTERFUND LOANS								
Amounts per 6/30/2019 Audit	**$ 737,503**	**$ (579,777)**				**$ (157,726)**	**$ (737,503)**	**$ -**
Estimated Increase in Interfund Loans								
To eliminate negative cash balances at 6/30/2022	$ -	$ -				$ -	$ -	$ -
FY 2021/22 Estimated Loan Repayment	$ 98,753	$ -				$ -	$ -	$ 98,753
FY 2019/20 & 2020/21 Unused Reserve, FY 2021/22 Reserve Requirement per Prop 218	$ -	$ -				$ (533,000)	$ (533,000)	$ (533,000)
Total Interfund Loans/Required Reseves	**$ 98,753**	**$ -**				**$ (533,000)**	**$ (533,000)**	**$ (434,247)**
June 30, 2022 Adjusted Cash Based Reserves (Estimated)	**$ 3,193,175**	**$ 500,239**				**$ 2,166,649**	**$ 2,666,888**	**$ 5,860,063**

CAMBRIA COMMUNITY SERVICES DISTRICT

TO: Board of Directors

AGENDA NO. **7.B.**

FROM: John F. Weigold IV, General Manager

Meeting Date: June 17, 2021

Subject: Discussion and Consideration of Strategic Plan Status Report and Update

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RECOMMENDATIONS:
Staff recommends that the Board of Directors discuss and consider the monthly updates to the Strategic Plan.

FISCAL IMPACT:
There is no fiscal impact associated with this item.

DISCUSSION:
The Board held a special meeting on January 15th and adjourned to January 19th to develop a strategic plan, which included the development of goals for the next three years and underlying objectives to be largely accomplished over the next six months. Staff recommends that the Board discuss and consider the Strategic Plan status report and update the report as necessary. The Board will review the progress of the goals and objectives monthly and will hold a comprehensive Strategic Plan update session this summer during a special meeting.

Staff recommends the Board review, discuss and consider the monthly updates to the Strategic Plan.

Attachment: 2021 Strategic Plan and Board Goals and Objectives
Water Supply Ad Hoc Committee Report
Water Conservation Ad Hoc Committee Report
Under Funded/Staffed/Resourced List
CIP List
Vets Hall Priority Project List
Draft Social Media Policy

CAMBRIA COMMUNITY SERVICES DISTRICT

SIX-MONTH STRATEGIC OBJECTIVES

19 January 2021 – 1 July 2021

THREE-YEAR GOAL: **INCREASE AND IMPROVE COMMUNICATION WITH THE PUBLIC**						
WHEN	**WHO**	**WHAT**	**STATUS**			**COMMENTS**
			DONE	ON TARGET	REVISED	
1. At the April 8, 2021 CCSD Board meeting	Administrative Analyst – HR & IT – lead, CCSD Dir. Tom Gray, Vice Chair Policy Committee Gordon Heinrichs	Assess the website for community accessibility to information important for them to know and report results to the Board and staff	X			Initial meeting on 3/8. Follow up meeting held 3/15. Staff has implemented several changes to the CCSD website, including the addition of a new email-push tool for updated news. Task complete, but monitoring going forward.
2. At the April 15, 2021 Board meeting	General Manager John Weigold IV, with input from the Policy Committee	Develop a template improving public communication through social media.			X	Social media policy drafted for District Counsel review. Board review anticipated in July.
3. April 15 2021	Administrative Analyst – HR & IT - lead, General Manager John Weigold IV, Fire Chief William Hollingsworth, Facilities & Resources Manager Carlos Mendoza	Expand the existing format within the website for the public to communicate with staff and share with the Board and staff.	X			Initial meeting held 3/10. Additional contact information and tools added to the CCSD website. Task complete.

4. FOR FUTURE CONSIDERATION		Develop a newsletter for the public that is distributed regularly and the process(es) for distributing it.				

THREE-YEAR GOAL: ACHIEVE AND SUSTAIN ADEQUATE FINANCIAL RESOURCES TO FULFILL THE MISSION						
WHEN	**WHO**	**WHAT**	**STATUS**			**COMMENTS**
			DONE	ON TARGET	REVISED	
1. April 27, 2021	GM John Weigold IV and Finance Manager Pamela Duffield, co-leads, working with the Finance Committee	Identify underfunded, under-resourced and under-staffed services	X			Finance Committee Ad-Hoc created 2/23/2021 to identify underfunded, under-resourced and under-staffed services. Two meetings held. Finance Committee reviewed on 4/27. Ad hoc report attached for BOD review.
2. June 1, 2021	GM John Weigold IV and Finance Manager Pamela Duffield, co-leads, working with the Finance Committee	Identify funding resources and structural changes to meet unmet services needs			X	Finance Committee Ad hoc formed for Objective #1 to continue work on this objective. Revised completion date for August Board meeting.
3. July 1, 2021	GM John Weigold IV and Finance Manager Pamela Duffield	Complete the Tyler Financial System implementation		X		In progress

THREE-YEAR GOAL: ACHIEVE A BALANCED POLICY FOR GROWTH AND RESOURCES

WHEN	WHO	WHAT	STATUS			COMMENTS
			DONE	ON TARGET	REVISED	
1. At the April 15, 2021 CCSD Board meeting	The Resources and Infrastructure Committee's ad hoc Committee on Water Conservation (CCSD Director Karen Dean – lead)	Identify public water conservation measures and best practices and bring recommendations to the Board for sharing with the public.	X			Presented to the R&I Committee on 4/27. Work complete and report attached.
2. At the May 13, 2021 CCSD Board meeting	The Resources and Infrastructure Committee (former CCSD Director David Pierson – lead)	Identify additional sources of water and share the results with the Board.	X			Presented to the R&I Committee on 4/27. Work complete and report attached.

THREE-YEAR GOAL: DEVELOP AND IMPLEMENT A LONG-TERM INFRASTRUCTURE AND RESOURCES PLAN						
WHEN	WHO	WHAT	STATUS			COMMENTS
			DONE	ON TARGET	REVISED	
1. At the April 19, 2021 Resources and Infrastructure Committee meeting	General Manager John Weigold IV – lead, Finance Director Pam Duffield and Utilities Manager Ray Dienzo	Update the short-term CIP (Capital Improvement Plan) and present it to the Resources and Infrastructure Committee for review.	X			Report completed and presented to the R&I Committee on 5/10/21.
2. May 1, 2021	Utilities Manager Ray Dienzo and Finance Director Pam Duffield	Coordinate the conversion of Plan-It to Tyler Incode Asset Management Module for the purpose of asset management for ALL CCSD departments.			X	Configuration and training anticipated in June 2021.
3. At the June 14, 2021 Resources and Infrastructure Committee meeting	General Manager John Weigold IV – lead, Finance Director Pam Duffield and Utilities Manager Ray Dienzo	Update and extend the long-term CIP (Capital Improvement Plan) and present it to the Resources and Infrastructure Committee for review.	X			Presented to R&I on May 10, 2021.

Water Supply Ad Hoc Committee

R&I Standing Committee

Our committee was tasked as part of the CCSD Board's Strategic Planning process to find alternate sources of water for the community to allow growth. We were tasked to pursue opportunities regardless of the amount of water that might be needed or the amount the Water Reclamation Facility (WRF) will be able to produce during drought years. The revised Urban Water Management Plan, due in July, and a final approved Coastal Development Permit for the WRF should clarify the needed quantity. Our findings can then be used by the Board to decide on which, if any, opportunity needs to be pursued.

After much consideration, we came up with two basic truths to guide us. First, the two streams that provide our water now will not be providing any new water in the future. Indeed, climate change may cause there to be less water available. Second is that many studies have already been done in this area and although we had some new ideas, we certainly used the previous studies to guide us.

The Army Corps of Engineers (ACE) report, *Cambria Water Supply Alternatives*, of November 2013 was a comprehensive report that had 28 concepts narrowed down to 8 viable alternatives. Some of those had us linking to resources to our south. We consulted with both Supervisor Gibson and Tom Luster of the Coastal Commission on those alternatives. Both told us that tapping any resources outside of the immediate Cambria area was a non-starter. The cost and environmental impact would preclude any of those opportunities. The ACE report did have two options that we thought were viable and those are discussed below.

We are proposing five different opportunities for the Board's consideration. All will cost millions of dollars and require environmental and engineering studies before being pursued. We are not endorsing any of these options but offering them to the Board for their consideration. We do agree that the new wastewater treatment plant (WWTP) will be required within the next 10-15 years. With the time to get the engineering done and the permit approvals for such a project, we recommend initial studies on a new WWTP begin soon. Once the WRF is permitted the Board should have a clear picture of the need for additional water supplies. We recommend the Board then take swift action to decide on an option and begin the needed studies and engineering.

- ➢ Option #1 The California Division of Drinking Water is working on a framework of regulations for the direct reuse of highly treated wastewater as drinking water. This new source of water will be highly regulated but offers a clear path for Cambria to use the water produced by the Water Reclamation Facility to be used directly as drinking water without being reinjected into the aquifer. There likely will be modifications needed to the existing plant, but this may be the most viable source of drinking water for the community. The hydrology of the aquifer will obviously need to be considered before undertaking this approach.
- ➢ Option #2 Construct a new state-of-the-art Wastewater Treatment Plant that will allow reuse of the plant output as drinking water. This technology is nearing reality and should be available within ten years which is probably the time needed to get the plant sited, permitted, and constructed. A cooperative effort with San Simeon and Hearst Castle (State Parks) should be pursued. This plan has the backing of Supervisor Gibson. The current Cambria plant was

built in the 1970s and though it has been upgraded it is not state of the art. The San Simeon plant needs to be moved due to sea level rise which may also be true of the Cambria plant in the future. The new plant will minimize the reliance on the streams as most of the community's need will come from the plant. This option needs to be pursued regardless of San Simeon's cooperation.

- Option #3 There are ranchers and farmers upstream of our wells that own water rights for their operations. The District should pursue buying these rights so that more of the streams' water can be used for the community. These include rights held by Mr. Warren and Mr. Pedotti on San Simeon Creek and numerous landowners on Santa Rosa Creek. We have not contacted any of these landowners and know of none that are looking to sell at this time. The key risk to this option is that since it does not bring any additional water into the system, in a drought this water may not be available. This extra water rights would not necessarily need to be permitted as this water would be available downstream to our well field.
- Option #4 The 3rd best option from the ACE report is for a Desalination Plant. This option has been pursued by the CCSD before but remains one of the most viable alternatives. It would reduce dependence on the streams which would allow them to replenish and would reduce the environmental impacts on the streams. We encourage the Board to work with San Simeon to reconsider building a plant that would serve both communities with a stable and reliable water supply.
- Option #5 Another alternative considered by the ACE report is off-stream storage of water. Our concept would be to work with Mr. Warren on his reservoir to store up to 700 AF of water. This water could be used to provide Mr. Warren with his 187 AF each year for his crops or with the addition of a surface water treatment plant be used for potable water for the community. There are numerous challenges associated with this plan including filling the reservoir which would take several years. There are other possible off-stream opportunities including one off Perry Creek that would provide a possible 50 AF of storage. However, all the other opportunities would be more expensive due to their remoteness to the main well fields.

The ACE report delineated eight Tier 2 concepts. One has been implemented with the Water Reclaim Facility. Two others are discussed above. Three involve sources outside of our reach based on discussions with Gibson and Luster. The Hard Rock Storage and San Simeon Recycle were rated 6 and 8 by the AEC report and not considered viable by us.

During our review of the ACE alternatives, we were reminded of the original plan to dispose of the brine from the Water Reclamation Facility. The original concept was for subterranean disposal by recharging of the plant generated waste stream in the seawater wedge via deep injection brine injection wells. We recommend that this be pursued by the CCSD as a better method of disposal of this waste than the current plan to truck the waste to an approved outfall. This will require new permitting and approvals, but the effort would be highly beneficial. ($1.6M in 2013)

Water Conservation Ad Hoc Committee Report
R&I Standing Committee

The R&I Ad Hoc Committee on Water Conservation was assigned the Strategic Planning Objective of identifying public water conservation measures and best practices and to bring recommendations to the Board for sharing with the public. Actively conserving water as much as possible is very important to preserve our limited supply of water, especially with the increasing effects of climate change as well as our more and more frequently recurring drought conditions.

Our research began with the CCSD Website and the links therein on Water Conservation and Water Use Efficiency. To find this information, go to Cambriacsd.org, click on Water, then Plans and Programs, and you will find links for Water Conservation guidelines as well as for the Water Efficiency Plan developed with Maddaus Water Management and adopted by the Board in 2013. We have included many of the recommendations from these reports, have expanded on some of those recommendations, as well as including information from our additional research.

Our recommendations for water conservation include the following.

Indoor water saving tips:

- Use low flow and water efficient fixtures. Bathroom faucet aerators can be easily replaced with ½gpm aerators, inexpensive and readily available at local hardware and home improvement stores. Also available are inline flow reducers that can be installed under the sink in the water supply line.

- Do not let the water run when brushing teeth or shaving.

- Install 1 ½gpm shower heads, they are currently available in many styles and finishes. Another option to reduce water flow in the shower is a flow restrictor that attaches between the shower arm and shower head, many of which have a shut off lever to stop the flow of water while shampooing or soaping up.

- Catch shower water in a bucket while waiting for hot water, use this water to flush toilet or water plants. Limit showers to 5 minutes. If more than one person will be showering, shower one after the other to avoid having to wait for hot water again.

- Replace toilets with a 1.28 gallon per flush or dual flush toilet. Check the toilet for leaks by putting food coloring in the water tank. If there is a leak, the food coloring will show up in the bowl without flushing.

- Replace kitchen faucet aerators with 1 ½gpm aerators or install inline flow restrictors in the water supply line under the sink.

- Hot water recirculating pumps can help reduce the water wasted while waiting for hot water. Many different types are available, and can be controlled with timers, remote controls, or a switch at the sink. They can be installed near the water heater, or under the sink versions for instant hot water are also available and would be a simpler retrofit requiring less plumbing.

- Never let the water run continuously if washing dishes by hand.

- Run only full loads in the dishwasher and washing machine and use the shortest cycle possible.

Outdoor water saving tips:

- Use a broom or a battery powered blower, not a hose, to clean driveways and walkways.

- Replace high water using lawns and plants with drought resistant ground covers and shrubs.

- Add organic matter to the soil to increase water penetration and retention.

- Mulch around plants to keep the soil cool, retain moisture, and reduce weed growth.

- Use drip irrigation and adjust water schedule with changes in the weather, use timers.

- Water in the coolest part of the day, early morning or evening.

- Additional tips for water efficient landscaping can be found at https://www.slowaterwiselandscaping.com. Also consider more fire wise landscaping options, some good information and other links on this are available on www.ReadyforWildfire.org.

- Consider rainwater harvesting for landscape watering. Roof catchment systems can be as simple as collecting water by routing gutter downspouts into a barrel, daisy chaining several barrels together or using a water storage tank to hold the water for later use. This saved rainwater can also be used to wash vehicles. Approximately .62 gallons of water per square foot of rooftop per inch of rainfall can be collected, with a 2000 sq ft roof that could be about 1,343 gallons of water for every inch of rain.

- Greywater systems can help reduce the use of potable water for landscaping. However, greywater cannot be stored, nor can it be used for edible crops or where it can be in contact with people by spraying or by sprinkler systems.

A report by Committee member Jim Webb, with contributions from Committee member Brad Fowles, on research done on greywater systems and use follows. Jim talked to some local contractors regarding the use of greywater.

While greywater systems may be complex or simple, the bottom line is their design is dependent on site specific details. Living on a hill is a situation that might mean you need pumping to make your greywater system work. A flat lot might not need this and can use that old standby: gravity. More difficult the terrain, the more expensive the system will be.

Small lots use small systems, large lots more complex situations. Some properties may have no benefit at all from a greywater system if there is very little area to disperse the water. The rules are the same: non-potable water cannot be stored (the bacteria in it will multiply) and cannot be put on vegetable crops or dispersed in a manner that people will come in contact with it. A drip system will deliver water to a landscape bed but a sprinkler on a lawn won’t work.

In a typical house, about a third of water use is with toilets. This water cannot be used for greywater. About half the water used goes to landscaping, and this is a place where greywater systems can show some savings. It is not unrealistic to assume 15% water savings implementing a greywater system.

Standardized parts are now available, and inexpensive systems in the right location can be done for under two thousand dollars. The issue that sometimes crops up is the cost of a permit. The cost of a permit is $1,500. This has made some people opt to not go the permit route, but still put in a system. This obstacle could be adjusted by the county. Required care and maintenance of a greywater system should be considered when evaluating the benefits for your area.

Perhaps not unimportant, is the fact that greywater systems do not feed the CCSD Waste Water Treatment Plant. The water is absorbed by the user’s yard. As such, water and wastewater bills could decrease with a greywater system.

