

**AMENDED 4/21/2020**

Pursuant to Governor Newsom's Executive Order N-29-20, members of the Resources & Infrastructure Committee or staff will participate in this meeting via a teleconference. Members of the public can submit written comments to the Deputy District Clerk at [boardcomment@camabriacsd.org](mailto:boardcomment@camabriacsd.org).



## CAMBRIA COMMUNITY SERVICES DISTRICT

David Pierson, Chair of the Resources & Infrastructure Committee, hereby calls a Special Meeting pursuant to California Government Code Section 54956. The Special Meeting will be held: **Wednesday, April 22, 2020, 2:00 PM**, . The purpose of Special Meeting is to discuss or transact the following business:

### NOTICE OF SPECIAL MEETING

#### CAMBRIA COMMUNITY SERVICES DISTRICT RESOURCES & INFRASTRUCTURE COMMITTEE

**Wednesday, April 22, 2020  
2:00 PM**

Please click the link below to join the webinar:

<https://zoom.us/j/99762825223?pwd=aHpUNEs0amJIN1pKU3VyNWlWdDk1dz09>

Password: 092102

Or iPhone one-tap:

US: +16699006833,,99762825223# or +13462487799,,99762825223#

Or Telephone:

Dial(for higher quality, dial a number based on your current location):

US: +1 669 900 6833 or +1 346 248 7799 or +1 301 715 8592 or +1 312 626 6799

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Webinar ID: 997 6282 5223

International numbers available: <https://zoom.us/j/99762825223>

Copies of the staff reports or other documentation relating to each item of business

referred to on the agenda are on file in the Office of the Commission Chairperson, available for public inspection during District business hours. The agenda and agenda packets are also available on the CCSD website at [www.cambriacsd.org](http://www.cambriacsd.org). The District Office hours are Monday - Thursday, and every other Friday from 9:00 a.m. through 4:00 p.m. Please call 805-927-6223 if you need any assistance. If requested, the agenda and supporting documents shall be made available in alternative formats to persons with a disability. The Commission Chairperson will answer any questions regarding the agenda.

**1. CALL TO ORDER**

**2. ESTABLISH QUORUM**

**3. CHAIRMAN'S REPORT**

**4. PUBLIC COMMENT ON AGENDA ITEMS**

**5. REGULAR BUSINESS**

- A. Discuss and Review Urban Water Management Plan (UWMP)      Added  
Consultant, Scope of Work, and Cost Estimate; and Project Budget      Late  
Reallocations and Approve Staff Recommendations
- B. Receive Update from Research Offsite Water Storage Possibilities      Added  
Ad Hoc Committee      Late

**6. FUTURE AGENDA ITEMS**

**7. ADJOURN**

## CAMBRIA COMMUNITY SERVICES DISTRICT

TO: Resources &amp; Infrastructure Committee

AGENDA NO. **5.A.**FROM: John F. Weigold IV, General Manager  
Ray Dienzo, Utilities Department Manager/District Engineer

Meeting Date: April 22, 2020

Subject: Discuss and Review Urban  
Water Management Plan  
(UWMP) Consultant, Scope of  
Work, and Cost Estimate; and  
Project Budget Reallocations and  
Approve Staff Recommendations**RECOMMENDATIONS:**

Staff recommends the Resource & Infrastructure Committee discuss and review the UWMP consultant, scope of work and cost estimate; and review the budget allocations and approve recommendations to the Finance committee. The project budget reallocations are provided in the chart below.

**DISCUSSION:**Contractor Qualifications:

Staff recommends Water System Consulting (WSC) to be the District's UWMP consultant. WSC meets the required criteria from our RFP/RFQ. Specifically, WSC offers the breadth and quality of services required by the project scope. They have experience in conducting the data analysis and calculations required by the California Department of Water Resources (DWR) Guidebook. This understanding can be demonstrated in the firm's successful completion of UWMPs for other agencies – City of Arroyo Grande, Grover Beach, Pismo Beach, among other agencies in California. One member of their team is on the DWR workgroup that are directly involved in developing UWMP guidelines.

Scope of Services:

WSC will complete the tasks (see Tasks 1-4 in attached Detailed Scope of Services) required for an updated UWMP that is consistent with the revised regulations from the DWR. For example, one of these new regulations requires a more robust Water Shortage Contingency Plan which in this round includes a more detailed Water Supply and Demand Assessment. This Assessment will feed into a new annual Water Shortage Assessment Report which will be due every July, starting in 2022. These technical analyses will also include a more complete analysis of the Sustainable Water Facility's (SWF) contribution to the water supply. The supply protocol analysis of the SWF is a crucial portion of the District's effort to obtain a Regular Coastal Development Permit (CDP).

The result would be a revised UWMP that will be submitted in July 2021 and a technical analysis we can use for our CDP efforts.

**FISCAL IMPACT:**

The cost estimate for the UWMP consultant efforts would be \$99,990 (see attached Cost Proposal Tasks 1-4), Task 5 will not be completed at this time. District Staff intends to perform the bulk of Coastal Commission coordination for additional technical analysis.

For cost comparison, the 2015 UWMP, which was co-authored by CCSD staff and Maddaus Water Management, totaled \$37,308. The 2015 update included routine revisions to tables and demand calculations. The 2013 Water Use Efficiency Plan, which was authored by Maddaus Water Management with limited staff input, cost \$69,900.

Staff recommends the project costs of \$99,990 be split between the Water Fund and SWF Fund. The Water Fund portion of the UWMP would be \$75,088 (see Tasks 1-3 of Cost Proposal) and the SWF Fund portion would be \$24,902 (see Task 4 of Cost Proposal) for a total budget not to exceed \$99,990.

Water Fund Portion - \$75,088:

For FY 2019-20, the Water Fund budgeted a total of \$40,000 for the UWMP and Water Use Efficiency Plan Update. The remaining budget needed for this consultant contract is \$35,088. Based on the expenditure projections in the Q3 budget report, there is anticipated savings of \$90,216 in the services and supplies accounts, which is sufficient to cover the additional budget of \$35,088 needed. No budget adjustment is necessary in the Water Fund.

SWF Capital Fund Portion - \$24,902:

For FY 2019-20, the SWF Fund budget did not include any funding for the UWMP. There is savings from the Baker Tank purchase of \$51,993, of which a portion can be reallocated for the UWMP budget of \$24,902 needed for this consultant contract.

Staff recommends the Resource & Infrastructure Committee approve Tasks 1-4 of WSC's scope of services and cost estimate not to exceed \$99,990; and recommend the Finance Committee approve the budget reallocation which is outlined in the chart below.

Budget Reallocations					
Fund	Date	Agenda Item	Purpose	Sources	Uses
SWF-Capital	8/15/2019	3.A.	Tank Purchase - Reduce Budget	\$ 24,902	\$ -
SWF-Capital			Urban Water Mgmt Plan Update - Add Project & Budget	\$ -	\$ 24,902
			Fund Sub-Total	\$ 24,902	\$ 24,902
			Difference (unidentified sources of funding)	\$ -	

Attachments:

1. Detailed Scope of Services
2. Cost Proposal

# DETAILED SCOPE OF SERVICES

The following outlines the Scope of Work for the 2020 Water Resources Team Proposal.

## TASK 1.0 UWMP PROGRAM CONTROLS

### 1.1 Program Controls

- Provide oversight, manage communication, assign resources, and coordinate work efforts to align with the District priorities.
- Compile and monitor budget, cost, and cash flow information for the Project.
- Monitor scope, including tracking approved out of scope work.
- Administer subcontracts.
- Prepare monthly invoices and progress reports to the District.
- Assumptions: The Cost Proposal is based on an assumed project phase duration of 14 months. Based on completion of Tasks 2-4. It is anticipated that additional technical efforts and program controls to support the CDP will be managed on a time and materials basis not to exceed the Cost Proposal for Task 5. It is likely that the efforts necessary to obtain the CDP will extend beyond the work anticipated by this scope.

### 1.2 Program Schedule

- Develop, maintain, and monitor the master program schedule. Create a baseline program schedule and produce updated schedules as required.

***DELIVERABLE(S): An overall project schedule shall be developed, reviewed, revised, and updated as needed.***

## TASK 2.0 UWMP INITIAL SCOPE OF SERVICES

### 2.1 Review of Documents and Data: Analysis and Evaluation

- Review and develop familiarity with the following documents to identify, clarify and/or define critical issues that overlap the CDP and the 2020 UWMP:
  - (1) District's 2015 UWMP
  - (2) District Master Water Plan
  - (3) Title 4 of the District's Municipal Code
  - (4) 2013 Water Use Efficiency Plan
  - (5) Water licenses and prior CDPs
  - (6) Historical pumping data, including recharge of percolated wastewater adjacent to San Simeon creek
  - (7) Agreements with other parties related to agricultural or riparian pumping

- (8) Reports in the 2017 SEIR regarding the AWTP's source of supply, operations, injection of treated water, restrictions, permits and other relevant data
- (9) Other plans, programs, and reports included in the attached bibliography of the RFP for this project
- Kickoff & Background Data Review Meeting
  - (1) Plan, organize, and conduct one kick-off meeting to:
  - (2) Discuss project parameters
  - (3) Review scheduling constraints
  - (4) Establish roles and responsibilities
  - (5) Review scope, schedule, and deliverables
  - (6) Review historical water production graphically illustrated by month by creek since 2000, wastewater discharges to San Simeon Creek watershed, net production from San Simeon Creek watershed, and provisions of the District's water rights licenses and CDPs.
  - (7) Review inconsistencies, if any, and differing assumptions between documents supporting the 2015 UWMP and those supporting the SEIR and CDP application.

***DELIVERABLE(S): Electronic copies of agenda and meeting materials at least two (2) working days prior to the meeting. Summary of action items within five (5) working days following the meeting.***

## 2.2 Water Demand Projections

- Develop water demand projections based on the following data and scenarios:
  - (1) Demographic data (e.g., population, housing unit, and employment projections, etc.) from General Plans and Local Coastal Plans of the County of San Luis Obispo and other appropriate sources
  - (2) Historical and current water production data and consumption data by user class (single-family residential, multifamily residential, commercial, institutional, dedicated irrigation, fire, etc.). Trends in water use reduction at the District since 2000 should be analyzed and factored into the demand projection update
  - (3) Historical and projected water savings estimates from on-going District efficiency programs assumed to be provided by the District
  - (4) Potential changes in demographics that may result from changes in residential occupancy rates and impacts of ADUs assumed to be provided by the District
  - (5) Any other relevant information that WSC feels is necessary or beneficial for this task. The District will provide requested and relevant information in a timely manner.

- (a) It is assumed any future water use efficiency savings will be developed by the District's conservation consultant. WSC will work with the District and its conservation consultant in the initial phase of the Project to scope additional technical analysis needed by the District's conservation consultant for the most applicable methodology and assumptions to use based on available data and preliminary analysis.
- (6) Demand scenarios
  - (a) Existing development
  - (b) Development that is allowable pursuant to the District's Water Code Section 350 declaration of water shortage emergency assumed to be provided by the District
  - (c) Land use and development based on build-out included in the Local Coastal Plan adopted by the County of San Luis Obispo assumed to be provided by the District
- Water Demand Projections Staff Conference Call
  - (1) Facilitate a conference call with District staff to establish demand projection methodologies and assumptions in preparation for WSC and the District's participation in one Coastal Commission conference call and for District staff's participation in additional meetings with the Coastal Commission and the District Board of Directors
- Water Demand Projections Coastal Commission Conference Call
  - (1) Facilitate a conference call with District staff and Coastal Commission staff to establish demand projection methodologies and assumptions

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### 2.3 Water Shortage Contingency Plan Update Evaluation