Cambria Community Services District
Strategic Plan - Achieve and Sustain Adequate Financial Resources to Fulfill the Mission
Task #1 - Identify Underfunded, Under-resourced and Under-staffed Services
Due Date - April 1, 2021

Fund	Department	Source	Priority	Budget Item Request Description	Line Item Request Amount	FY 2020/21 Funded Amount	FY 2020/21 Unfunded Amount	Ongoing Expense (Y/N)
General	Fire	Budget Funded	1	Radio System Upgrade (Grant Failed with County OES)	30,000	30,000	-	N
General	Fire	Budget Unfunded	1	Addition of 3 Firefighters (Step E Salary & Benefits) 3 Staff	361,200	-	361,200	Y
General	Fire	Budget Unfunded	1	Zoll X Series EKG	40,000	-	40,000	N
General	Fire	Budget Unfunded	1	Station Security Upgrade - Phase I of III	80,000	-	80,000	Y
				Priority 1 Sub-Total	**511,200**	**30,000**	**481,200**	
General	Fire	Budget Unfunded	2	Fuel Station Computer Replacement (Delayed in FY 19/20)	14,000	-	14,000	N
General	Fire	Budget Unfunded	2	Addition of Clerical Assistant	74,799	-	74,799	Y
General	Fire	Under Funded	2	2021 Storm Damage	42,975	-	42,975	N
General	Fire	Under Funded	2	Hose Replacement - Per NFPA Guidelines (current 30+yrs)	30,000	-	30,000	N
General	Fire	Under Funded	2	2nd Set of Turnout Uniforms for FF - Per NFPA (13 sets)	26,000	-	26,000	N
General	Fire	Under Funded	2	Training Facility for Firefighters	50,000	-	50,000	N
General	Fire	Under Funded	2	Unimproved Property for Training Facility	50,000	-	50,000	N
General	Fire	Under Funded	2	Fire Station Painting Exterior & Garages	20,000	-	20,000	N
General	Fire	Under Funded	2	Fire Engine Type 3 (FY 2022/2023)	400,000	-	400,000	N
General	Fire	Under Funded	2	Truck - Utility with Buildout (FY 2022/2023)	50,000	-	50,000	N
				Priority 2 Sub-Total	**757,774**	**-**	**757,774**	
General	Fire	Budget Unfunded	3	CERT (New GL Acct Frmly 6220A)	5,500	1,000	4,500	Y
General	Fire	Under Funded	3	Fire Prevention Officer (Paramedic/Captain)	168,000	-	168,000	Y
General	Fire	Under Funded	3	Additional Storage Shed & Foundation	8,000	-	8,000	N
General	Fire	Under Funded	3	Fire Station Addition for Residential Wing/Admin Office	3,000,000	-	3,000,000	Y
General	Fire	Under Funded	3	Water Tender (FY 2031/2032)	250,000	-	250,000	N
General	Fire	Under Funded	3	Vehicle Equipment Reserve - Annual	50,000	-	50,000	Y
General	Fire	Under Funded	3	Emergency Generator Replacement	100,000	-	100,000	N
General	Fire	Under Staffed	3	Addition of 3 Firefighters (Step E Salary & Benefits) 4 Staff	361,200	-	361,200	Y
				Priority 3 Sub-Total	**3,942,700**	**1,000**	**3,941,700**	
				Fire Department - Sub-Total	**5,211,674**	**31,000**	**5,180,674**	
General	Fac & Res	Budget Unfunded	1	Addition of Maintenance Worker (Step E & Benefits)	92,603	-	92,603	Y
General	Fac & Res	Budget Unfunded	1	Buildings & Grounds Increase for weed abatement & tree removal	120,000	-	120,000	Y
General	Fac & Res	Budgeted	1	Temporary Services (6 mos)	24,000	8,000	16,000	Y
General	Fac & Res	Under Funded	1	2021 Storm Damage	269,750	-	269,750	N
General	Fac & Res	Under Funded	1	Vets Hall - Priority 1 Projects	116,500	-	116,500	Y
General	Fac & Res	Under Funded	1	Rodeo Grounds Shop Building - Annual CIP Budget	30,000	-	30,000	Y
General	Fac & Res	Under Fund/Res/Staff	1	Homeless Encampment	150,000	-	150,000	Y

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General	Fac & Res	Under Fund/Res/Staff	1	Vacant Lot Maintanence (450 +/- Lots)	80,973	80,973	-	Y
				Priority 1 Sub-Total	**883,826**	**88,973**	**794,853**	
General	Fac & Res	Under Funded	2	Vets Hall - Priority 2 Projects	112,500	-	112,500	Y
General	Fac & Res	Under Funded	2	Community Park/Dog Park Maintenance	14,100	14,100	-	Y
General	Fac & Res	Under Fund/Res/Staff	2	Ranch Staffing/Maintenance	500,000	-	500,000	Y
General	Fac & Res	Under Fund/Res/Staff	2	Public Restrooms (Monthly cleaning, supplies, repairs, staffing)	36,336	36,336	-	Y
				Priority 2 Sub-Total	**662,936**	**50,436**	**612,500**	
General	Fac & Res	Under Funded	3	Street Lighting - Annual Electricity, Maintenance	16,200	16,200	-	Y
General	Fac & Res	Under Funded	3	Vets Hall - Priority 3 Projects	145,500	-	145,500	Y
General	Fac & Res	Under Funded	3	Public Restroom & Parking Lot - Annual CIP Budget	5,000	-	5,000	Y
General	Fac & Res	Under Funded	3	Cross Town Trail, Santa Rosa Creek Trail Systems	6,375	6,375	-	Y
General	Fac & Res	Under Funded	3	Cross Town Trail, Santa Rosa Creek Trail Systems- Asphalt Maint	50,000	-	50,000	Y
General	Fac & Res	Under Funded	3	Pocket Parks Maintenance - Moonstone Beach & Bridge/Center	1,000	1,000	-	Y
General	Fac & Res	Under Funded	3	Banner Program for Non-Profits	1,000	-	1,000	Y
General	Fac & Res	Under Funded	3	Trash Enclosures - Decorative Planters Annual Replacement	35,000	-	35,000	Y
General	Fac & Res	Under Fund/Res/Staff	3	Ranch Mgmt Plan Projects, Forest Mgmt & Restoration	1,000,000	-	1,000,000	N
				Priority 3 Sub-Total	**1,260,075**	**23,575**	**1,236,500**	
				Facilities & Resources Department Sub-Total	**2,806,837**	**162,984**	**2,643,853**	
General	PROS	Budget Unfunded	3	Community Park Phase II - Design	10,000	-	10,000	N
General	PROS	Under Funded	3	Skatepark - CIP for Construction	350,000	17,246	332,754	N
General	PROS	Under Funded	3	Fiscalini Ranch Restroom - CIP for Construction	220,000	20,000	200,000	N
General	PROS	Under Funded	3	Community Park Plan- CIP for Construction	3,000,000	-	3,000,000	N
General	PROS	Under Funded	3	Community Park Plan- CIP for Construction (Land Only)	1,000,000	-	1,000,000	N
				Priority 3 Sub-Total	**4,580,000**	**37,246**	**4,542,754**	
				PROS Department Sub-Total	**4,580,000**	**37,246**	**4,542,754**	
General	Admin	Under Funded	1	Consultant Services for Redistricting	30,000	-	30,000	N
				Priority 1 Sub-Total	**30,000**	**-**	**30,000**	

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General	Admin	Budget Unfunded	2	Ergonomic Remodels - Front Desk, FM, GM	9,800	5,200	4,600	N
				Priority 2 Sub-Total	**9,800**	**5,200**	**4,600**	
General	Admin	Budget Unfunded	3	Clerical Assistant Part-Time to Full Time (Step E & Benefits)	44,879	-	44,879	Y
General	Admin	Budget Unfunded	3	NeoGov Recruiting, Learning License & One-time Set-up	13,599	11,539	2,060	N
General	Admin	Under Funded	3	Replace District Car (FY 2022 or 2023)	30,000	-	30,000	N
General	Admin	Under Funded	3	Administrative Office Building	400,000	-	400,000	N
General	Admin	Under Funded	3	Administrative Office - Leased Space Carpet	25,000	-	25,000	N
				Priority 3 Sub-Total	**513,478**	**11,539**	**501,939**	
				Administrative Department Sub-Total	**553,278**	**16,739**	**536,539**	
				Total General Fund	**10,336,053**	**78,560**	**10,257,493**	
Water	Water	Under Funded	1	CIP Priority 1 Projects	1,570,527	667,851	902,676	Y
				Priority 1 Sub-Total	**1,570,527**	**667,851**	**902,676**	
Water	Water	Under Funded	2	CIP Priority 2 Projects	633,000	-	633,000	Y
Water	Water	Under Funded	2	Cover for Sheltering of Equipment at Plant (50%)	15,000	-	15,000	N
Water	Water	Under Funded	2	AWIA (American Water Infrastructure Act) Vulnerability Assessment	5,000	-	5,000	N
Water	Water	Under Funded	2	TCP (Trichloropropane) Monitoring	5,000	-	5,000	Y
Water	Water	Under Funded	2	Modular Office Building @ Plant	10,000	-	10,000	N
Water	Water	Under Funded	2	2021 Storm Damage	47,000	-	47,000	N
Water	Water	Under Resourced	2	Lease w/CUHS for Well Site (annual cost w/annual CPI incr)	42,000	42,000	-	Y
				Priority 2 Sub-Total	**757,000**	**42,000**	**715,000**	
Water	Water	Under Funded	3	CIP Priority 3 Projects	1,181,000	62,000	1,119,000	Y
Water	Water	Under Funded	3	Van Gordon Site - Modular Office Building	100,000	-	100,000	N
Water	Water	Under Funded	4	CIP Priority 4 Projects	100,000	-	100,000	Y
				Priority 3 & 4 Sub-Total	**1,381,000**	**62,000**	**1,319,000**	
				Water Department Sub-Total	**3,708,527**	**771,851**	**2,936,676**	
Water	WRF-Ops	Under Funded	1	CIP Priority 1 Projects	188,609	101,055	87,554	Y
				Priority 1 Sub-Total	**188,609**	**101,055**	**87,554**	

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Water	WRF-Ops	Under Funded	2	CIP Priority 2 Projects	260,000		260,000	Y
Water	WRF-Ops	Under Funded	2	2021 Storm Damage	51,000	-	51,000	N
				Priority 2 Sub-Total	**311,000**	**-**	**311,000**	
Water	WRF-Ops	Under Funded	3	CIP Priority 3 Projects	410,000		410,000	Y
				Priority 3 Sub-Total	**410,000**	**-**	**410,000**	
				SWF Department Sub-Total	**909,609**	**101,055**	**808,554**	
Wastewater	Wastewater	Budget Unfunded	1	Replace John Deere Tractor	40,000	-	40,000	N
Wastewater	Wastewater	Budget Unfunded	1	Replace Van - Transport of Video Camera System	40,000	-	40,000	N
Wastewater	Wastewater	Under Funded	1	CIP Priority 1 Projects	1,520,000	15,000	1,505,000	Y
Wastewater	Wastewater	Under Funded	1	CIP Priority SST Projects	10,416,852	860,404	9,556,448	Y
				Priority 1 Sub-Total	**12,016,852**	**875,404**	**11,141,448**	
Wastewater	Wastewater	Under Funded	2	CIP Priority 2 Projects	80,000	-	80,000	Y
Wastewater	Wastewater	Under Funded	2	2021 Storm Damage	23,000	-	23,000	N
Wastewater	Wastewater	Under Funded	2	PFAS (Per-and polyfluoroalkyl substance) Monitoring	5,000	-	5,000	Y
Wastewater	Wastewater	Under Funded	2	PFAS (Per-and polyfluoroalkyl substance) Treatment	100,000	-	100,000	Y
Wastewater	Wastewater	Under Funded	2	Cover for Sheltering of Equipment at Plant (50%)	15,000	-	15,000	N
				Priority 2 Sub-Total	**223,000**	**-**	**223,000**	
Wastewater	Wastewater	Under Funded	3	CIP Priority 3 Projects	695,000	-	695,000	Y
				Priority 3 Sub-Total	**695,000**	**-**	**695,000**	
				Wastewater Department Sub-Total	**12,934,852**	**875,404**	**12,059,448**	
				Total Enterprise Funds	**17,552,988**	**1,748,310**	**15,804,678**	

	A	B	C	D	E	F	G
1	**General Fund CIP (For Discussion Only - Modified 1/21/2021)**						
2	**General Fund Projects**		**Ranking**	**FY Project Cost**	**10-Yr Cost**	**Notes**	
3	***FY***	***Administration Department Projects***					
4	20-21	Tyler Incode	1	$ 71,773	$ 76,050		
5		Replace District Car	3	$ -	$ 30,000		
6							
7			**Subtotal**	**$ 71,773**	**$ 106,050**		
8	***FY***	***Facilities & Resources/PROS Projects***					
9	20-21	Trailer - Homeless Personal Property Storage	1	$ 12,000	$ 12,000		
10	20-21	F350 Truck - Replace 1999 F150 Truck	1	$ 40,000	$ 40,000		
11	20-21	Electric Vehicle Charging Station (Vets Hall)	1	$ 22,272	$ 22,272	Grant of $8,977 awarded to offset; pending budget adjustment	
12		Skate Park Improvements	1	$ -	$ -	Cost Unknown	
13	20-21	Restroom Facilities @ Fiscalini Ranch Preserve	1	$ 20,000	$ -	Total cost unknown, 20k grant for design	
14		Vets Hall Sewer Line	1	$ -	$ 40,000	Priority from VH Meeting 1.30.2020	
15		Vets Hall Electrical Emergency (Generator & Equipment)	1	$ -	$ 50,000	Priority from VH Meeting 1.30.2020	
16		Vets Hall Water Line	2	$ -	$ 10,000	Priority from VH Meeting 1.30.2020	
17			**Subtotal**	**$ 72,000**	**$ 174,272**		
18	***FY***	***Fire Department Projects***					
19	20-21	Radio System Upgrade Phase 2	1	$ 30,000	$ 40,729	Grant Funding as possible offset	
20		Fuel Station Computer Replacement	3	$ -	$ 10,000	50% cost paid by CCHD	
21		Fire Department Station Security	2	$ -	$ 80,000		
22		Zoll X Series EKG (2 systems)	2	$ -	$ 80,000		
23		Replace Fire Truck - Engine Type 1	3	$ -	$ 700,000	FY 2027	
24		Purchase New Fire Truck - Engine Type 3	3	$ -	$ 400,000	FY 2022	
25		Replace Water Tender	3	$ -	$ 250,000	FY 2024	
26		Facility Training Center (Sea Train Container)	3	$ -	$ 100,000		
27		Fire Station Expansion	3	$ -	$ 3,000,000	Includes Admin Office	
28		Extrication Tool	2	$ -	$ 60,000		
29			**Subtotal**	**$ 30,000**	**$ 4,720,729**		
30				**GRAND TOTAL**	**$ 5,001,051**		
31		Budgeted for FY 2020-2021		Priority 1 Total	$ 281,051		
32		Completed		Priority 2 Total	$ 230,000		
33		In Progress		Priority 3 Total	$ 4,490,000		
34		Not Started		Priority 4 Total	$ -		
35				SST Total	$ -		