- Develop Water Shortage Contingency Plan recommendations as follows:
  - (1) Initial suggestions to the District on how the existing plan might be modified to be consistent with guidelines established by DWR.
  - (2) Options for modifying the existing Water Shortage Contingency Plan to meet the District's Board of Directors' goal to utilize the AWTP in a manner that will avoid community impacts associated with Stage 3 drought emergencies.
  - (3) It is assumed that WSC will adapt existing information to DWR's new requirements to the extent possible with information provided by the District. Any additional analysis or information needed to meet DWR's requirements is not included within the Cost Proposal for this task.
- District Staff Water Shortage Contingency Plan Recommendations Meeting
  - (1) Facilitate one conference call with District staff to discuss results of Water Shortage Contingency Plan recommendations development in preparation for WSC and the District's

participation in one Coastal Commission conference call and for District staff's participation in additional meetings with the Coastal Commission and the District Board of Directors

- District Staff and Coastal Commission Water Shortage Contingency Plan Recommendations Conference Call

- (1) Facilitate one conference call with District staff to discuss results of Water Shortage Contingency Plan recommendations development

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## TASK 3.0 FINAL PREPARATION OF THE 2020 UWMP

### 3.1 Plan Preparation

- Describe the purpose and background of the UWMP, coordination with other agencies and public outreach efforts, and plan adoption and submittal required by the UWMP Act.

### 3.2 System Description

- Describe the District's water distribution system, service area, population and demographics, climate, government structure, and known development projects.

### 3.3 System Demands

- WSC to review District staff updates to the following items based on information compiled as part of Task 2.2:
  - (1) Update historical water demands based on customer consumption and total production data from 2016 through 2020.
  - (2) Revise the 2020 UWMP SB7 baseline and target population calculation methodology based on DWR's Methodologies, analyze different target calculation methods, and calculate possible adjustments to the 2020 compliance water use based on DWR's Methodology 8. Incorporate the revised baseline, target, and compliance values into the 2020 UWMP water demands and supply and demand comparisons as necessary.
  - (3) Incorporate the results of the AWWA Water Audit software distribution system water loss audit prepared by the District.
  - (4) Develop updated water demand projections through 2040 including SB7 targets and lower income household requirements.
  - (5) Update and describe the Water Use Reduction Plan based on changes since the 2015 UWMP.

### 3.4 System Supplies

- Describe water supply sources, existing and projected supply volumes, potential future water supply options, and future water supply projects based on information provided by the District.



### 3.5 Supply Reliability and Water Shortage Contingency Planning

- WSC to review District staff updates to the following items based on information compiled as part of Task 2.3:

- Update and describe factors affecting supply reliability.

- (1) Update the District's Water Shortage Contingency Plan integrating components from the 2015 UWMP and the new State requirements to produce a 2020 Water Shortage Contingency Plan. Development of the Water Shortage Contingency Plan will provide a response framework and action plan for emergency and other shortage conditions, including drought. The Water Shortage Contingency Plan also provides the basis for the Water Shortage Assessment Report, due annually beginning on June 1, 2022.

The Water Shortage Contingency Plan is generally expected to contain the following information:

- i. Annual Water Budget Forecast Procedures – Define the process, data inputs, and water year schedule used to develop the Annual Water Budget.
- ii. Annual Water Budget Assessment Methodology – Define the methodology necessary to conduct an Annual Water Budget Forecast assessing shortage risks.
- iii. Annual Water Budget Evaluation Criteria – Define a set of evaluation criteria that will be used to conduct the Water Budget Forecast.
- iv. Shortage Levels – Include six standard shortage levels, representing the actual shortage, or predicted shortage determined by the Annual Water Budget Forecast.
- v. Shortage Response Actions (SRA) – Define locally appropriate short-term water efficiency and/or demand reduction actions, supply augmentation, and/or operational changes necessary to respond to actual or predicted shortage conditions.
- vi. Communication Plan – Describe planned communication strategies and actions intended to quickly inform customers, the public, and regional and State interests, about current shortages or predicted shortages.
- vii. Customer Compliance, Enforcement, and Appeal/Exemption Procedures – Describe methods and procedures in place to gain customer compliance, enable enforcement to gain compliance, and enable customer appeal process for unique circumstances.
- viii. Implementation Authorities – Demonstrate specific ordinances, resolutions, or other authorities are in place to quickly implement SRAs.
- ix. Financial Plan for Drought Conditions – Describe the management of revenue and expense variances when SRAs are triggered, including but not limited to, customer rate adjustments, or use of financial reserves.
- x. Monitoring and Reporting Requirements and Procedures – Outline internal and external monitoring and reporting procedures to assure appropriate data are being collected, tracked, and analyzed for purposes of monitoring customer compliance, and to meet DWR reporting requirements.
- xi. Re-evaluation and Improvement Process – Identify procedures for monitoring and evaluating the functionality of the Water Shortage Contingency Plan.

### 3.6 Demand Management Measures (DMM)

- Update and provide a narrative description of the DMMs implemented by the District based on any changes to DMM implementation since the 2015 UWMP and revised DWR requirements.

### 3.7 UWMP Checklist

- Update DWR's UWMP checklist with relevant sections of the UWMP.

### 3.8 Draft UWMP

- Prepare the Draft UWMP and compile all appendices into an electronic file in PDF format.

***DELIVERABLE(S): One (1) electronic copy of the Draft UWMP***

- Plan, organize, and conduct one Draft Review Meeting for the District. The purpose of the meeting will be to: (1) review schedule and deliverables; (2) review outstanding data requests; (3) review District comments on the draft; (4) and establish action items and next steps. Draft agendas including an updated data request log and project schedule will be provided at least two days before the meetings. Meeting notes will be provided within one week following the meeting.

***DELIVERABLE(S): Electronic copies of agenda and meeting materials at least two (2) working days prior to the meeting. Summary of action items within five (5) working days following the meeting***

### 3.9 Final Draft UWMP

- Incorporate comments and direction from the Draft UWMP Review Meeting. Prepare the Final Draft UWMP and compile all appendices into an electronic file in PDF format.

***DELIVERABLE(S): One (1) electronic copy of the Draft UWMP***

- Attend one UWMP Public Hearing and Adoption Meeting in which the Board will consider adoption of the UWMP. Provide technical expertise and answer questions posed at the District Board of Directors meetings, prepare and review draft and final agenda reports, and assist with creation of presentations. Based on the input received, WSC will make any necessary adjustments to the Final Draft UWMP.

***DELIVERABLE(S): Electronic copies of meeting materials at least one week prior to the meeting.***

### 3.10 Final UWMP, DWR Standardized Reporting Forms and Electronic Submittal

- Compile Final UWMP based on feedback received in the UWMP Public Hearing and Adoption Meeting and the signed adoption resolution
- Report on progress towards meeting water conservation targets specified by SB7 in the standardized water use reporting form established by DWR.
- Prepare and submit an electronic copy of the UWMP to DWR, including any standardized forms, tables, or displays specified by DWR.

***DELIVERABLE(S): One (1) electronic copy of the Final UWMP to the District, County, surrounding agencies, wholesale suppliers, DWR, and the California State Library***

## TASK 4.0 AWTP AND SUPPLY PROTOCOL EVALUATION FOR THE UWMP

### 4.1 AWTP and Supply Protocol Evaluation

- Develop preliminary AWTP and supply protocol analysis as follows:
  - (1) Alternative scenarios for using the AWTP
  - (2) Identify issues involving the Adaptive Management Plan
  - (3) Develop preliminary protocols for pumping and recharge/release of AWTP product water
  - (4) Prepare for meetings and discussions with staff of the County of San Luis Obispo and the Coastal Commission relating to the District's water supply and possible operating scenarios for the AWTP
- AWTP and Supply Protocol Review Meeting
  - (1) Discuss results of AWTP and supply protocol analysis
- Due to the unknown level of effort that will be required for this task, WSC will allocate the hours and expenses identified in the attached Cost Proposal, which are to be used on a time and materials not-to-exceed basis as directed by the District, to develop preliminary pumping and AWTP protocols to inform development of the UWMP. It is anticipated that through completion of the UWMP Initial Scope of Services and other coordination with regulatory and permitting agencies that additional technical analysis and budget may be required to complete the pumping protocols for the CDP. The place holder level of effort to start those efforts is described in Task 5.

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## TASK 5.0 CDP SUPPORT

### 5.1 Additional Technical Analysis

- Assist the District in evaluating additional technical analyses needed to obtain a CDP for the AWTP.
- Perform additional Technical Analysis to support the District in obtaining a CDP.
- Additional Technical Analysis Evaluation Review Meeting(s)
  - (1) Supplemental meetings to support the District in obtaining a CDP.

- Due to the unknown level of effort that will be required for this task, WSC will allocate the hours and expenses identified in the attached Cost Proposal, which are to be used on a time and materials not-to-exceed basis as directed by the District, to provide additional technical support services for the CDP. It is anticipated that the CDP process will likely require work beyond this task, however this task is included as a place holder to scope and start the additional technical analysis required. WSC will work with the District staff for scoping and approval prior to conducting any efforts under this task.

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## 5.2 Permitting Agency Coordination

- In addition to previously identified meetings, it is assumed that there may be additional coordination that is required with District and Permitting Agency Staff to support the District in obtaining a CDP for the AWTP. The tasks included in these meetings may include, but are not limited to the following:
  - (1) Review historical information
  - (2) Define issues that need to be further addressed based on the required findings for the CDP
  - (3) Discuss an agreement on additional technical efforts that may require a contract amendment. Any additional technical efforts will need to be developed in concurrence with staff of the appropriate Resource Agencies to assist the District in obtaining a CDP for the AWTP.
- Due to the unknown level of effort that will be required for this task, WSC will allocate the hours and expenses identified in the attached Cost Proposal, which are to be used on a time and materials not-to-exceed basis as directed by the District, to provide additional permitting agency coordination support services for the CDP. It is anticipated that the CDP process will likely require work beyond this task, however this task is included as a place holder to scope and start the permitting agency coordination and outreach required. WSC will work with the District staff for scoping and approval prior to conducting any efforts under this task.