	A	B	C	D	E	F	G
1	**Wastewater CIP - Capital Improvement Program (Revised 11/4/2020 - For Discussion Only)**						
2	**Wastewater Projects**		**Ranking**	**FY Project Cost**	**10-Yr Cost**	**Notes**	
3	***FY***	***Treatment Plant Projects in SST (All SST Cost Estimates Current as of 6/2/2020)***					
4	20-21	Investment Grade Audit (30% Design for all ECMs)	SST	$ 528,404	$ 688,404	Added 2/26; Balance budgeted for FY21	
5	20-21	Electrical Upgrades (ECM 7) - Conduits between PG&E transformer and service witchboard, switchboard, connections to existing switchboard, connections to generator)	SST	$ 232,500	$ 337,963		
6		Secondary Water System (3W) Improvements (ECM 10) - Submersible pumps, hydrpneumatic tank, demo, electrical/I&C	SST		$ 218,985		
7		Sewer Lift Stations (ECM 12) - Lift Station B1, Lift Station B4, Lift Station 4: Electrical/I&C	SST		$ 2,739,235		
8		Influent Lift Station Modifications (ECM 2) - Bypassing; VFDs; Equipment & Material Demo; Pumps, guiderails, valves, and piping installation; upper concrete wet well deck & hatches (installation); electrical/I&C; new concrete and repair coatings	SST		$ 1,025,772		
9		Modified Ludzak-Ettinger Process Upgrade (ECM 3) - MLE conversion based on Carollo 2015 Study minus VFD costs; header repair	SST		$ 1,012,326		
10		Influent Flow Equalization (ECM 1) - New or refurbished EQ tanks based on Carollo 10% design	SST		$ 922,043		
11		Effluent Pump Station Improvements (ECM 11) - Demo; surge tank replacement; instrumentation; replace air release valves; pipeline cleaning and flushing; electrical/I&C	SST		$ 374,580		
12		RAS and WAS Pumping Improvements (ECM 5) - RAS pumping system; WAS pumping system; scum pumps replacement; skimming troughs replacement; electrical/I&C	SST		$ 733,792		
13		SCADA System (ECM 9) - New SCADA system based on Carolla 10% Design	SST		$ 455,259		
14	20-21	Backup Power (ECM 8) - 365 kW NG Generator; Demo; Propane backup	SST	$ 99,500	$ 479,327	Switch Gear FY21	
15		Blower System Improvements (ECM 4) - Replace 2 blowers; duct replacement	SST		$ 457,179		
16		Sludge Thickening (ECM 6) - Rehabilitate rotary drum thickener and screw press; new transfer pumps; stabilization tanks; aeration system and control valve; demo of clarifiers; rolloff area with roof; electrical/I&C	SST		$ 971,987		
17			**Subtotal**	**$ 860,404**	**$ 10,416,852**		
18	***FY***	***Treatment Plant Projects Not in SST***					
19	20-21	Security Improvements	1	$ 15,000	$ 15,000	Added 5/2020	
20		Clarifier Improvements					
21		Eastern clarifier - Replace chain drive	1		$ 40,000		
22		Eastern clarifier - Replace drive unit's metalic hubs with non-corrosive hubs	1		$ 35,000		
23		Eastern clarifier - Replace clarifier chain, wear shoes, skid plates, & sprockets	2		$ 40,000		
24		Western clarifier - Replace clarifier chain, wear shoes, skid plates, & sprockets	2		$ 40,000		
25			**Subtotal**	**$ 15,000**	**$ 170,000**		
26	***FY***	***Collection System Projects***					
27		Lift Station A (Nottingham & Leighton/Park Hill)					
28		New Submersible Pumps, MCC, Bypass Piping, Control Panel at Grade Elevation	1		$ 490,000		
29		Lift Station A-1 (Sherwood & Harvey/Marine Terrace)					
30		New Submersible Pumps, Bypass Piping	1		$ 265,000		
31		Lift Station B - (SR Creek/Behind Park Hill)					
32		New Control Panel, Generator, Wet Well, Submersible Pumps, and Valve Vault	3		$ 435,000		
33		Lift Station B-2 (Wood Dr./E. Lodge Hill)					
34		New Control Panel at Grade Elevation	1		$ 425,000		
35		Lift Station B-3 (Green St./W. Lodge Hill)					
36		New Control Panel	1		$ 250,000		
37		New Submersible Pumps, MCC, Bypass Piping	3		$ 250,000		
38		Collection System Assessment software (E.g, t4 Spatial or other)	3		$ 10,000		
39			**Subtotal**	**$ -**	**$ 2,125,000**		
41				**GRAND TOTAL**	**$ 12,711,852**		
43		Budgeted for FY 2020-2021		Priority 1 Total	$ 1,520,000		
44		Not Started		Priority 2 Total	$ 80,000		
45		In Progress		Priority 3 Total	$ 695,000		
46				Priority 4 Total	-		
47				SST Total	$ 10,416,852	$	-
49	**Completed Projects**		**Ranking**	**FY Project Cost**	**10-Yr Cost**	**Actual Cost**	**Notes**
50	***FY***	***Vehicles and Trailer- Mounted Equipment***					
51	19-20	Pearpoint or equal TV inspection camera (removed cost from mid year total to meet reduced funding balance, 11/20/2018.)	1		$ 75,000	$ 75,000	
52	18-19	F-350 Service Truck with Crane Body	1		$ 57,040	$ 56,540	
53	19-20	Vactor truck - replace with new $430K truck that meets emssion requirements (7 yr loan @ 4.5%)	1		$ 518,000	$ 402,435	
54	19-20	Replacement Rack Truck (F-150)	-	$ -	$ 24,193	$ 24,193	
55	***FY***	***Treatment Plant Projects Not in SST***					
56	18-19	Influent screen, support platform design, & installation	1		$ 164,509	$ 156,675	
57	***FY***	***Collection System Projects***					
58	19-20	Lift Station A-1 MCC, SCADA Improvements	1		$ 45,000	$ 50,835	
60					**GRAND TOTAL**	**$ 765,678**	
63							

	A	B	D	E	F	G	H
1	**Water CIP - Capital Improvement Program** **(Revised 11/4/2020 - For Discussion Only)**						
2	**Water Projects**		**Ranking**	**FY Project Cost**	**10-Yr Cost**	**Notes**	
3	***FY***	***Water Distribution System Projects***					
4	20-21	Pressure Zone 2 to Zone 7 transmission main replacement @ SR Creek pedestrian bridge	1	$ 50,000	$ 215,527	In Permitting; RFP	
5	20-21	Water Meter Replacements & Upgrades (phased)	1	$ 332,500	$ 1,050,000	Developing RFP	
6		Piney Way erosion control inspection report and follow-up protection efforts for existing pipeline	1		$ 10,000		
7		Subzone metering of distribution system	2		$ 150,000		
8		Replacement of problematic service lines within Leimert	3		$ 130,000		
9		Water Master Plan Amendment (revised fire flow modeling/tank sizing check)	3		$ 35,000		
10		Inspection & spot repair to water transmission main under S. Parks wetlands area; or lining of transmission main plus study & predesign	4		$ 80,000		
11		Pine Knolls - Iva Court zone 1 pipeline expansion	4		$ 165,000		
12			**Subtotal**	**$ 382,500**	**$ 1,835,527**		
13	***FY***	***Tank & Booster Pump Station Projects***					
14	20-21	SCADA System - Phased Upgrades (Adding historian, reporting, etc)	1	$ 240,351	$ 250,000	Beginning Phase 2	
15		Stuart Street Tank Replacement (125K gallon welded steel tank with new foundation)	2		$ 458,000	Recategorized 2/26	
16		Electrical transfer switch and conduit to well SS-3	2		$ 25,000		
17	20-21	Rodeo Grounds Pump Station Replacement (aka Zone 2 Booster pump station)	3	$ 62,000	$ 1,016,000	Design/Permitting Budgeted FY21	
18			**Subtotal**	**$ 302,351**	**$ 1,749,000**		
19	***FY***	***Vehicles and Trailer-Mounted Equipment***					
20	20-21	Replacement 2005 F-150 Truck with F-250 (for towing Ditch Witch)	1	$ 35,000	$ 35,000	Added 5/2020	
21			**Subtotal**	**$ 35,000**	**$ 35,000**		
22	***FY***	***Water conservation***					
23	20-21	Database for water conservation program/tracking with parcel links & APN file conversion	1	$ 10,000	$ 10,000		
24			**Subtotal**	**$ 10,000**	**$ 10,000**		
26				**GRAND TOTAL**	**$ 3,629,527**		
28		Budgeted for FY 2021		Priority 1 Total	$ 1,570,527		
29		Not Started		Priority 2 Total	$ 633,000		
30		In Progress		Priority 3 Total	$ 1,181,000		
31				Priority 4 Total	$ 245,000		
33	**Completed Projects**		**Ranking**		**Actual Cost**	**Notes**	
34	***FY***	***Vehicles and Trailer- Mounted Equipment***					
35	18-19	Replacement Dump Truck	1		$ 74,871		
36	18-19	Trailer-Mounted Air Compressor	2		$ 22,557		
37	18-19	Trailer-Mounted Vacuum Extractor	2		$ 46,169		
38	***FY***	***Tank & Booster Pump Station Projects***					
39	19-20	San Simeon well field generator replacement	2		$ 50,449		
41				**GRAND TOTAL**	**194,046**		
44	**SWF CIP - Capital Improvement Program** **(Revised 5/27/2019 - For Discussion Only)**						
45	**SWF Projects**		**Ranking**	**FY Project Cost**	**10 yr Cost**	**Notes**	
46		***Permitting & Planning***					
47	20-21	Urban Water Management Plan - CDP Portion	1	$ 20,463	$ 20,463		
48		Groundwater modeling/piezometer installation/monitoring	1	$ -	$ 75,758	Pending Board approval 1/21/2021	
49		EIR consulting (follow up agency discussions to support the SWF's Regular CDP)	1		$ 28,609	Increased cost 2/26	
50	20-21	Section 7 ESA consulting, annual AMP report, & AMP update	1	$ 80,592	$ 100,000	Recorded as Operating Expense	
51			**Subtotal**	**$ 80,592**	**$ 128,609**		
52		***Interim, short-term SWF Modifications***					
53		Brine Tank Secondary Containment, Grading, Rock	1	$ -	$ 20,000	Grading, Rock Recorded as M&R	
54			**Subtotal**	**$ -**	**$ 20,000**		
55		***Advanced Water Treatment Plant***					
56		Miscelaneous instrumentation / monitoring upgrades	2		$ 10,000		
57			**Subtotal**	**$ -**	**$ 10,000**		
58		***Long-Term Improvement Modifications***					
59		Consutling assistance for coordination with Army Corps on WRDA grant (meetings, redefine work plan, & update scope of work)	1		$ 40,000		
60		Future permanent mods at SWF for trailer fill station [transfer tanks, piping, & spill contrainment/loading pad] (1,2)	2		$ 200,000		
61		AWTP pull-barn style covers for outdoor equipment & control panels (1,2)	2		$ 50,000		
62		Sems, Hach WIMS, or custom programmer for logging/reporting software and tablets	3		$ 25,000		
63		Installation of remote sensing instrumentation at SS creek (needs ROE agreement with State Parks)	3		$ 10,000		
64		Solar Array System (1,2)	3		$ 375,000		
65			**Subtotal**	**$ -**	**$ 700,000**		
67				**GRAND TOTAL**	**$ 858,609**		
69		Budgeted for FY 2021		Priority 1 Total	$ 188,609		
70		Not Started		Priority 2 Total	$ 260,000		
71		In Progress		Priority 3 Total	$ 410,000		
72				Priority 4 Total	-		
74	**Completed Projects**		**Ranking**		**Actual Cost**	**Notes**	
75	***FY***	***Advanced Water Treatment Plant***					
76	19-20	Filters / membrane replacements and build reserves for future	2		$ 59,639		
77	***FY***	***Interim, short-term SWF Modifications***					
78	18-19	Short-term flood damage mitigation	1		$ 12,566		
79	18-19	Hauling of last 18" of water and cleaning impoundment	1		$ 94,515		
81				**GRAND TOTAL**	**166,720**		

VETERANS HALL CAPITAL PROJECT LIST

PROJECT	LOCATION	ISSUES	PROPOSED WORK	ESTIMATED COST	PRIORITY
	EXTERIOR				
ROOF	EXTERIOR AMERICAN LEGION KITCHEN	FLAT/GRAVEL ROOF LEAKS	REPLACE ROOF	$15,000	1
SEWER LINE	EXTERIOR BETWEEN VET'S HALL AND PINEDORADO GROUNDS	SEWER LINES HAS BEEN VIDEO RECORDED AND HAS SEVERAL BELLY'S CREATING SEWER BACK UP ISSUES ON PARKING LOT AND LEGION HALL	CUT ASPHALT, REMOVE SEWER LINE, REPLACE WITH NEW, FILL AND REPLACE ASPHALT	$40,000	1
ELECTRICAL-EMERGENCY	EXTERIOR BUILDING, MAIN ELECTRICAL PANEL	BUILDING HAS A GENERATOR HOOK UP. VET'S HALL IS A DESIGNATED EMERGENCY EVACUATION BUILDING. THERE IS CURRENTLY NO GENERATOR AVAILABLE FOR USE INCASE OF EMERGENCY	PURCHASE GENERATOR (Electrical inspection is in progress to determine appropriate size)	$50,000	1
WATER LINE	RESTROOMS	CURRENT WATER LINE SIZE IS INADIQUATE TO SUPPLY WATER TO RESTROOMS AT FULL CAPACITY	RUN NEW LINE TO BOTH RESTROOMS	$10,000	2
PARKING LOT	FRONT, SIDES AND BACK PARKING LOT	ASPHALT HAS CRACKS, SEALER WORN, PARKING LINES FADED	FILL CRACKS, RE SEAL AND RESTRIPE	$15,000	2
PAINT	EXTERIOR BUILDING, INCLUDING BODY, FACIA, GUTTERS, RAILINGS, WINDOWS AND TRIM	EXTERIOR PAINT FADED, BUILDING HAS NOT BEEN PAINTED IN OVER 20 YEARS	PAINT EXTERIOR OF BUILDING	$25,000	2
CONCRETE	BBQ GRILL	CONCRETE IS CRACKED ON ALL FOUR SIDES AND IS FALLING APART	REPLACE BBQ GRILL	$10,000	2
SIDING	BBQ GRILL AREA	SIDING HAS ROTT	REPLACE SIDING	$3,000	1
SIDING	LEGION BAR AREA	SIDING HAS ROTT	REPLACE SIDING	$3,000	1
LIGHTING	LARGE PARKING LOT BETWEEN CAMBRIA DR. AND BUILDING	2 HALOGEN FLOOD LIGHTS NOT ENERGY EFICIENT	REPLACE WITH ENERGY EFFICIENT LIGHTING	$4,500	3
LIGHTING	EXTERIOR BUILDING	NOT ENERGY EFFICIENT	REPLACE 5 "WALL PACK" FIXTURES WITH ENERGY EFFICIENT LIGHTING	$2,500	3
DOOR	PUSH OUT DOOR BETWEEN DINING ROOM AND DECK	DOOR LEAKS IN MULTIPLE AREAS	INSPECTION BY A COMMERCIAL DOOR COMPANY IS IN PROGRESS (inspection is in progress)	$25,000	2
ROOF	ENTIRE VET'S HALL	RE-ROOFED IN 2008, EXPECTED LIFE OF 30YRS	RE-ROOF	$40,000	3
CARPENTRY	DECK OUTSIDE DINING ROOM	TOP BOARDS WARPED, WORN AND LOOSE	REPLACE TOP DECK MATERIAL	$10,000	2

VETERANS HALL CAPITAL PROJECT LIST

PROJECT	LOCATION	ISSUES	PROPOSED WORK	ESTIMATED COST	PRIORITY
	INTERIOR				
SOUND SYSTEM	MAIN HALL	SPEAKERS ARE PAST THEIR LIFE EXPECTANCY	REPLACE SPEAKERS ON CEILING	$2,500	2
CHAIRS	MAIN HALL	NOT ENOUGH CHAIRS TO MEET THE 250 CAPACITY OF THE ROOM. CHAIRS ARE MISMATCHED AND MOST DON'T HAVE BACK PADDING	PURCHASE NEW CHAIRS	$10,000	3
FLOORS	MAIN HALL	WOOD FLOOR NEED SANING AND REFINISHING	SAND AND REFINISH FLOOR	$12,000	3
LIGHTING	MAIN HALL, KITCHEN, BAR, FOYER	FLOURECENT LIGHTING NOT ENERGY EFFICIENT	REPLACE WITH ENERGY EFFICIENT LIGHTING	$7,000	3
WINDOWS	MAIN HALL, STAGE	MOST WINDOWS DON'T FUNCTION PROPERLY AND ARE NOT ENERGY EFFICIENT	REPLACE WINDOWS WITH ENERGY EFFICIENT	$15,000	2
CABINETS	BAR	CABINETS ARE WORN, BROKEN, COUNTERTOPS ARE CHIPPED AND WORN	REPLACE CABINETS, COUNTER TOPS, SINKS AND FAUCET	$4,000	3
APPLIANCE	BAR	REFRIGERATOR DOESN'T WORK, PAST LIFE EXPECTANCY	REPLACE REFRIGERATOR	$1,500	1
FLOORING	BAR	LINOLIUM IS WORN AND PAST ITS LIFE EXPECTANCY	REPLACE FLOORING	$2,500	3
PAINT	STAGE	WALLS AN CEILING NEED REPAIRS AND PAINT	FIX WALLS, CEILING AND REPAINT	$5,000	3
CHAIRS	DINING ROOM	CHAIRS ARE PAST LIFE EXPECTANCY	PURCHASE NEW CHAIRS (49)	$2,500	3
TABLES	DINING ROOM	TABLES ARE SCRATCHED, WORN AND PAST THEIR LIFE EXPECTANCY	PURCHASE 24 NEW TABLES	$9,000	3
CABINETS, COUNTERTOPS	KITCHEN	CABINETS, COUNTERTOPS NEED UPDATING	REPLACE CABINETS, COUNTER TOPS, SINKS AND FAUCET	$20,000	3
APPLIANCE	KITCHEN	2 REFRIGERATORS NOT WORKING PROPERLY, PAST THEIR LIFE EXPECTANCY	REPLACE 2 REFRIGERATORS	$4,000	1
FLOORING	KITCHEN	LINOLIUM IS WORN AND PAST ITS LIFE EXPECTANCY	REPLACE FLOORING	$5,000	3
PAINTING	KITCHEN	WALLS AN CEILING NEED REPAIRS AND PAINT	FIX WALLS, CEILING AND REPAINT	$4,000	3
PARTICIANS	MEN AND WOMEN RESTROOM	METAL PARTICIANS HAVE RUST	REPLACE PARTICIANS	$8,500	3
CABINETS, COUNTERTOPS	MEN AND WOMEN RESTROOM	COUNTERTOPS CHIPPED AND WORN	REPLACE COUNTERTOPS, SINKS	$2,500	3
FLOOR	MEN AND WOMEN RESTROOM	TILE FLOORING WORN	REPLACE FLOORING	$6,500	3
				374,500	

Priority 1-Short Term	$116,500
Priority 2-Medium Term	$112,500
Priority 3-Long Term	$145,500

Cambria Community Services District
Social Media Policy

2415.1 Purpose:

The policy outlines the protocol and procedures for use of social media to publicize Cambria Community Services District ("District") services, news, announcements and events. In addition, this policy addresses the responsibilities of employees and District officials with regard to social media and the use of District resources (time/equipment), as well as responsibilities related to the public records and open meeting laws.