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Task No.	Task Description	WSC										Rincon/WCI		Stillwater		ALL FIRMS				CCSD Budgeted Tasks*
		Contract Manager	QA/QC	Project Manager	Groundwater Lead	UWMP Lead	Surface Water Planner	Surface Water Engineer	Staff Engineer	Admin/Clerical	WSC Labor Fee	Labor Hours	Labor Fee	Labor Hours	Labor Fee	Total Labor Hours	Total Labor Fee	Expenses	Total Fee	
	<i>Billing rates, \$/hr</i>	\$265	\$265	\$225	\$225	\$185	\$185	\$175	\$135	\$125										
<b>1</b>	<b>UWMP Program Controls</b>																			
1.1	Program Controls	7		28						16	\$ 10,155	6	\$ 1,656	6	\$ 1,352	63	\$ 13,163	\$ 400	\$ 13,563.0	
1.2	Program Schedule			7							\$ 1,575					7	\$ 1,575	\$ 100	\$ 1,675.0	
	<b>SUBTOTAL</b>	<b>7</b>	<b>0</b>	<b>35</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>\$ 11,730</b>	<b>6</b>	<b>\$ 1,656</b>	<b>6</b>	<b>\$ 1,352</b>	<b>70</b>	<b>\$ 14,738</b>	<b>\$ 500</b>	<b>\$ 15,238.0</b>	
<b>2</b>	<b>UWMP Initial Scope of Services</b>																			
2.1	Review of Documents and Data: Analysis and Evaluation			10	8	12				16	\$ 8,430					46	\$ 8,430	\$ 300	\$ 8,730.0	
2.2	Water Demand Projections			12		34				56	\$ 16,550					102	\$ 16,550	\$ 700	\$ 17,250.0	
2.3	WSCP Update Evaluation			12		26				16	\$ 9,670					54	\$ 9,670	\$ 400	\$ 10,070.0	
	<b>SUBTOTAL</b>	<b>0</b>	<b>0</b>	<b>34</b>	<b>8</b>	<b>72</b>	<b>0</b>	<b>0</b>	<b>88</b>	<b>0</b>	<b>\$ 34,650</b>	<b>0</b>	<b>\$ -</b>	<b>0</b>	<b>\$ -</b>	<b>202</b>	<b>\$ 34,650</b>	<b>\$ 1,400</b>	<b>\$ 36,050.0</b>	
<b>3</b>	<b>Final Preparation of the 2020 UWMP</b>																			
3.1	Plan Preparation								4		\$ 540					4	\$ 540	\$ -	\$ 540.0	
3.2	System Description								4		\$ 540					4	\$ 540	\$ -	\$ 540.0	
3.3	System Demands					2			4		\$ 910					6	\$ 910	\$ -	\$ 910.0	
3.4	System Supplies			2		2			12		\$ 2,440					16	\$ 2,440	\$ 100	\$ 2,540.0	
3.5	Supply Reliability and Water Shortage Contingency Planning			4		4			8		\$ 2,720					16	\$ 2,720	\$ 100	\$ 2,820.0	
3.6	Demand Management Measures (DMM)					1			8		\$ 1,265					9	\$ 1,265	\$ 100	\$ 1,365.0	
3.7	UWMP Checklist					1			4		\$ 725					5	\$ 725	\$ -	\$ 725.0	
3.8	Draft UWMP		4	9		9			18		\$ 7,180					40	\$ 7,180	\$ 300	\$ 7,480.0	
3.9	Final Draft UWMP		2	7		9			8		\$ 4,850					26	\$ 4,850	\$ 200	\$ 5,050.0	
3.10	Final UWMP, DWR Standardized Reporting Forms and Electronic Submittal			2		4			4		\$ 1,730					10	\$ 1,730	\$ 100	\$ 1,830.0	
	<b>SUBTOTAL</b>	<b>0</b>	<b>6</b>	<b>24</b>	<b>0</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>74</b>	<b>0</b>	<b>\$ 22,900</b>	<b>0</b>	<b>\$ -</b>	<b>0</b>	<b>\$ -</b>	<b>136</b>	<b>\$ 22,900</b>	<b>\$ 900</b>	<b>\$ 23,800.0</b>	
<b>Cost Subtotal Tasks 1-3 - UWMP Cost Portion - Budgeted from the Water Fund</b>																			<b>\$ 75,088</b>	
<b>4</b>	<b>AWTP and Supply Protocol Evaluation for the UWMP</b>																			
4.1	AWTP and Supply Protocol Evaluation	18	8	10	31	8	4	4	16		\$ 21,195	4	\$ 1,104	8	\$ 1,803	111	\$ 24,102	\$ 800	\$ 24,902.2	
<b>Cost Subtotal Task 4 - Technical Analysis that will support the SWF CDP - Budgeted from the SWF Fund</b>																			<b>\$ 24,902</b>	
<b>5</b>	<b>CDP Support</b>																			
5.1	Additional Technical Analysis Evaluation	2	2	38		20					\$ 13,310	16	\$ 4,416	16	\$ 3,606	94	\$ 21,332	\$ 500	\$ 21,832.4	
5.2	Permitting Agency Coordination	16		10	10	10	10				\$ 12,440	30	\$ 8,280	30	\$ 6,762	116	\$ 27,482	\$ 500	\$ 27,982.0	
	<b>SUBTOTAL</b>	<b>18</b>	<b>2</b>	<b>48</b>	<b>10</b>	<b>30</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>\$ 13,310</b>	<b>46</b>	<b>\$ 12,696</b>	<b>46</b>	<b>\$ 10,368</b>	<b>94</b>	<b>\$ 21,332</b>	<b>\$ 500</b>	<b>\$ 49,814.4</b>	
<b>COLUMN TOTALS</b>		<b>43</b>	<b>16</b>	<b>151</b>	<b>49</b>	<b>142</b>	<b>14</b>	<b>4</b>	<b>178</b>	<b>16</b>	<b>\$ 103,785</b>	<b>56</b>	<b>\$ 15,456</b>	<b>60</b>	<b>\$ 13,524</b>	<b>613</b>	<b>\$ 117,723</b>	<b>\$ 4,100</b>	<b>\$ 149,804.6</b>	
<b>Total Costs Budgeted for Tasks 1-4</b>																			<b>\$ 99,990</b>	

\* Task 5 to be done by CCSD staff.

**From:** [Jim Webb](#)  
**To:** [Haley Dodson](#)  
**Subject:** Luster Email 4/8  
**Date:** Monday, April 13, 2020 3:04:27 PM  
**Attachments:** [Luster 2.pdf](#)  
[INstream Flow Studies needed 112713 - Adobe Acrobat Professional.pdf](#)

---

Haley,

This is the email Dave asked to have distributed to the R&I group before our next meeting.  
Thanks! JIM

Begin forwarded message:

**From:** "Luster, Tom@Coastal" <[Tom.Luster@coastal.ca.gov](mailto:Tom.Luster@coastal.ca.gov)>  
**Subject:** Fw: Supervisor Gibson Meeting 3/30 Via Zoom  
**Date:** April 8, 2020 at 2:46:03 PM PDT  
**To:** Jim Webb [REDACTED]  
**Cc:** "O'Neill, Brian@Coastal" <[Brian.O'Neill@coastal.ca.gov](mailto:Brian.O'Neill@coastal.ca.gov)>

Hi Jim,

Hope you are staying in and staying well! Thanks for your email from last week and your more recent voicemail. I've heard about the CCSD creating the infrastructure committee, and am glad to hear you're looking into various options.

I have a couple of thoughts on the write-up you provided -- particularly regarding the water facility issues -- though I'm also looping in Brian O'Neill from our Santa Cruz office, who is the lead for items having to do with the WWTP and the Buildout Reduction Program. Brian, you may want to weigh in on those items.

Regarding the EWF/SWF, there are two key issues that the CCSD has not yet addressed:

- the LCP requires the CCSD to prepare an instream flow study that identifies flows needed to support habitat in the San Simeon watershed. Until an adequate study is completed, we won't know how much water the water facility might be able to produce or what times of year it may be able to operate. I've attached a September 2012 document that was meant to support development of such a study, but I haven't heard of any follow-up on this item
- as you may know, our staff ecologist determined that the area in and around the facility site was an environmentally sensitive habitat area ("ESHA"), which means only limited uses are allowed. While the LCP allows

for utility uses in ESHA, they can only be permitted if there are no feasible alternative locations outside of ESHA and any impacts must be mitigated through creation or restoration of other ESHA nearby. We discussed this with the CCSD and its biologist a couple of years ago and we were expecting to get a feasibility analysis about what facility components could be moved out of ESHA and what ones needed to stay in. The project has changed some since then, but we would need that same analysis for the eventual proposed project, along with proposed restoration for the components that remain within ESHA.

Regarding the offstream storage alternative at Mr. Warren's place, I recall talking with a couple of CCSD folks about that option. Basically, it would initially be up to the County to determine how and whether that proposal could be consistent with the LCP, but it would help to know soon whether the reservoir area includes any ESHA or wetlands and whether it would be an acceptable transition from ag land to this new use.

I hope this helps for now. Happy to be included as you and the committee continue your work on these issues,

Tom Luster

---

From: Jim Webb [REDACTED]  
Sent: Wednesday, April 1, 2020 11:34 AM  
To: Luster, Tom@Coastal  
Cc: Paul Nugent; David Pierson  
Subject: Supervisor Gibson Meeting 3/30 Via Zoom

Dear Tom,  
The Resources and Infrastructure ad hoc sub committee have met with SLO county supervisor Bruce Gibson. Attached is a summary of the issues we discussed. Please comment or illuminate as you see the need. Thank you for your willingness to help, best regards during these trying times.

Jim Webb

Dear Tom,

The Resources and Infrastructure ad hoc sub-committee recently met with SLO county supervisor Bruce Gibson to discuss “off site water storage” concepts for Cambria. I will attempt to summarize some of those discussions to follow.

Mr. Gibson noted that ranking water storage concepts must be predicated upon the answer to the question of how much water is to be stored. His impression was that the need in Cambria, post Emergency Water Supply efforts, is small; concepts that involved lengthy piping runs were prohibitively expensive for the quantities of water being considered. This characterized the Lake Nacimiento ‘allocation’, Whale Rock reservoir and Diablo Canyon desal operation as applied to Cambria.

Mr. Gibson also noted that the current number of acre feet Cambria is allowed to pump from both Santa Rosa and San Simeon Creeks is more than its typical annual use. If the “wait list” of people wanting to build in Cambria was built out, at current water use levels, the total use would still be within the creek allowances. However, future needs may vary, due to climate change or varying use patterns, and systemic “resilience” in light of these fluctuations is sought. Projects that might further this goal were discussed briefly.

The Warren reservoir site was discussed as was the possibility of adding some tanks to the CCSD’s San Simeon operations. Sizing considerations were vague due to many unknown factors, not the least of which was the expected yield of water from Cambria’s Emergency Water systems operation. The travel time requirement for treated wastewater introduces a yield uncertainty as the final product water is injected into the San Simeon aquifer where some of it should migrate towards municipal well fields. The original specifications for yield supposed that a unit capable of pumping 250 af/yr would be sufficient to meet anticipated needs when added to current water allocations. This assumed that 60% of the injected water would be accessible to municipal wells.

The Emergency Water system has only publicly been run to verify tracer travel times and only during traditionally higher well levels. It would take accurate water production yield information to begin planning for storage needs and capabilities.

Mr. Gibson commented on the regional possibility of combining San Simeon and Cambria’s Waste Water Treatment plants noting recent CCC rulings, lack of siting availability in San Simeon, sea level rise and benefits of a ‘water recycling plant’ for treated wastewater adding system resiliency. Timing was not imminent. Mr. Gibson also noted that he saw few if any alternatives to a BRP (Build Out Reduction Plan) when Cambria begins to grow. He offered his continued help in analyzing local issues and offered to meet again.

It would seem that running the EWF during what are typical seasonal dry months would allow assessment of both yield and impacts on the San Simeon creek lagoon under typical



running operations. The data generated could inform seasonal storage needs which this sub-committee continues to investigate.

Your thoughts and guidance are appreciated. Best regards,

JIM WEBB

Jim Webb



## Appendix B

# Support for In-Stream Flow Study on San Simeon and Santa Rosa Creeks

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Cambria Community Services District



US Army Corps of Engineers

TM Support for In-Stream Flow Study on San Simeon and Santa Rosa Creeks

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## CAMBRIA DESALINATION AND OTHER WATER SUPPLY FACILITIES

### Water Supply Alternative Concepts



September 11, 2012

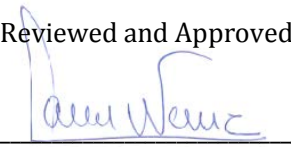


The information contained in the document titled Cambria Desalination and Other Water Supply Facilities Water Supply Alternative Concepts TM Support for In-Stream Flow Study on San Simeon and Santa Rosa Creek, dated September 11, 2012, has received appropriate technical review and approval. The conclusions and recommendations presented represent professional judgments and are based upon findings from the investigations and sampling identified in the report and the interpretation of such data based on our experience and background. This acknowledgement is made in lieu of all warranties, either expressed or implied. The activities outlined in this report were performed under the supervision of a California Registered Professional Engineer.

Prepared by:

Steven E. Wolosoff,  
Senior Environmental Scientist

Reviewed and Approved by:



Sava Nedic, PE, PMP, BCEE  
Principal Environmental Engineer

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## List of Abbreviations and Acronyms

AF	acre-feet
ASR	Aquifer Storage and Recovery
CCSD	Cambria Community Services District
cfs	cubic feet per second
gpm	gallons per minute
MSL	mean sea level
SLO	San Luis Obispo

# Section 1

## Existing Conditions

This technical memorandum presents an analysis of water budgets for San Simeon and Santa Rosa Creeks to be used for evaluating potential impacts of various supplemental water supply projects considered for implementation by Cambria Community Services District (CCSD). The analysis presented below is not intended to replace the need for an in-stream flow study on these creeks, but rather will aid in the scoping of such studies to be implemented in the future by multiple agencies that utilize water from the underlying groundwater basins in coordination with governing bodies charged with the protection of natural resources that rely on these waters.