2415.2 Definitions:

a) Social Media: Various forms of discussions and information-sharing, including social networks, blogs, video sharing, podcasts, wikis, message boards, and online forums. Technologies include: picture-sharing, wall-postings, fan pages, email, instant messaging and music-sharing. Examples of social media applications include but are not limited to Google and Yahoo Groups, (reference, social networking), Wikipedia (reference), NextDoor (social networking), Facebook (social networking), YouTube (social networking and video sharing), Flickr, (photo sharing), Twitter (social networking and microblogging), LinkedIn (business networking), and news media comment sharing/blogging.
b) Social Networking: The practice of expanding business and/or social contacts by making connections through web-based applications. This policy focuses on social networking as it relates to the Internet to promote such connections for District business and for employees, elected and appointed officials who are using this medium in the conduct of official District business.
c) "Posts" or "postings" means information, articles, pictures, videos, or any other form of communication posted on a District social media site.

Policy:

2415.3 No district social media site may be created without the approval of the General Manager or his or her designee. All District social media sites created on behalf of the District, by its employees on District time, or using other District resources are the property of the District and shall be administered and regularly monitored by the General Manager or his/her designee. These social media sites shall be used to help inform the public about District business, services, news and events. Individual departments may have their own pages/sites, subject to General Manager approval. Individual departments wishing to add content to District social media sites may submit a request to the General Manager. The District's web site, www.cambriacsd.org, will remain the location for content regarding District business, services and events. Whenever possible, links within social media formats should direct users to the District web site for more information, forms, documents, or online services necessary to conduct business with the District. District social media sites shall clearly state that such sites are maintained by the District and that the sites comply with this Social Media Policy.

2415.4 District employees and appointed and elected officials shall not disclose information about confidential District business on the District's social media sites, personal social media sites, or otherwise. In addition, all use of social media sites by elected and appointed officials shall be in compliance with California's open meeting laws, which prohibit serial meetings of a majority of the Board or another legislative body of the District via email or other electronic means. Members of the Board, committees and/or legislative bodies shall not respond to, "like", "share", retweet, or otherwise participate in any published postings, or use the platform or any form of electronic communication to respond to, blog or engage in serial meetings, or otherwise discuss, deliberate, or express opinions on any issue within the subject matter jurisdiction of the body on which they serve. Employees and elected or appointed officials' posts to non-District social media sites are a reflection of their own views and not necessarily those of the District and should not suggest otherwise.

2415.5 Posting/Commenting Guidelines:

a) Postings made by the District to social media sites should contain information and content that has already been published or broadcast by the District. The District will not comment on other social media member's sites. All official social media postings by the District will be done solely on the District's social media sites or in response to postings made on the District's social media sites. Officers, employees and agents of the District representing it on District social media sites shall conduct themselves professionally and in accordance with all District policies. All District social media sites shall use authorized District contact information for account set-up, monitoring and access. Personal email accounts or phone numbers may not be used to set up, monitoring, or post to a District social media platform.

b) The District reserves the right to remove from its social media sites content that it finds to violate this policy or applicable law. Any participants on the District's social media sites who are in continual violation of the postings/commenting guidelines may be barred from further use of the District's site. The District will only post photos for which it has copyright or the owner's permission.

c) District social media platforms are subject to the California Public Records Act. Any content maintained on a District social media site that is related to District business, including a list of subscribers, posted communication, and communication submitted for posting, may be considered a public record and subject to public disclosure. All postings on District social media sites shall be sent to a District email account and maintained consistently with the Public Records Act, provided, however, that any material removed from a District social media site consistently with this policy shall be considered a preliminary draft, note or memorandum not retained by the District in the ordinary course of business and shall not constitute a public record of the District required to be retained consistently with the District's records retention schedules.

d) Chat functions in any social media sites should not be used.

e) Links to all social media networks to which the District belongs will be listed on the District's website. Interested parties wishing to interact with these sites will be directed to visit the District's web site for more information on how to participate.

f) The District reserves the right to terminate any District social media site without notice or to temporarily or permanently suspend access to District social media as to some or all persons at any time. The District reserves the right to implement or remove any functionality of its social media platforms, in the discretion of the General Manager or his or her designee. This includes, but is not limited to, information, articles, pictures, videos, or any other form of communication that can be posted on a District social media platform

g) District social media sites may contain content, including but not limited to, advertisements or hyperlinks over which the District has no control. The District does not endorse any hyperlink or advertisement placed on District social media sites by the social media site's owners, vendors, or partners.

h) Any person authorized to post items on any of the District's social media platforms shall review, be familiar with, and comply with this Policy and each social media platform's terms and conditions of use.

i) Any person authorized to post items on behalf of the District to any of the District’s social media platforms shall not express personal views or concerns through such postings. Instead, postings on any of the District’s social media platforms on behalf of the District shall only reflect the views of the District.

j) Posts must contain information that is freely available to the public and not be confidential as defined by any District policy or county, state or federal law.

k) Posts may NOT contain any personal information, except for the names of persons being available for contact by the public as representatives of the District. Posts to District social media sites shall NOT contain any of the following:
   1) Comments that are not topically related to the information commented upon;
   2) Comments in support of, or opposition to, political campaigns, candidates or ballot measures;
   3) Profane language or content;
   4) Content that promotes, fosters, or perpetuates discrimination on the basis of race, creed, color, age, religion, gender, marital status, or status with regard to public assistance, national origin, physical or mental disability or sexual orientation, or any other category protected by federal, state, or local law;
   5) Sexual content or links to sexual content;
   6) Solicitations of commerce;
   7) Conduct or encouragement of illegal activity;
   8) Information that may tend to compromise the safety or security of the public or public systems; or
   9) Content that violates a legal ownership interest of any other party.

Procedures:
2415.6 The General Manager or his designee will be responsible for responding to comments and messages as appropriate. The District will direct users to the District’s web site for more information, forms, documents or online services necessary to conduct business with the District.

2415.7 The District may invite others to participate in its social media sites. Such invitations will be based upon the best interests of the District as determined by the General Manager or his or her designee.

Responsibilities:
2415.8 It is the responsibility of employees and appointed and elected officials to understand the procedures as outlined in this policy.

2415.9 Employees who are not designated by the General Manager to access social media sites for District business are prohibited from accessing social media sites utilizing the District computer equipment and/ or the District’s web access. While at work, employees who are not granted access via District systems and computing equipment may use personal computing devices and personal web accounts to access social media sites only during non-working hours such as lunch periods and breaks. State law provides that more than occasional or incidental personal use of District resources is a crime.

2415.10 The General Manager will determine if a requested use of District social media sites or other District resources is appropriate and complies with this policy.

2415.11 All content on District social media sites must comply with District web standards, the rules and regulation of the social media site provider, including privacy policies, and applicable law. Employee or District confidentiality shall be maintained in accordance with all applicable laws and District policies. If a question arises regarding the use or posting of confidential information on a social media site, the matter shall be referred to the General Manager. The information in question shall not be posted, or if already posted, shall be removed until an opinion is rendered by General Manager or, at his or her request, Legal Counsel. Notwithstanding the opinion of the District counsel, the General Manager reserves the right to restrict or remove District information from a District social media site if the General Manager concludes the information does not serve the best interest of the District.

2415.12 All social media-based services to be developed, designed, managed by or purchased from any third-party source for District use requires appropriate budget authority and approval from the Board of Directors, in accordance with the District's Purchasing Policy.

2415.13 The District reserves the right to change, modify, or amend all or part of this policy at any time.

CAMBRIA COMMUNITY SERVICES DISTRICT

TO: Board of Directors

AGENDA NO. **8.B.**

FROM: John F. Weigold, IV, General Manager

Meeting Date: June 17, 2021

Subject: General Manager's Report

GENERAL MANAGER:

The District continues its mission of providing water, wastewater treatment, emergency response, facilities, and administrative services. In addition to the daily operations of the Cambria Community Services District (CCSD), the following is an update on some of our current ongoing projects:

Skatepark

Spohn Ranch, our skatepark design contractor, is making good progress. The topographic mapping survey is complete and is being reviewed by the civil engineer. The geotechnical engineer has been contracted to do borings and a soil analysis, but due to workload the results are not expected for about seven weeks. The designer is starting to do some preliminary site layouts to experiment with the best ways to make use of the space, and noted that shallow bedrock below the surface that could impact subterranean construction.

COVID-19

San Luis Obispo County has shifted to the Yellow Tier for COVID-19 readiness as of June 9, 2021, and the CCSD staff continues to operate according to County Health Department regulations. Staff is making preparations for the relaxing of COVID-19 restrictions, including the resumption of in-person meetings.

Brown Act Training

All Board, committee and commission members have received refresher Brown Act training in the past two weeks. Thank you to David Hirsch from Carmel & Naccasha for providing the training. The presentation is posted on the CCSD website at: Board Special Meeting - Cambria Community Services District (cambriacsd.org).

Regulatory Compliance

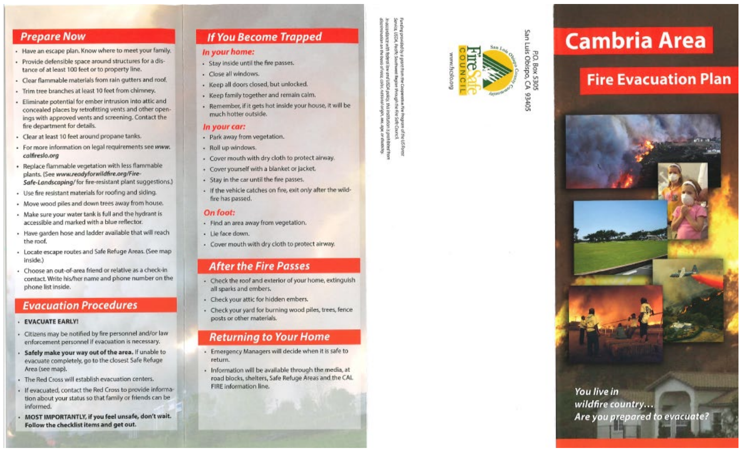
The District continues to provide all required regulatory reporting on or ahead of schedule.

Grants

Staff has applied to Senator Alex Padilla for consideration for federal funding as part of the U.S. Senate's Community Project Funding, a supplement to the traditional federal appropriations process that allows for direct project inclusion in federal appropriation bills. The CCSD was already selected as one of 65 submissions from across San Luis Obispo and Santa Barbara Counties, and was the only special district project selected as one of the ten projects ultimately selected by Congressman Carbajal for consideration for House funding. Thank you to the following people and organizations for writing letters of support for this application: Supervisor Bruce Gibson, North Coast Advisory Council, Cambria Chamber of Commerce, Cambria Tourist Bureau, and the CCSD Board of Directors.

Cambria Area Fire Evacuation Plan

The Cambria Area Fire Evacuation Plan, along with other brochures, is posted on the District's website (https://www.cambriacsd.org/north-coast-emergency-preparedness). If you'd like a copy of the Cambria Area Fire Evaluation Plan or fire-related brochures, please contact the Cambria Fire Department at (805) 927-6240 or email Haley Dodson (hdodson@cambriacsd.org).



Prepare Now

- Have an escape plan. Know where to meet your family.
- Provide defensible space around structures for a distance of at least 100 feet or to property line.
- Clear flammable materials from rain gutters and roof.
- Trim tree branches at least 10 feet from chimney.
- Eliminate potential for ember intrusion into attic and concealed places by retrofitting vents and other openings with approved vents and screening. Contact the fire department for details.
- Clear at least 10 feet around propane tanks.
- For more information on legal requirements see *www.calfireslo.org*
- Replace flammable vegetation with less flammable plants. (See *www.readyforwildfire.org/Fire-Safe-Landscaping/* for fire-resistant plant suggestions.)
- Use fire resistant materials for roofing and siding.
- Move wood piles and down trees away from house.
- Make sure your water tank is full and the hydrant is accessible and marked with a blue reflector.
- Have garden hose and ladder available that will reach the roof.
- Locate escape routes and Safe Refuge Areas. (See map inside.)
- Choose an out-of-area friend or relative as a check-in contact. Write his/her name and phone number on the phone list inside.

Evacuation Procedures

- **EVACUATE EARLY!**
- Citizens may be notified by fire personnel and/or law enforcement personnel if evacuation is necessary.
- **Safely make your way out of the area.** If unable to evacuate completely, go to the closest Safe Refuge Area (see map).
- The Red Cross will establish evacuation centers.
- If evacuated, contact the Red Cross to provide information about your status so that family or friends can be informed.
- **MOST IMPORTANTLY, if you feel unsafe, don't wait. Follow the checklist items and get out.**

If You Become Trapped

In your home:

- Stay inside until the fire passes.
- Close all windows.
- Keep all doors closed, but unlocked.
- Keep family together and remain calm.
- Remember, if it gets hot inside your house, it will be much hotter outside.

In your car:

- Park away from vegetation.
- Roll up windows.
- Cover mouth with dry cloth to protect airway.
- Cover yourself with a blanket or jacket.
- Stay in the car until the fire passes.
- If the vehicle catches on fire, exit *only* after the wildfire has passed.

On foot:

- Find an area away from vegetation.
- Lie face down.
- Cover mouth with dry cloth to protect airway.

After the Fire Passes

- Check the roof and exterior of your home, extinguish all sparks and embers.
- Check your attic for hidden embers.
- Check your yard for burning wood piles, trees, fence posts or other materials.

Returning to Your Home

- Emergency Managers will decide when it is safe to return.
- Information will be available through the media, at road blocks, shelters, Safe Refuge Areas and the CAL FIRE information line.

Funding provided by a grant from the Cooperative Fire Program of the US Forest Service, USDA, Pacific Southwest Region through the Fire Safe Council.
In accordance with federal law and USDA policy, this institution is prohibited from discrimination on the basis of race, color, national origin, sex, age or disability.

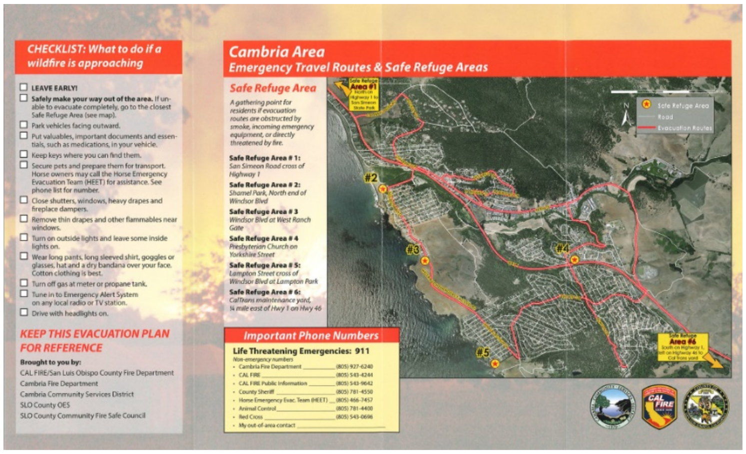
San Luis Obispo County Community Fire Safe Council
www.fcslo.org

P.O. Box 5305
San Luis Obispo, CA 93405

Cambria Area

Fire Evacuation Plan

You live in wildfire country…
Are you prepared to evacuate?



CHECKLIST: What to do if a wildfire is approaching

☐ **LEAVE EARLY!**
☐ **Safely make your way out of the area.** If unable to evacuate completely, go to the closest Safe Refuge Area (see map).
☐ Park vehicles facing outward.
☐ Put valuables, important documents and essentials, such as medications, in your vehicle.
☐ Keep keys where you can find them.
☐ Secure pets and prepare them for transport. Horse owners may call the Horse Emergency Evacuation Team (HEET) for assistance. See phone list for number.
☐ Close shutters, windows, heavy drapes and fireplace dampers.
☐ Remove thin drapes and other flammables near windows.
☐ Turn on outside lights and leave some inside lights on.
☐ Wear long pants, long sleeved shirt, goggles or glasses, hat and a dry bandana over your face. Cotton clothing is best.
☐ Turn off gas at meter or propane tank.
☐ Tune in to Emergency Alert System on any local radio or TV station.
☐ Drive with headlights on.

KEEP THIS EVACUATION PLAN FOR REFERENCE

Brought to you by:
CAL FIRE/San Luis Obispo County Fire Department
Cambria Fire Department
Cambria Community Services District
SLO County OES
SLO County Community Fire Safe Council

Cambria Area
Emergency Travel Routes & Safe Refuge Areas

Safe Refuge Area

A gathering point for residents if evacuation routes are obstructed by smoke, incoming emergency equipment, or directly threatened by fire.

Safe Refuge Area # 1: *San Simeon Road cross of Highway 1*
Safe Refuge Area # 2: *Shamel Park, North end of Windsor Blvd*
Safe Refuge Area # 3 *Windsor Blvd at West Ranch Gate*
Safe Refuge Area # 4 *Presbyterian Church on Yorkshire Street*
Safe Refuge Area # 5: *Lampton Street cross of Windsor Blvd at Lampton Park*
Safe Refuge Area # 6: *CalTrans maintenance yard, ¼ mile east of Hwy 1 on Hwy 46*

Important Phone Numbers

Life Threatening Emergencies: 911

Non-emergency numbers

Cambria Fire Department	(805) 927-6240
CAL FIRE	(805) 543-4244
CAL FIRE Public Information	(805) 543-9642
County Sheriff	(805) 781-4550
Horse Emergency Evac. Team (HEET)	(805) 466-7457
Animal Control	(805) 781-4400
Red Cross	(805) 543-0696
My out-of-area contact	

HUMAN RESOURCES:

COVID-19

There were no extraordinary actions taken by the General Manager this month related to the COVID-19 pandemic, as authorized by Resolutions 09-2020 and 52-2020.

FACILITIES & RESOURCES:

Please refer to the attached report.

Attachments:
Facilities and Resources Report
Public Record Requests and Responses

Facilities and Resources Supervisor Report

Fire Breaks On Fiscalini Ranch Preserve

- Staff continues to work on mowing fire breaks on the Fiscalini Ranch. Fire breaks have been completed along Huntington St., Windsor Blvd, East Ranch and behind Santa Rosa Church and Premier Bank.

Forest Fire Breaks Fiscalini Ranch

- Fire breaks along Warren Dr, Victoria Way, Tipton and Trenton are ongoing. These fire breaks are done with a hand crew.

Trails

- There were several wind storms during the month of May that caused some trees to uproot or crack blocking several trails. Below are before and after pictures of the trails being cleared.

Graduation Banners

- CCSD Staff worked with the High School Principal to install graduation banners on the CCSD owned street lights.
- This year the high school students made the banners themselves.

Restroom Clean Up

- CCSD Staff removed 5 yards of dirt and vegetation from the public restroom on Sheffield St. The dirt had been piled up from the winter storm back in January.

Trash/Recycle/Planter Containers

- All of the trash/recycle/planter containers have now been refinished and new flowers installed. CCSD Staff worked with Beautify Cambria on the project.
- Beautify Cambria received funding to hire a contractor to sand and refinish the containers.
- A big thank you to Marissa Mendenhall and Cheryle Raiter who coordinated the work and replanted all the containers.

Public Record Requests and Responses

The District responded to four (4) Public Record Request since April 29, 2021 by the following citizens:

05/10/21 Crystal Foley –

> See Uploaded document.
> **ATTACHMENT TO PUBLIC RECORDS REQUEST**
> 1. Permits issued for developmental projects in Cambria Community Water District during
> the period 1962 to 1968.
> 2. Permits issued to Familian Pipe and Supply Company during the period 1962 to 1968.
> 3. Permits issued to Grinnell during the period 1962 to 1968.
> 4. Purchases from Familian Pipe and Supply during the period 1962 to 1968.
> 5. Purchases from Grinnell during the period 1962 to 1968.
> 6. Plans for removal of asbestos-cement pipes (A-C pipes) during the period 1962 to 1968.
> 7. Contracts for removal of asbestos-cement pipes (A-C pipes) during the period 1962 to
> 1968.
> 8. Construction plans using asbestos-cement pipe during the period 1962 to 1968.
> 9. Any surveys during the period 1962 to 1968 that identify where Asbestos Cement pipes
> (A-C pipes) are installed in Cambria Community Water District.

On 05/20/21, the CCSD responded to Crystal Foley's 05/10/21 Public Records Request with the following:

> All of the requested documents predate the formation of the CCSD and are not in the possession of the CCSD.

05/12/21 Heidi Vang – May you provide all post-construction sites in your city that have approved WQMP plans installed on them. Back dating 5 years.

On 5/21/21, the CCSD responded to Heidi Vang's 05/12/21 Public Records Request with the following:

> We have searched diligently for documents related to your Public Records Request and we have not identified any documents that are responsive.

05/17/21 Christine Heinrichs – All contracts with Cindy Cleveland since 2016. Thank you.

On 5/27/21, the CCSD responded to Christine Heinrichs 05/17/21 Public Records Request with the following:

> Enclosed are the following documents which are responsive to your request:
> Fully Executed Agreement for Consultant Services between CCSD and Cleveland Biological, LLC
> 2021CLEVE-01 Cleveland Amendment to Agreement for Consultant Services FULLY EXECUTED
> PO 09-027020 ROUTINE BIO SURVEYS

On 5/18/21 Blum Collins LLP - Dear Public Records Officer:
We represent Michael Erickson, who is a concerned citizen and Cambria property owner. Pursuant to the California Public Records Act, Cal. Gov. Code § 6250 *et seq.*, this is to request certified copies of the following public records:
• The construction bid referenced in the paragraph 3 of the enclosed Resolution 23-2000 from July 31, 2000.
• All documents reflecting District actions to reject said bid, from August 25, 1997 or otherwise.
Please advise us as to the approximate charges for these certified records before we incur them. I
can be reached by phone at (213) 572-0400, ext. 106, or by email at bentley@blumcollins.com.
Thank you for your assistance.
Sincerely, Hannah Bentley BLUM |COLLINS LLP
Attachment: District Resolution 23-2000 cc: Tim Kassouni, Kassouni Law

On 05/28/21, the CCSD responded to Blum Collins LLP Public Records Request with the following:

> Enclosed are the following documents which are responsive to your request:
> April 10, 2000 Agenda, Certification, and Staff Report
> April 10, 2000 Agenda
> April 10, 2000 Minutes
> August 25, 1997 Agenda
> August 25, 1997 Minutes
> August 25, 1997 Staff Report VI.E
> July 13, 2000 Agenda, Certification, and Staff Report
> July 13, 2000 Minutes
> July 31, 2000 Minutes
> July 31, 2000 Special Meeting Agenda
> Resolution 23-2000

BOARD OF DIRECTORS' MEETING – JUNE 17, 2021

FINANCE MANAGER'S REPORT

EXPENDITURE REPORT FOR THE MONTH OF MAY 2021

The Expenditure Report for the month of May 2021 is being submitted to the CCSD Board of Directors in today's meeting (see Agenda Item 5.A.). The report includes a detailed listing and monthly sub-total for each Accounts Payable Vendor, and a summary of each department's monthly expenditures.

CCSD DIRECTOR MEETINGS & COMPENSATION FOR THE MONTH OF MAY 2021

CCSD Directors may receive compensation of $100 for each meeting attended, up to a maximum compensation of $600 in each month, per the CCSD Board Bylaws. The table below shows the meeting month, number of meetings attended and the total compensation for each CCSD Director.

Director Name	Meeting Month	Number of	Amt Per	Total
Farmer, Harry	Apr-21	6	$ 100.00	$ 600.00
Howell, Donn	Mar-21 & Apr-21	12	$ 100.00	$ 1,200.00
Steidel, Cynthia	Mar-21 & Apr-21	12	$ 100.00	$ 1,200.00
Dean, Karen	May-21	6	$ 100.00	$ 600.00
Gray, Tom	Apr-21	5	$ 100.00	$ 500.00
Total		41		$ 4,100.00

AVAILABLE CASH BALANCES AS OF MAY 2021

The total available cash is listed as follows:

Account Type	Balance
Main Checking	$ 2,205,235.08
Money Market	$ 2,038,449.82
Local Agency Investment Fund (LAIF)	$ 3,863,032.11
Total	$ 8,106,717.01

Available cash is defined as the balance in the Main Checking Account, less outstanding checks, plus Money Market Account, plus Local Agency Investment Fund (LAIF). The total available cash as of May 31, 2021, was $8,106,717.01.

The total available cash in all restricted accounts are listed as follows:

Account Type (Restricted)	Balance
Payroll	$ 273,742.62
Veterans Hall	$ 5,130.20
Health Reimbursement Account (HRA)	$ 70,601.73
Total	$ 349,474.55

At this time, the CCSD has adequate resources to meet its cash commitments. Staff will continue to be frugal in purchases, postpone non-critical purchases and carefully monitor their respective budget(s).

Staff submitted a reimbursement request for COVID-19 costs to FEMA. The next step in the process is for FEMA to determine if the costs submitted are eligible for reimbursement, which continues to be under review. Staff will report on the outcome as information becomes available.

In late January 2021, CCSD facilities and equipment were damaged by the significant rain and windstorm activity. The total costs are still under evaluation, as damages are still being assessed. The initial estimate is projected to be $400,000 or greater. Staff is continuing to work with County of San Luis Obispo Office of Emergency Services to determine if State or Federal disaster relief will be granted.

NEW FINANCIAL SYSTEM UPGRADE - STATUS

Staff and the Tyler Ad-hoc Committee have continued routine conference calls with Tyler Technologies, in developing the next steps required for implementation. During the month of May 2021, the Utility Billing Module was implemented and is now being used for daily utility billing activities. The Utility Billing module of the Tyler Incode 10 System went live on May 10, 2021. The modules Project Accounting, Work Orders, Fixed Assets and Bank Reconciliation will be configured during the first two weeks of June 2021.

ANNUAL AUDIT – STATUS

Staff is working with the Auditor, to prepare the FY 2019/2020 financial audit. The fieldwork portion of the audit was completed in early May 2021. The auditor is reviewing the fieldwork details and will soon be preparing draft financial statements.

Utilities Report for June 2021

Department Activities for the Month of **May**

Figure A - Spunky blue effluent discharge pipeline

Wastewater Treatment Plant (WWTP)

Spring cleaning was underway at the WWTP in May. The effluent discharge piping was painted to match the shop and utility buildings. The grounds of the plant have been cleared of aging equipment and other debris. The old spray lines on the digester tanks were removed in anticipation of future repurposing of those facilities. Utility vaults around the plant grounds were cleaned of standing water and other sediment buildup.

Collection System

Routine line jetting and cleaning continues. A difficult stretch of Moonstone Beach Dr. was completed this month. This was a complex job due to the need for traffic control on a highly traveled route.

Staff installed a new 400’ section of high-pressure line on the front of the vactor truck.

Tech Talk Topic – Modified Ludzak-Ettinger (MLE) Process

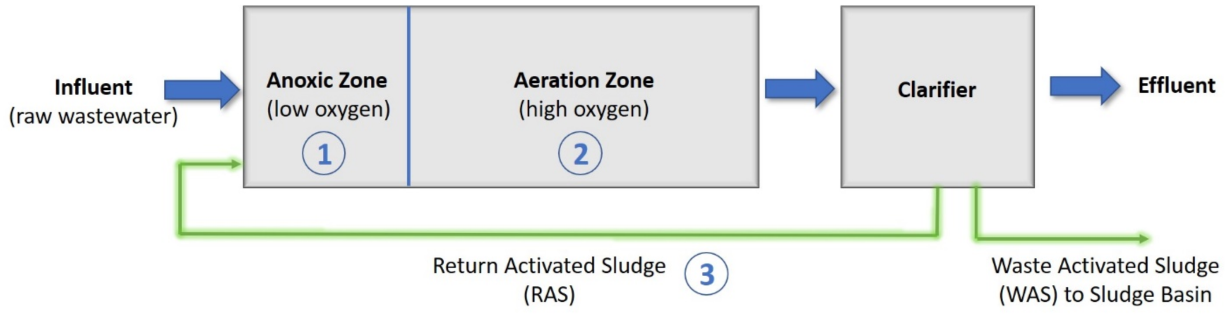
One of the major PG&E infrastructure upgrades at our wastewater treatment plant is our aeration basin, and specifically, our Modified Ludzack-Ettinger (MLE) process. In an earlier topic we discussed how microorganisms play a large role in wastewater treatment. This discussion will summarize the heart of our wastewater treatment process.

In order to maintain low nitrogen levels in our treated effluent, we use the MLE process to target nitrogen removal.

Refer to the figure below that illustrates the MLE process within our aeration basin:

1. Anoxic Zone (low oxygen zone)
   The first step in the treatment train is an anoxic zone. The influent wastewater serves as the carbon source for bacteria. Return activated sludge from the clarifier provides microorganisms that will also facilitate the biological treatment process.
2. Aeration Zone (high oxygen zone)
   In this zone, the addition of air helps facilitate the breakdown of the waste solids.
3. Return Activated Sludge (waste solids and microorganisms)
   Some sludge is returned to the anoxic zone to continue the treatment cycle (Return Activated Sludge or “RAS”). The sludge not reused continues through the treatment process and is later disposed of as solid waste. Microorganisms in RAS are “hungry” and,

when introduced to the low oxygen environment, will “eat” the oxygen in the nitrate and the new carbon source from the waste solids.



When first implemented at the WWTP, the MLE process resulted in a 90% reduction in nitrates. Permanent modifications to the WWTP are required to maintain these nutrient reductions and increase process and energy efficiencies in the years to come.

Water Department

Thanks go to the Wastewater Department for clearing the plant grounds in preparation for the Water Department’s materials bunker relocation. The bunker, previously located off of Heath Lane, was moved within the plant boundaries to provide additional security and comply with County zoning requirements.

Recently backflow-certified staff, Operator Steventon, performed testing and endorsement for the District’s 16 backflow prevention devices. Junior operators were onsite during testing for training purposes.

Water staff excavated the tie-in for the upcoming Zone 2 to Zone 7 Santa Rosa Bridge Water Line project to provide detailed measurements to the contract engineers. The project will go out to bid in June and should be completed by August 15, 2021.

May brought high winds to Cambria, resulting in a communication loss due to antenna damage. Speedy repairs were implemented.

Several large leaks were addressed this month. All were repaired with no interruption in service to the surrounding areas. To receive updates about Water Department repairs as they occur, subscribe to the Water & Wastewater News & Updates list on the CCSD website.

Staff received a presentation from a new materials vendor including demonstration materials to test in the field. A pilot study is being considered to evaluate the potential cost savings and durability of this HDPE alternative.

Water Shortage Warning

The San Simeon dry season started on May 27th with flow cessation at Palmer Flats, signaling a longer than usual stretch until anticipated seasonal rainfall in late autumn. Well levels in San Simeon continue to trend below average while consumption trends high, most likely due to an increase in tourism under relaxed COVID-19 restrictions. Drought headlines are making news as the entire state of California heads into a precariously hot and dry summer. As of May 10, Governor Newsom has declared a drought emergency in 41 of the State's 58 counties (not including SLO County). Water and Utilities Department staff continue to monitor water shortage indicators such as well levels and the gradient between the well field and wastewater percolation ponds. As early as January of this year, Water Department staff have placed particular emphasis on balancing production out of the Santa Rosa and San Simeon aquifers. This ensures access to continued dry season diversion by utilizing the Santa Rosa as a supplemental water source, particularly in the later dry season as shortage indicators in San Simeon become most severe.

As of May 31, the CCSD has diverted 21% of the annual San Simeon Creek and 23% of the annual Santa Rosa Creek allocations with 78% of total production coming from the San Simeon Creek aquifer. San Simeon Creek well levels are still trending just below average (see attached charts). Additional well level data and production summary reports are available on the website at www.cambriacsd.org/water-data.