### 1.1 Hydrology

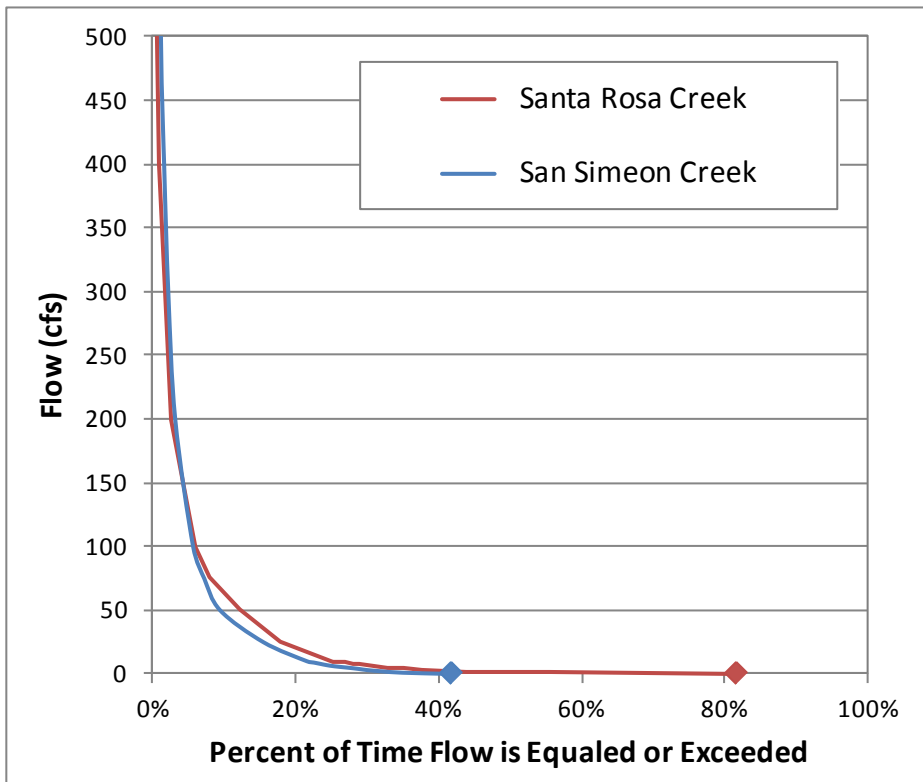
This assessment of flow is based on limited historical stream flow data for San Simeon and Santa Rosa Creeks and their tributaries. US Geological Survey gauges constructed and operated on lower San Simeon Creek in 1987 through 1989 have since been operated by San Luis Obispo (SLO) County Department of Public Works (Station 22); however data is only published up to February of 2003. SLO County is in the process of updating the streams rating curve prior to publishing data post 2003. On Santa Rosa Creek, SLO County constructed a flow gauge at the Main Street (Station 16), just downstream of the confluence with Perry Creek. Published data from this gauge exists for the period of 1988 through 2004. Similar to San Simeon Creek, SLO County is in the process of updating the streams rating curve prior to publishing data post 2004.

Figure 1-1 presents a flow duration curve for each of these gauges for the period of published data. These curves show a similar wet weather response in each watershed, but the presence of more flow during dry weather conditions in Santa Rosa Creek (dry 18 percent of days) than in San Simeon Creek (dry 58 percent of days). Yates and Konyenberg (1998) found a similar trend when evaluating flow gauge data for the upper portions of the San Simeon Creek (1971-1989 at Palmar Flats) and Santa Rosa Creek (1959-1989 upstream of Curti Creek). Rainfall and associated runoff occurs almost exclusively during the wet season, when weather patterns are favorable for precipitation to occur. The wet season, as defined in CCSD diversion permits, can vary for the San Simeon aquifer depending upon the time flow ceases at a historic, Palmer Flats gaging location. The San Simeon permit defines the dry season pumping window maximum as being between the time flow ceases at Palmer flats until November 1st. The Santa Rosa diversion permit fixes the dry season as being May 1st to October 31st, which results in the wet season being November 21st through June 30th in San Simeon Creek and November 1st through April 30th in the Santa Rosa Creek.

Stream flow in San Simeon and Santa Rosa Creeks is highly variable with rainfall as the predominant controlling factor. Yates and Konyenberg (1998) identified a close correlation between annual streamflow and annual rainfall depth ( $r = 0.96$  and  $0.91$  for San Simeon and Santa Rosa Creeks, respectively). Highly permeable surficial soils and limited groundwater storage capacity in the underlying basins minimize the impact of long-term trends in hydrologic conditions. Consequently, flow in these creeks is largely a function of rainfall. Table 1-1 summarizes annual rainfall for Cambria and annual runoff volume from San Simeon and Santa Rosa Creeks based on data from the more recently monitored downstream SLO County stations (Stations 22 and 16).



The close correlation between stream flow and watershed rainfall translates to groundwater levels as well because the San Simeon and Santa Rosa groundwater basins have limited storage capacity and high transmissivity. Accordingly, groundwater levels generally are high during the wet season with infiltration of rainfall induced runoff in creek bottoms being the greatest inflow, followed by decline during the dry season when creek flow is significantly diminished or eliminated and groundwater pumping is increased to meet higher seasonal municipal and agricultural water demand. The lack of long-term storage is a significant concern to CCSD and agricultural pumpers, because during droughts, groundwater basins may not be completely filled during the wet season, and as a result, water level drawdown from dry season pumping poses a greater risk of causing seawater intrusion in San Simeon Creek or land subsidence in the Santa Rosa Creek watershed.