Water Department Activities and Tasks for May 2021:

Activity	# Completed
Manual Meter Reads/Locates for Billing Purposes	53
Customer assists for high water usage on customer side of meter	24
Locking/Unlocking Water Meters	0
Meter Shut-Off/Turn-On at Owner's Request	7
Repairs of distribution system leaks	4
After-Hours System Alarm Responses	2
USA Locations	35
Water Service Line Information Requests	1
Customer Service Line/Meter Maintenance	5
Flume Installation Assistance	11
Hydrant Testing/Maintenance*	0
Back-up Generator maintenance/testing	8

*Additional information regarding the Department's hydrant maintenance program can be found at www.cambriacsd.org/water.

Water Reclamation Facility

Routine maintenance continues with a focus on calibration of chemical pumps.

Conservation & Permits

The CCSD remains in a Stage 2 Water Shortage Condition and encourages voluntary water conservation as water shortage indicators continue to worsen. CCSD municipal code prohibits water waste at all times. Water waste includes, but is not limited to:

- Allowing run-off from irrigated property and watering between the hours of ten am and six pm;
- Washing sidewalks, driveways and other impervious surfaces by direct hosing;
- Known water loss from household or irrigation system leaks; water must be shut off within two hours after the water user discovers a leak, or receives notice from the district, whichever occurs first; repair of leaks must be accomplished within 6 hours of shut-off.

Although water rationing is not currently in effect, Utilities staff urges the public to curb water use and stay below the Stage 2 thresholds. This includes 3 units per permanent resident per month. For commercial properties, water use should be limited to 3 units per EDU per month or the average water use for the preceding 12 months, whichever is less. Questions about your EDU allocation or average consumption? Please email us at engineering@cambriacsd.org.

This month, Utilities staff prepared and presented on the 2020 Urban Water Management Plan and Water Shortage Contingency Plan (WSCP) drafts and released for public review late in May. Staff worked closely with an ad hoc committee consisting of members of the Resources & Infrastructure Committee to finalize the plans, with an emphasis on modifications to the six stages of the WSCP.

Utilities staff responded to two requests for information related to the Instream Flow Study Request for Proposals (RFP). Proposals for this project are due to the CCSD by June 1st.

Finally, the RFP for the Zone 2 to Zone 7 Santa Rosa Bridge Water Line project is being prepared for release in June. This project replaces the temporary pipeline currently laid across the pedestrian bridge with a permanent 12" pipeline suspended from the bridge on the down stream side.

Permit counter activity for the month of May includes the following:

Assignments (14 To Date In 2021)

APN 024.201.012	Wingate to Banhagel	Waitlist No. 185
APN 022.193.020	Buhler to Ridder	Waitlist No. 259

Transfers (4 To Date In 2021)

APN 023.205.002	Brownhill	Waitlist No. 411

Voluntary Lot Mergers (2 To Date In 2021)

APN 024.231.046	APN 024.231.047	Dean - 5 lots to 1

Will Serves For Remodels, Active Service Transfers, & Grandfathers (16 To Date In 2021)

Amini/Bernal	013.291.006	5099 Pineknolls	Driveway Bridge Repair
Katzman/Mahrt	023.122.013	1801 Ogden	Bath/Laundry Remodel

Retrofit Verifications (26 To Date In 2021)

499 Drake

2380 Adams

498 Huntington

1912 Chester

1265 Ardath

Water Line/Meter Replacement (0 to date in 2021)

2021

CAMBRIA COMMUNITY SERVICES DISTRICT MAY DIVERSION

Production Wells	WELLS (galx1000)						*Raw totals		
DAY OF MONTH	**SS #1**	**SS #2**	**SS #3**	**SR4**	**SR1**	**SR3***	**ALL WELLS TOTAL (galx1000)**	**Daily Pumpage (AF)**	**Month to Date (AF)**
1	0.00	71.00	62.00	315.00	0.00	0.00	448.00	1.37	1
2	0.00	237.00	228.00	104.00	0.00	0.00	569.00	1.75	3
3	0.00	237.00	222.00	0.00	0.00	0.00	459.00	1.41	5
4	0.00	230.00	225.00	166.00	0.00	0.00	621.00	1.91	6
5	0.00	188.00	175.00	52.00	1.00	0.00	416.00	1.28	8
6	0.00	216.00	201.00	132.00	0.00	0.00	549.00	1.68	9
7	0.00	209.00	198.00	74.00	0.00	0.00	481.00	1.48	11
8	0.00	198.00	188.00	98.00	0.00	0.00	484.00	1.49	12
9	0.00	214.00	201.00	98.00	0.00	0.00	513.00	1.57	14
10	0.00	190.00	181.00	148.00	0.00	0.00	519.00	1.59	16
11	0.00	215.00	208.00	137.00	0.00	0.00	560.00	1.72	17
12	0.00	169.00	157.00	83.00	0.00	0.00	409.00	1.26	18
13	0.00	208.00	199.00	109.00	0.00	0.00	516.00	1.58	20
14	0.00	199.00	189.00	108.00	0.00	5.00	501.00	1.54	22
15	0.00	212.00	193.00	66.00	0.00	0.00	471.00	1.45	23
16	0.00	253.00	238.00	54.00	0.00	0.00	545.00	1.67	25
17	0.00	259.00	136.00	0.00	0.00	0.00	395.00	1.21	26
18	0.00	0.00	0.00	547.00	0.00	0.00	547.00	1.68	28
19	0.00	0.00	0.00	588.00	0.00	0.00	588.00	1.80	29
20	0.00	261.00	254.00	0.00	1.00	0.00	516.00	1.58	31
21	0.00	216.00	200.00	10.00	0.00	0.00	426.00	1.31	32
22	0.00	260.00	115.00	171.00	0.00	0.00	546.00	1.68	34
23	0.00	236.00	170.00	113.00	0.00	0.00	519.00	1.59	36
24	0.00	349.00	180.00	29.00	0.00	0.00	558.00	1.71	37
25	0.00	265.00	245.00	0.00	0.00	0.00	510.00	1.57	39
26	0.00	240.00	115.00	157.00	0.00	0.00	512.00	1.57	40
27	0.00	413.00	0.00	126.00	0.00	0.00	539.00	1.65	42
28	0.00	444.00	0.00	75.00	1.00	0.00	520.00	1.60	44
29	0.00	220.00	212.00	111.00	0.00	0.00	543.00	1.67	45
30	0.00	263.00	247.00	81.00	0.00	0.00	591.00	1.81	47
31	0.00	305.00	292.00	90.00	0.00	0.00	687.00	2.11	49

TOTALS	**0.00**	**6977.00**	**5231.00**	**3842.00**	**3.00**	**5.00**	**16058.00**	**49.28**	
Daily AVG	0.00	225.06	168.74	123.94	0.10	0.16	518.00	1.59	
AF	0.00	21.41	16.05	11.79	0.01	0.02	49.28		
Peak							**687.00**		
	Meter Correction Factors from Calibration done								
	100%	100%	100%						
Corrected	**0.00**	**6977.00**	**5231.00**	**3842.00**	**3.00**	**5.00**	**16058.00**	**49.28**	(ACRE-FEET)

Not sent to distribution system

	GROSS DIVERSION (AF)	NET PRODUCTION (AF)
San Simeon Total	37.47	36.40
Santa Rosa Total	12.02	11.80
SS & SR TOTAL	**49.49**	**48.20**
Advanced Water Treatment Plant		**0.00**

Mitigation Both Creeks (galx1000)

	AWTP	Santa Rosa
(galx1000)	0.00	0.00
(ACRE-FEET)	**0.00**	**0.00**

BACKWASH TOTAL

	SR3 (galx1,000)	SR4 (gal)
1	18858.00	3330737.00
31	18860.00	3397719.00
(galx1000)	2.00	66.98
(ACRE-FEET)	**0.01**	**0.21**

ANALYZER METER	
DATE	**READ**
5/1/2021	173.00
5/31/2021	176.00
Total Recirc (ccf)	3.00
Total Recirc (AF)	0.01

2021
CAMBRIA COMMUNITY SERVICES DISTRICT
GROSS WATER DIVERSION, BY SOURCE
REPORTED IN ACRE-FEET

YEAR	SOURCE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL TOTAL	YEAR
DIFFERENCE (Current YR - Previous YR)		**2.67**	**-1.63**	**7.01**	**11.15**	**5.95**									
2021	S.S.	32.69	27.70	35.18	37.82	37.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	170.85	**2021**
	S.R.	9.00	10.22	8.91	9.05	12.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	
	SS & SR TOTAL	**41.69**	**37.92**	**44.09**	**46.88**	**49.49**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**220.06**	
	AWTP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2020	S.S.	34.92	34.19	30.76	26.75	36.33	41.46	33.73	36.26	35.55	40.33	32.24	14.99	397.50	**2020**
	S.R.	4.10	5.37	6.32	8.97	7.21	7.77	19.10	17.85	14.22	10.67	12.61	27.85	142.04	
	SS & SR TOTAL	**39.02**	**39.56**	**37.08**	**35.72**	**43.53**	**49.23**	**52.82**	**54.11**	**49.77**	**50.99**	**44.85**	**42.84**	**539.53**	
	AWTP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2019	S.S.	34.66	23.65	24.82	33.87	35.59	36.34	42.77	40.85	37.31	38.48	34.69	26.43	409.46	**2019**
	S.R.	3.21	9.60	13.68	8.37	7.64	9.99	10.62	10.29	11.73	11.24	10.97	13.57	120.91	
	SS & SR TOTAL	**37.87**	**33.26**	**38.50**	**42.24**	**43.22**	**46.33**	**53.40**	**51.14**	**49.03**	**49.72**	**45.67**	**40.01**	**530.38**	
	AWTP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2018	S.S.	14.87	15.89	25.03	32.22	38.72	39.21	32.75	22.81	18.90	13.56	13.17	30.69	297.82	**2018**
	S.R.	29.65	23.27	12.99	6.85	5.02	7.89	21.99	30.76	27.53	31.65	30.46	10.06	238.09	
	SS & SR TOTAL	**44.51**	**39.15**	**38.02**	**39.06**	**43.74**	**47.11**	**54.74**	**53.57**	**46.43**	**45.21**	**43.62**	**40.75**	**535.91**	
	AWTP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2017	S.S.	31.92	18.84	40.96	45.42	46.33	34.69	24.65	18.90	25.89	28.39	19.19	23.18	358.36	**2017**
	S.R.	6.88	14.33	5.95	9.76	17.86	28.23	32.52	32.01	16.80	12.13	19.96	20.92	217.36	
	SS & SR TOTAL	**38.80**	**33.18**	**46.91**	**55.18**	**64.19**	**62.92**	**57.17**	**50.90**	**42.69**	**40.53**	**39.15**	**44.11**	**575.72**	
	AWTP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2016	S.S.	16.43	9.51	19.84	21.88	24.30	30.90	30.40	29.68	29.02	8.07	5.82	21.55	247.39	**2016**
	S.R.	17.87	27.34	16.71	15.60	15.74	13.87	20.45	18.12	16.65	34.27	31.97	18.30	246.89	
	SS & SR TOTAL	**34.30**	**36.86**	**36.55**	**37.47**	**40.04**	**44.76**	**50.85**	**47.80**	**45.67**	**42.34**	**37.79**	**39.85**	**494.28**	
	AWTP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.33	7.04	5.70	23.07	
2015	S.S.	19.95	16.65	17.16	17.79	16.18	14.14	15.14	17.39	20.36	26.17	23.74	21.23	225.89	**2015**
	S.R.	14.77	14.90	20.53	20.68	20.99	26.51	29.51	27.78	21.94	16.05	13.57	13.90	241.13	
	SS & SR TOTAL	**34.72**	**31.55**	**37.69**	**38.47**	**37.17**	**40.65**	**44.65**	**45.17**	**42.30**	**42.22**	**37.31**	**35.13**	**467.02**	
	AWTP	5.55	14.34	12.49	7.61	0.00	0.00	0.00	0.00	3.68	8.07	6.29	10.89	68.92	
2014	S.S.	22.93	16.97	24.90	25.03	19.39	14.40	11.94	0.00	0.76	24.32	13.74	23.81	198.17	**2014**
	S.R.	34.69	19.85	10.00	10.44	18.88	24.19	30.89	43.09	36.26	12.06	18.63	9.62	268.59	
	SS & SR TOTAL	**57.62**	**36.82**	**34.90**	**35.47**	**38.27**	**38.59**	**42.82**	**43.09**	**37.01**	**36.37**	**32.36**	**33.44**	**466.76**	
2013	S.S.	50.55	47.40	54.72	55.27	63.18	46.01	60.82	72.32	57.73	29.84	26.72	28.61	593.16	**2013**
	S.R.	0.00	0.00	0.00	4.27	5.28	27.57	18.12	3.50	7.62	22.56	25.38	25.61	139.91	
	SS & SR TOTAL	**50.55**	**47.40**	**54.72**	**59.54**	**68.45**	**73.58**	**78.94**	**75.82**	**65.35**	**52.40**	**52.11**	**54.22**	**733.07**	
2012	S.S.	50.12	48.09	52.60	50.52	60.06	56.53	48.17	41.12	36.72	42.22	48.70	50.88	585.73	**2012**
	S.R.	3.54	0.79	0.00	0.66	1.44	11.14	27.95	33.22	29.98	21.43	8.86	0.00	139.01	
	SS & SR TOTAL	**53.66**	**48.88**	**52.60**	**51.18**	**61.50**	**67.67**	**76.12**	**74.34**	**66.70**	**63.65**	**57.56**	**50.88**	**724.74**	
2011	S.S.	48.05	43.36	45.17	52.11	53.94	49.27	60.52	55.52	45.40	45.67	46.28	51.87	597.16	**2011**
	S.R.	0.00	0.70	0.00	0.76	6.65	11.03	12.97	14.82	19.45	14.15	5.19	0.00	85.72	
	SS & SR TOTAL	**48.05**	**44.06**	**45.17**	**52.87**	**60.59**	**60.30**	**73.49**	**70.34**	**64.85**	**59.82**	**51.47**	**51.87**	**682.88**	
2010	S.S.	45.44	40.48	47.48	48.39	56.26	55.29	50.73	44.58	35.05	37.61	36.14	36.45	533.90	**2010**
	S.R.	0.00	0.00	0.77	0.62	0.68	8.74	21.96	27.30	32.52	21.71	14.48	9.73	138.51	
	SS & SR TOTAL	**45.44**	**40.48**	**48.25**	**49.01**	**56.94**	**64.03**	**72.69**	**71.88**	**67.57**	**59.32**	**50.62**	**46.18**	**672.41**	
2009	S.S.	28.17	37.57	50.95	58.52	48.56	37.47	48.80	40.69	31.99	44.62	53.05	46.55	526.94	**2009**
	S.R.	24.83	3.81	0.00	0.00	13.53	26.06	25.21	34.10	32.64	11.02	0.00	1.34	172.54	
	SS & SR TOTAL	**53.00**	**41.38**	**50.95**	**58.52**	**62.09**	**63.53**	**74.01**	**74.79**	**64.63**	**55.64**	**53.05**	**47.89**	**699.48**	
2008	S.S.	43.35	45.35	51.55	52.59	40.45	33.03	40.15	47.57	47.24	41.53	21.47	25.41	489.69	**2008**
	S.R.	2.33	0.67	0.71	2.20	24.69	33.55	32.94	24.87	18.26	21.03	32.21	24.46	217.92	
	SS & SR TOTAL	**45.68**	**46.02**	**52.26**	**54.79**	**65.14**	**66.58**	**73.09**	**72.44**	**65.50**	**62.56**	**53.68**	**49.87**	**707.61**	

2021
CAMBRIA COMMUNITY SERVICES DISTRICT
GROSS WATER DIVERSION, BY SOURCE
REPORTED IN ACRE-FEET

YEAR	SOURCE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL TOTAL	YEAR
2007	S.S.	57.70	47.45	56.47	60.50	56.11	51.21	55.95	63.48	58.72	37.58	34.83	38.61	618.61	**2007**
	S.R.	0.00	0.00	0.60	1.81	14.47	22.24	23.47	12.37	5.29	18.70	21.20	9.42	129.57	
	SS & SR TOTAL	**57.70**	**47.45**	**57.07**	**62.31**	**70.58**	**73.45**	**79.42**	**75.85**	**64.01**	**56.28**	**56.03**	**48.03**	**748.18**	
2006	S.S.	50.81	49.10	48.82	49.65	60.58	65.65	56.12	59.67	52.49	42.86	34.46	42.75	612.96	**2006**
	S.R.	0.00	0.78	0.00	0.62	0.74	2.56	23.58	20.72	20.17	23.88	26.46	13.63	133.14	
	SS & SR TOTAL	**50.81**	**49.88**	**48.82**	**50.27**	**61.32**	**68.21**	**79.70**	**80.39**	**72.66**	**66.74**	**60.92**	**56.38**	**746.10**	
2005	S.S.	50.05	46.16	51.09	55.01	65.70	68.81	80.52	61.60	48.71	47.08	40.83	36.70	652.26	**2005**
	S.R.	0.00	0.62	0.93	0.76	0.76	0.73	1.64	17.32	20.25	21.69	16.92	7.36	88.98	
	SS & SR TOTAL	**50.05**	**46.78**	**52.02**	**55.77**	**66.46**	**69.54**	**82.16**	**78.92**	**68.96**	**68.77**	**57.75**	**44.06**	**741.24**	
2004	S.S.	55.83	51.40	58.56	64.33	67.98	52.62	47.04	39.68	41.06	34.80	49.30	49.92	612.52	**2004**
	S.R.	0.00	0.61	1.17	4.84	8.68	22.08	30.80	36.30	27.32	24.95	1.73	1.63	160.11	
	SS & SR TOTAL	**55.83**	**52.01**	**59.73**	**69.17**	**76.66**	**74.70**	**77.84**	**75.98**	**68.38**	**59.75**	**51.03**	**51.55**	**772.63**	
2003	S.S.	52.73	49.97	57.35	58.32	62.82	68.22	65.05	63.34	58.91	67.08	56.20	48.84	708.83	**2003**
	S.R.	0.70	1.11	0.48	0.94	1.84	5.63	19.77	22.04	16.00	6.58	3.12	5.84	84.05	
	SS & SR TOTAL	**53.43**	**51.08**	**57.83**	**59.26**	**64.66**	**73.85**	**84.82**	**85.38**	**74.91**	**73.66**	**59.32**	**54.68**	**792.88**	
2002	S.S.	54.43	52.23	60.70	65.43	60.75	55.13	66.79	73.35	66.59	62.03	56.36	53.98	727.77	**2002**
	S.R.	1.28	1.27	1.10	1.11	14.82	22.79	19.54	9.67	3.52	4.02	2.04	0.55	81.71	
	SS & SR TOTAL	**55.71**	**53.50**	**61.80**	**66.54**	**75.57**	**77.92**	**86.33**	**83.02**	**70.11**	**66.05**	**58.40**	**54.53**	**809.48**	
2001	S.S.	56.16	48.05	55.92	60.69	73.30	77.51	85.01	78.50	53.45	56.21	48.16	52.29	745.25	**2001**
	S.R.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.78	21.08	16.87	8.06	0.89	52.68	
	SS & SR TOTAL	**56.16**	**48.05**	**55.92**	**60.69**	**73.30**	**77.51**	**85.01**	**84.28**	**74.53**	**73.08**	**56.22**	**53.18**	**797.93**	
2000	S.S.	56.41	50.43	55.27	65.40	70.84	73.60	85.00	84.68	73.30	65.60	58.49	59.80	798.82	**2000**
	S.R.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	SS & SR TOTAL	**56.41**	**50.43**	**55.27**	**65.40**	**70.84**	**73.60**	**85.00**	**84.68**	**73.30**	**65.60**	**58.49**	**59.80**	**798.82**	
1999	S.S.	56.40	45.26	52.16	57.40	70.43	71.35	85.41	82.68	69.45	68.04	57.78	57.69	774.05	**1999**
	S.R.	0.01	0.01	0.01	0.04	0.02	0.07	0.01	0.02	0.32	0.02	0.00	0.00	0.53	
	SS & SR TOTAL	**56.41**	**45.27**	**52.17**	**57.44**	**70.45**	**71.42**	**85.42**	**82.70**	**69.77**	**68.06**	**57.78**	**57.69**	**774.58**	
1998	S.S.	44.39	46.36	47.00	50.53	56.43	63.43	77.75	80.30	68.35	66.58	54.06	52.13	707.31	**1998**
	S.R.	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.09	0.01	0.00	0.00	0.00	0.16	
	SS & SR TOTAL	**44.40**	**46.37**	**47.01**	**50.54**	**56.43**	**63.44**	**77.76**	**80.39**	**68.36**	**66.58**	**54.06**	**52.13**	**707.47**	
1997	S.S.	50.61	49.20	65.66	68.65	76.18	79.14	82.31	57.02	37.32	27.50	38.96	45.96	678.51	**1997**
	S.R.	0.02	0.08	0.02	0.02	0.02	0.02	0.38	25.92	31.54	36.85	12.41	0.01	107.29	
	SS & SR TOTAL	**50.63**	**49.28**	**65.68**	**68.67**	**76.20**	**79.16**	**82.69**	**82.94**	**68.86**	**64.35**	**51.37**	**45.97**	**785.80**	
1996	S.S.	46.66	43.40	47.39	56.95	66.18	70.83	75.70	77.27	68.23	65.58	50.37	49.43	717.99	**1996**
	S.R.	0.01	0.03	0.03	0.03	0.03	0.01	0.03	0.02	0.01	0.02	0.02	0.02	0.26	
	SS & SR TOTAL	**46.67**	**43.43**	**47.42**	**56.98**	**66.21**	**70.84**	**75.73**	**77.29**	**68.24**	**65.60**	**50.39**	**49.45**	**718.25**	
1995	S.S.	41.30	41.10	47.10	52.14	53.50	59.00	74.70	74.10	65.40	64.70	55.30	47.60	675.94	**1995**
	S.R.	1.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.90	
	SS & SR TOTAL	**43.20**	**41.10**	**47.10**	**52.14**	**53.50**	**59.00**	**74.70**	**74.10**	**65.40**	**64.70**	**55.30**	**47.60**	**677.84**	
1994	S.S.	47.00	38.60	48.60	52.00	54.60	63.40	69.30	47.80	31.70	30.80	28.20	26.00	538.00	**1994**
	S.R.	0.00	0.00	0.00	0.00	0.10	0.00	0.00	25.00	30.20	27.70	21.20	19.90	124.10	
	SS & SR TOTAL	**47.00**	**38.60**	**48.60**	**52.00**	**54.70**	**63.40**	**69.30**	**72.80**	**61.90**	**58.50**	**49.40**	**45.90**	**662.10**	

2021

CAMBRIA COMMUNITY SERVICES DISTRICT

GROSS WATER DIVERSION, BY SOURCE

REPORTED IN ACRE-FEET

YEAR	SOURCE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL TOTAL	YEAR
1993	S.S.	50.10	45.70	52.60	56.30	68.30	68.80	68.10	69.80	59.80	56.10	51.40	43.50	690.50	**1993**
	S.R.	0.50	0.30	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	
	SS & SR TOTAL	**50.60**	**46.00**	**52.60**	**56.30**	**68.40**	**68.80**	**68.10**	**69.80**	**59.80**	**56.10**	**51.40**	**43.50**	**691.40**	
1992	S.S.	45.30	42.20	45.90	55.20	64.00	58.10	44.90	41.80	35.00	32.80	34.00	43.10	542.30	**1992**
	S.R.	0.80	0.30	0.10	0.40	0.50	6.10	22.70	28.10	26.30	25.10	19.50	5.50	135.40	
	SS & SR TOTAL	**46.10**	**42.50**	**46.00**	**55.60**	**64.50**	**64.20**	**67.60**	**69.90**	**61.30**	**57.90**	**53.50**	**48.60**	**677.70**	
1991	S.S.	26.90	23.10	32.70	39.60	48.60	44.10	40.10	34.80	30.50	28.00	26.40	30.10	404.90	**1991**
	S.R.	15.30	13.10	0.50	0.10	0.10	5.50	15.00	21.60	20.20	21.00	19.70	18.70	150.80	
	SS & SR TOTAL	**42.20**	**36.20**	**33.20**	**39.70**	**48.70**	**49.60**	**55.10**	**56.40**	**50.70**	**49.00**	**46.10**	**48.80**	**555.70**	
1990	S.S.	45.70	47.00	55.28	44.75	31.46	32.34	40.00	38.00	31.91	31.40	29.40	29.90	457.14	**1990**
	S.R.	8.70	0.80	0.50	18.03	32.30	26.79	22.30	22.20	20.64	20.20	19.30	14.90	206.66	
	SS & SR TOTAL	**54.40**	**47.80**	**55.78**	**62.78**	**63.76**	**59.13**	**62.30**	**60.20**	**52.55**	**51.60**	**48.70**	**44.80**	**663.80**	
1989	S.S.	51.00	47.90	53.90	61.90	57.20	62.20	69.20	60.90	36.30	38.70	42.60	40.60	622.40	**1989**
	S.R.	0.00	0.00	0.00	1.00	13.80	13.50	17.90	28.00	42.00	22.60	17.60	18.20	174.60	
	SS & SR TOTAL	**51.00**	**47.90**	**53.90**	**62.90**	**71.00**	**75.70**	**87.10**	**88.90**	**78.30**	**61.30**	**60.20**	**58.80**	**797.00**	
1988	S.S.	51.20	57.90	63.20	47.30	57.40	44.20	50.00	51.70	41.90	37.40	27.40	36.00	565.60	**1988**
	S.R.	0.00	0.00	0.00	16.30	15.70	30.70	31.20	34.90	36.00	34.90	35.20	19.00	253.90	
	SS & SR TOTAL	**51.20**	**57.90**	**63.20**	**63.60**	**73.10**	**74.90**	**81.20**	**86.60**	**77.90**	**72.30**	**62.60**	**55.00**	**819.50**	

6/2/2021

CAMBRIA COMMUNITY SERVICES DISTRICT
WELL WATER LEVELS FOR 6/2/2021

Well Code	Distance Ref. Point to Water Level	Reference Point Distance Above Sea Level	Depth of Water to Sea Level	Remarks
SANTA ROSA CREEK WELLS				
23R	33.15	83.42	50.27	
SR4	30.34	82.00	51.66	
SR3	19.45	54.30	34.85	
SR1	18.07	46.40	28.33	
21R3	7.97	12.88	4.91	Meter read 44794 CF
WBE	11.66	16.87	5.21	
WBW	12.10	17.02	4.92	

AVERAGE LEVEL OF CCSD SANTA ROSA WELLS SR1 & SR3 = 31.59 FEET

CCSD SANTA ROSA WELL SR4 = 51.66 FEET

SAN SIMEON CREEK WELLS

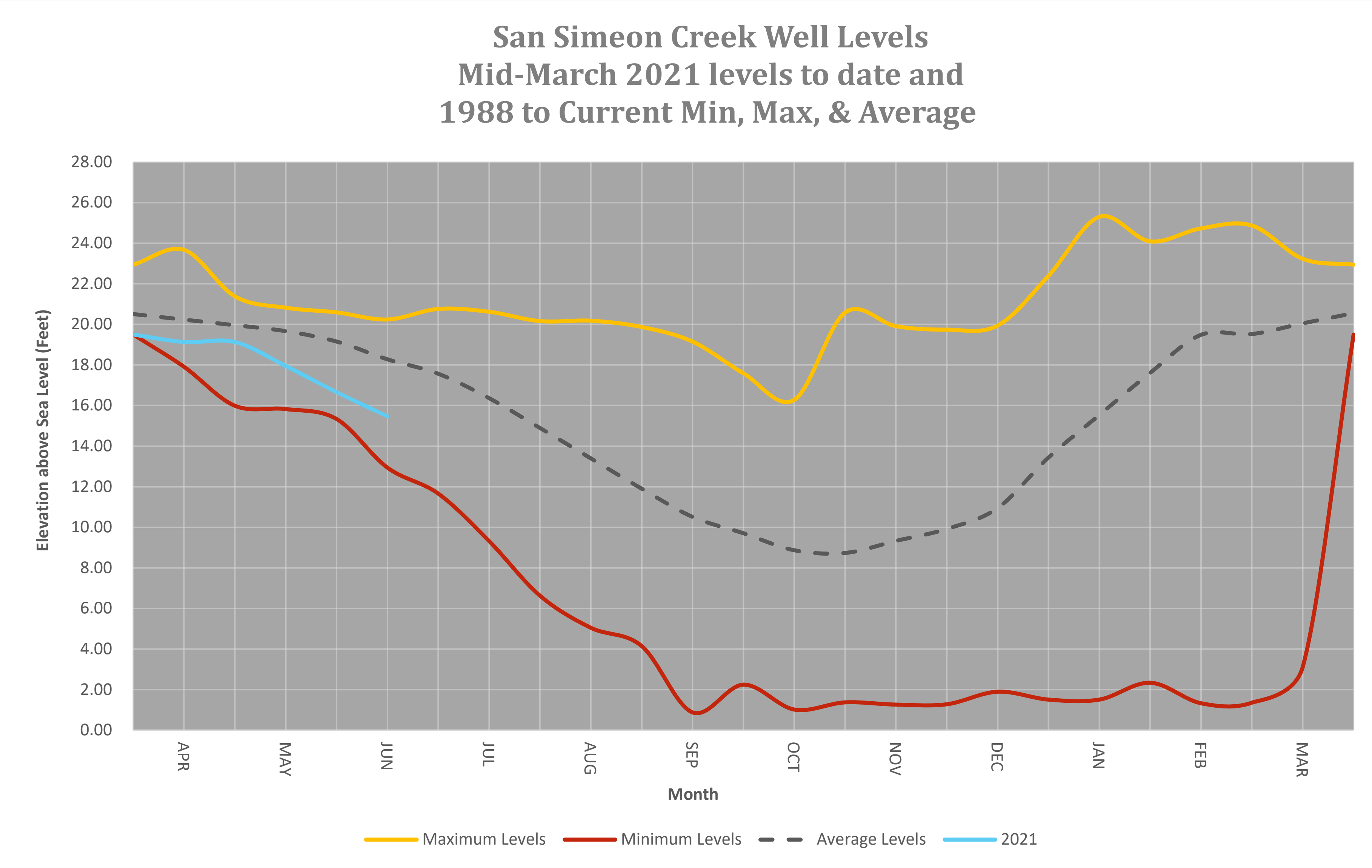
Well Code	Distance Ref. Point to Water Level	Reference Point Distance Above Sea Level	Depth of Water to Sea Level	Remarks
16D1	8.38	11.36	2.98	
MW4	12.75	15.95	3.20	
MW1	15.71	42.11	26.40	
MW2	15.22	38.10	22.88	
MW3	20.16	49.56	29.40	
9M1	23.75	65.63	41.88	
9P2	11.53	19.11	7.58	
9P7	11.68	20.69	9.01	
9L1	18.78	27.33	8.55	
RIW	14.94	25.41	10.47	
SS4	16.14	25.92	9.78	**SS4 to 9P2 Gradient = + 2.20**
MIW	16.02	29.89	13.87	
SS3	18.49	33.73	15.24	
SS2	17.62	33.16	15.54	
SS1	16.75	32.37	15.62	
11B1	25.88	105.43	79.55	
11C1	19.91	98.20	78.29	
PFNW	17.14	93.22	76.08	
10A1	27.17	78.18	51.01	
10G2	20.40	62.95	42.55	
10G1	18.74	59.55	40.81	
10F2	27.16	66.92	39.76	
10M2	24.85	55.21	30.36	
9J3	18.05	43.45	25.40	
lagoon	20.68			mitigation errosion none

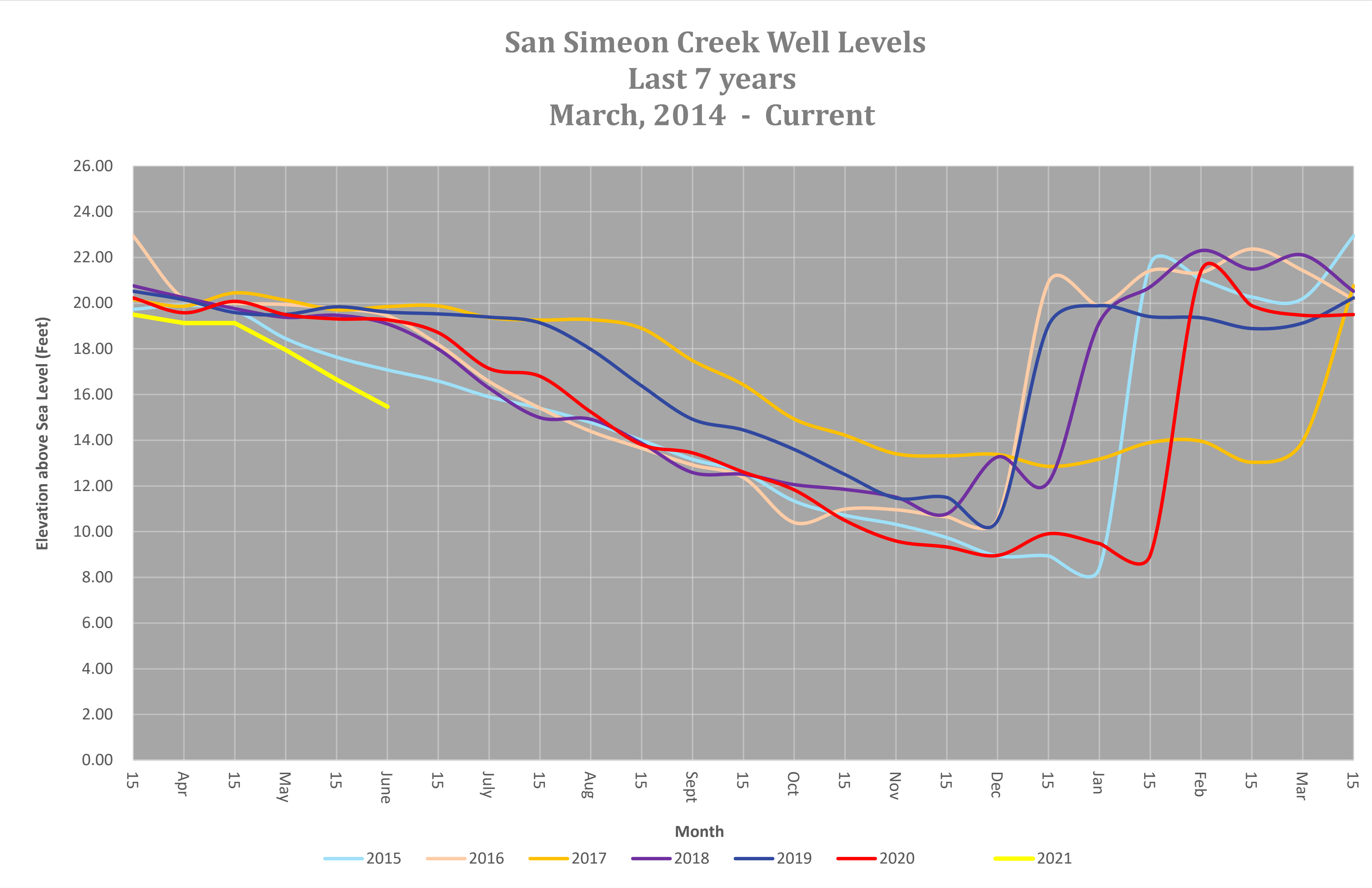
AVERAGE LEVEL OF CCSD SAN SIMEON WELLS SS1,SS2 & SS3 = 15.47 FEET

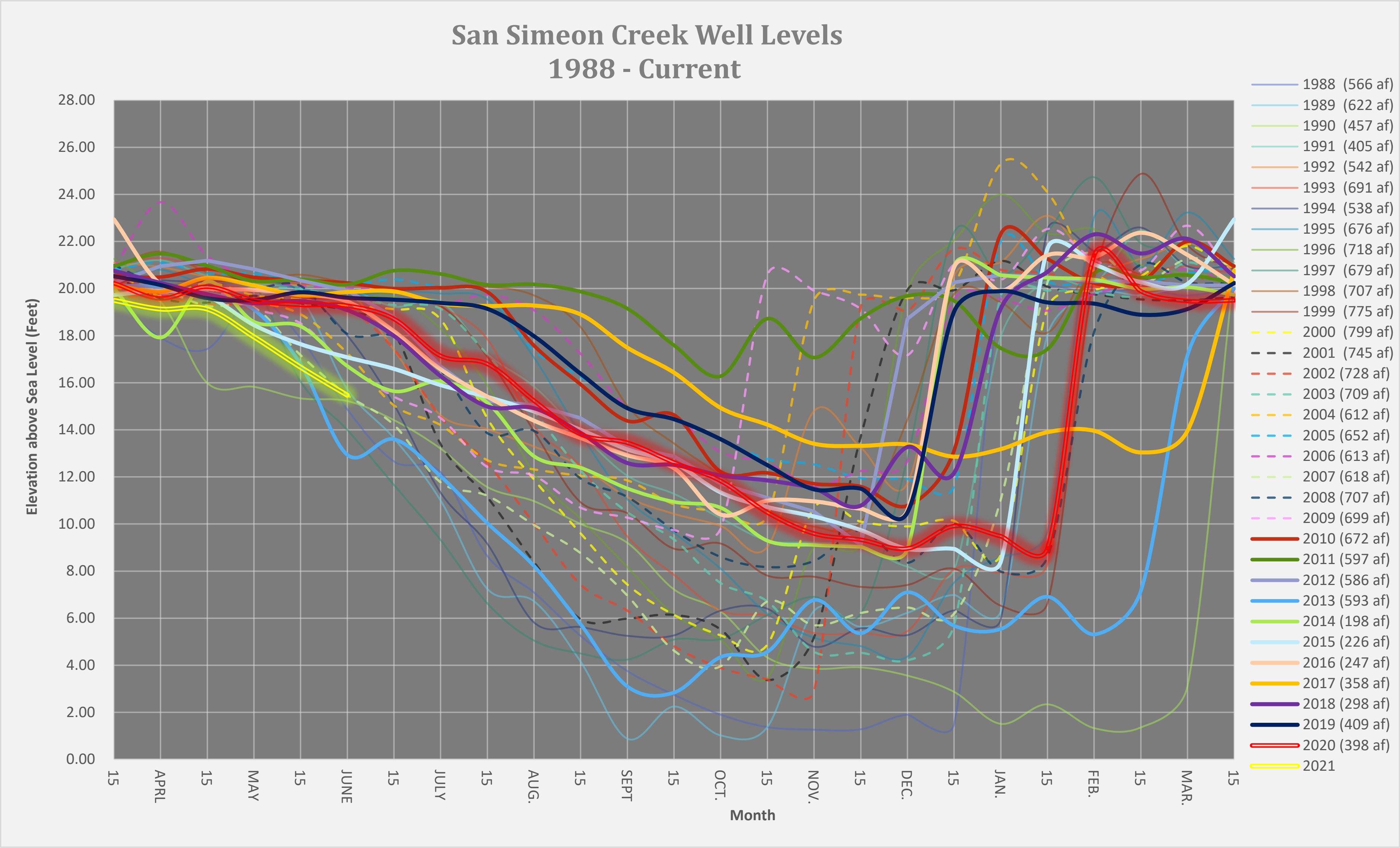
revised 6/6/16

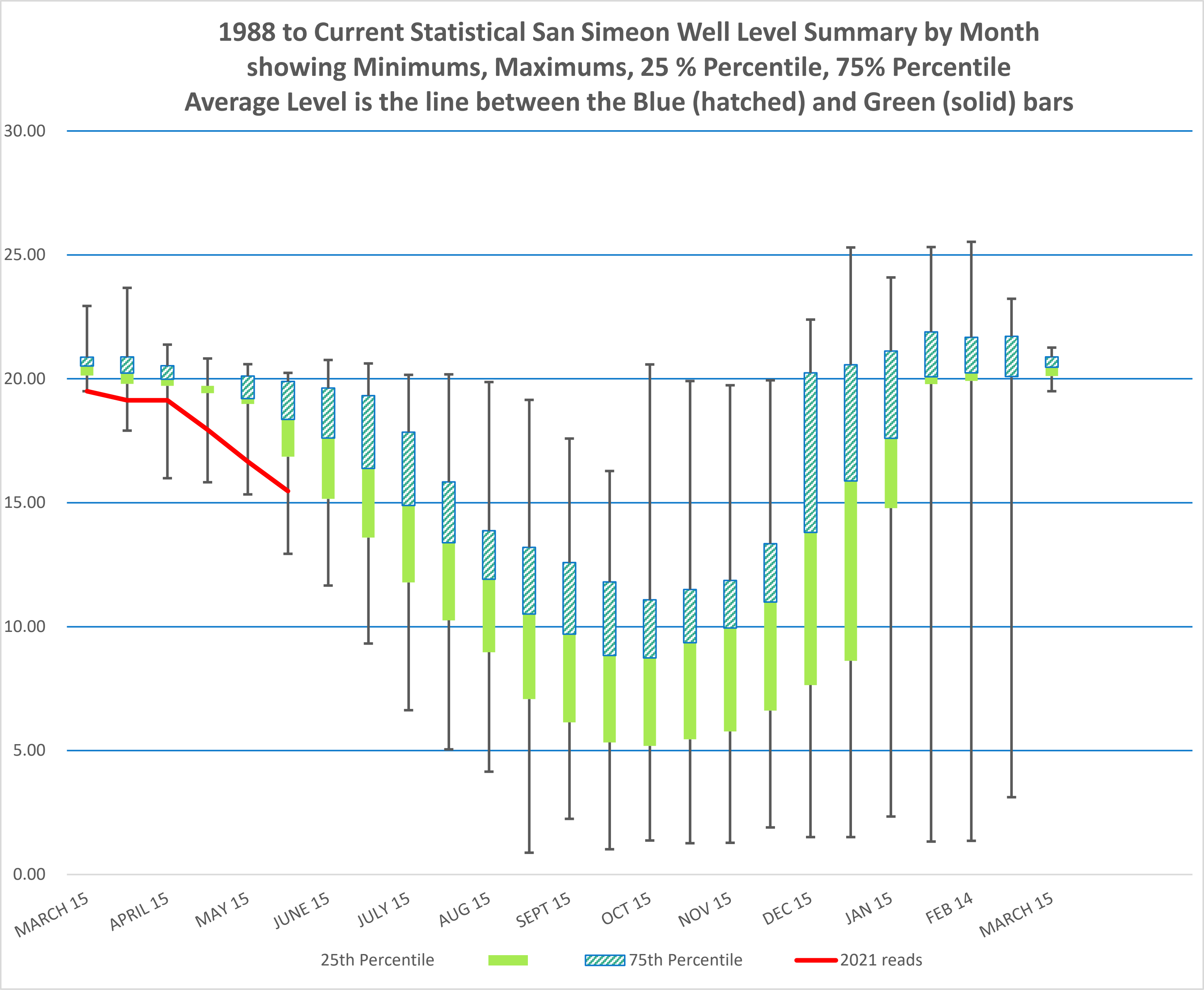
Red Font are the CCSD's Production Wells, as measured on 6/2/2021

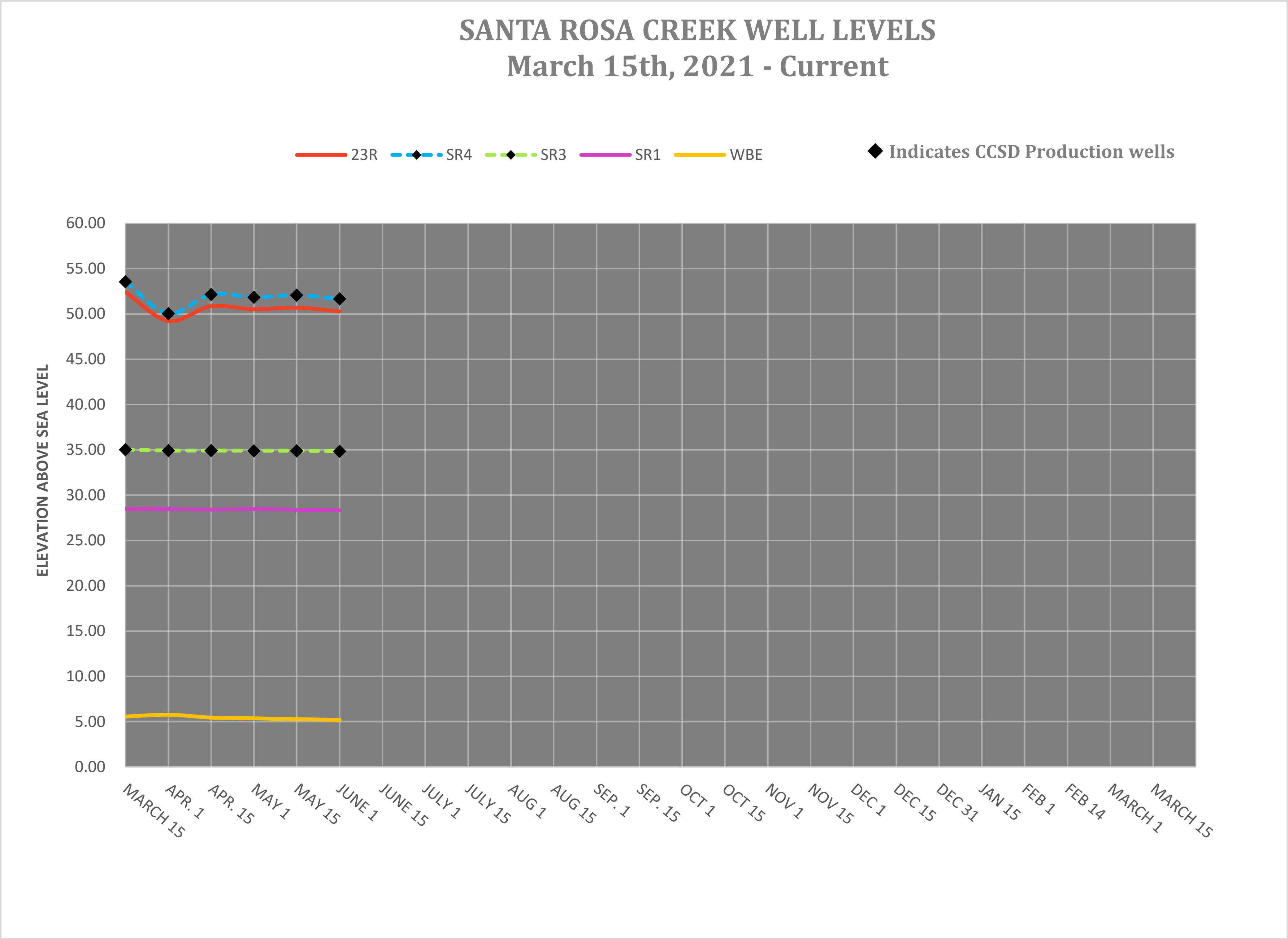
eference point on 16d1,miw1,miw2,miw3,9p7,riw,miw1,ss1,ss2 and ss3 updat 2/17/2015


San Simeon Creek Well Levels
Mid-March 2021 levels to date and
1988 to Current Min, Max, & Average
28.00
26.00
24.00
22.00
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
Elevation above Sea Level (Feet)
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
JAN
FEB
MAR
Month
Maximum Levels
Minimum Levels
Average Levels
2021


San Simeon Creek Well Levels
Last 7 years
March, 2014 - Current
26.00
24.00
22.00
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
Elevation above Sea Level (Feet)
15
Apr
15
May
15
June
15
July
15
Aug
15
Sept
15
Oct
15
Nov
15
Dec
15
Jan
15
Feb
15
Mar
15
Month
2015
2016
2017
2018
2019
2020
2021


San Simeon Creek Well Levels
1988 - Current
Elevation above Sea Level (Feet)
28.00
26.00
24.00
22.00
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
15
APRL.
15
MAY
15
JUNE
15
JULY
15
AUG.
15
SEPT
15
OCT.
15
NOV.
15
DEC.
15
JAN.
15
FEB.
15
MAR.
15
Month
1988 (566 af)
1989 (622 af)
1990 (457 af)
1991 (405 af)
1992 (542 af)
1993 (691 af)
1994 (538 af)
1995 (676 af)
1996 (718 af)
1997 (679 af)
1998 (707 af)
1999 (775 af)
2000 (799 af)
2001 (745 af)
2002 (728 af)
2003 (709 af)
2004 (612 af)
2005 (652 af)
2006 (613 af)
2007 (618 af)
2008 (707 af)
2009 (699 af)
2010 (672 af)
2011 (597 af)
2012 (586 af)
2013 (593 af)
2014 (198 af)
2015 (226 af)
2016 (247 af)
2017 (358 af)
2018 (298 af)
2019 (409 af)
2020 (398 af)
2021


1988 to Current Statistical San Simeon Well Level Summary by Month
showing Minimums, Maximums, 25 % Percentile, 75% Percentile
Average Level is the line between the Blue (hatched) and Green (solid) bars
30.00
25.00
20.00
15.00
10.00
5.00
0.00
MARCH 15
APRIL 15
MAY 15
JUNE 15
JULY 15
AUG 15
SEPT 15
OCT 15
NOV 15
DEC 15
JAN 15
FEB 14
MARCH 15
25th Percentile
75th Percentile
2021 reads


SANTA ROSA CREEK WELL LEVELS
March 15th, 2021 - Current
23R
SR4
SR3
SR1
WBE
◆ Indicates CCSD Production wells
ELEVATION ABOVE SEA LEVEL
60.00
55.00
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
MARCH 15
APR. 1
APR. 15
MAY 1
MAY 15
JUNE 1
JUNE 15
JULY 1
JULY 15
AUG 1
AUG 15
SEP. 1
SEP. 15
OCT 1
OCT 15
NOV 1
NOV 15
DEC 1
DEC 15
DEC 31
JAN 15
FEB 1
FEB 14
MARCH 1
MARCH 15