**Figure 1-1 Flow Duration Curves for San Simeon (SLO County Station 22) and Santa Rosa Creek (SLO County Station 21)**

**Table 1-1 Summary of Rainfall and Runoff Data from 1987 through 2004**

Variable	Minimum (Water Year)	Maximum (Water Year)	Average
Rainfall (in/yr) <sup>1</sup>	9.98 (1989-90)	44.31 (1994-95)	20.15
San Simeon Runoff Discharge (afy)	595 (1989-90)	22,879 (1994-95)	8,850
Santa Rosa Creek Runoff Discharge (afy)	515 (1989-90)	50,142 (1994-95)	15,420

1) Rainfall data was obtained from Cambria CFD Station, except for WY 1994-95 when this station was inoperable. Data from the Cal Poly SLO station was used for rainfall depth in WY 1994-95

## 1.2 CCSD Water Supply

Diversion permits issued by the SWRCB to the CCSD allow a maximum of 1230 acre-feet (af) annually from the San Simeon aquifer, while limiting dry season pumping to 370 af maximum. The Santa Rosa Creek SWRCB appropriations permit limits the Santa Rosa aquifer pumping to 518 af annually, with a dry season pumping limit of 260 af. However, the combined pumping from the both Santa Rosa Creek and San Simeon Creek cannot exceed 1,230 AF per year. Based on these permits, CCSD could meet existing and future demand from the groundwater basins underlying San Simeon and Santa Rosa creeks (Table 1-2). The maximum pumping rates allowed are 2.5 cubic feet per second (cfs), or 4.97 AF per day) for the San Simeon aquifer; and, 2.67 cfs (5.31 AF per day) for the Santa Rosa aquifer. Based on historical pumping data, Table 1- 2 shows these daily diversion limits are in excess of peak seasonal water demand for CCSD, which is approximately 1.5 cfs (2.98 AF per day).

**Table 1-2 Summary of Diversion Permits for San Simeon and Santa Rosa Creeks in Relation to CCSD Water Demand**

Groundwater Basin	Annual Volume	Dry Season Volume	Daily Pumping Rate	
	afy	Af	af per Day	cfs
San Simeon Creek	1,230 (712 <sup>(3)</sup> )	370 <sup>(1)</sup>	4.97	2.5
Santa Rosa Creek	518	260 <sup>(2)</sup>	5.31	2.67
Total	1,230 <sup>(3)</sup>	630	10.28	5.17
CCSD Potable Demand	812	420	1.75 – 2.88	0.88 - 1.45

1) Based on information provided by CCSD

2) Basis for dry season demand estimate from Santa Rosa Creek diversion permit (May 1 – Oct 31)

3) Total annual maximum as combined supply from both San Simeon Creek and Santa Rosa Creek. In years when 518 AF of water is pumped from Santa Rosa Creek, only 712 AF of water can be pumped from San Simeon Creek

Table 1-2 shows that SWRCB issued diversion permits limits do not constrain the ability for CCSD to meet existing and future water demands. However, there are several other factors caused by drought conditions that impact the availability of water from the groundwater basins underlying San Simeon and Santa Rosa Creeks, including:

- Subsidence caused by groundwater level decline – Yates and Konyenberg (1998) estimated that dry season pumping of 260 af or more would result in water level drawdown close to the threshold (14 to 20 feet below MSL) that would result in land subsidence in the Santa Rosa groundwater basin. The groundwater model showed water level declines necessary for subsidence in long dry seasons and in dry seasons following a wet season with incomplete basin recharge. However, in 2001 the CCSD completed a new well (SR-4) approximately 1 mile further up gradient from the wells cited in the 1998 US GS study after shutting down its older Santa Rosa wells (SR-1 & SR-3) in response to an MtBE contamination plume. To date, SR3-4 is the only CCSD production well operating in the Santa Rosa basin.
- Seawater intrusion caused by negative gradient of water table – In San Simeon basin, percolation of treated wastewater between the CCSD well field and the Ocean creates an important seawater intrusion barrier. Groundwater basin model scenarios evaluated by Yates and Konyenberg (1998) predicted seawater intrusion in San Simeon Basin in dry seasons following a wet season with incomplete basin recharge.

## 1.3 Steelhead Trout Migration Requirements

In both Santa Rosa and San Simeon Creeks, Alley and Associates (1992, 1993) determined minimum surface flow thresholds to allow for Steelhead Trout migration patterns from January through May based on hydraulic modeling of critical riffles (i.e. creek segments where flow is quicker and shallower, which may constrain passage by Steelhead). Table 1-3 shows that CCSD water demands are minimal relative to these seasonal minimum flow thresholds and therefore pumping would not be expected to have a significant impact of Steelhead migration. Even in late May when Steelhead migration is still active and water supply demand is increasing, CCSD demand of 1.2 cfs is small relative to the smolting flow requirement of 11 cfs. Accordingly, as long as flow is greater than 12.2 cfs in San Simeon Creek, or greater than 9.2 cfs in Santa Rosa Creek, pumping would not prevent Steelhead from smolting.

**Table 1-3 CCSD Monthly Water Demand in Relation to Surface Runoff in San Simeon and Santa Rosa Creeks**

Month	San Simeon Creek				Santa Rosa Creek			
	Minimum Passage Flow for Steelhead (cfs) <sup>2</sup>	CCSD Demand <sup>1</sup> (cfs)	Mean Daily Flow (cfs)	Mean Daily Flow, Diversion Days (cfs)	Minimum Passage Flow for Steelhead (cfs)	CCSD Demand <sup>1</sup> (cfs)	Mean Daily Flow (cfs)	Mean Daily Flow, Diversion Days <sup>2</sup> (cfs)
October	n/a	1.3	0.2	n/a	n/a	0	1	n/a
November	n/a	0.4	10	n/a	n/a	0.6	4	n/a
December	n/a	0.3	23	n/a	n/a	0.6	23	n/a
January	67.5	0.3	84	206	35	0.6	63	212
February	67.5	0.3	116	215	35	0.6	95	195
March	67.5	0.3	72	150	35	0.6	67	162
April	19	0.5	17	47	15	0.6	17	64
May	11	1.2	4	42	8	0	11	48
June	n/a	1.3	1	n/a	n/a	0	7	n/a
July	n/a	1.4	0.1	n/a	n/a	0	3	n/a
August	n/a	1.5	0	n/a	n/a	0	2	n/a
September	n/a	1.3	0	n/a	n/a	0	1	n/a

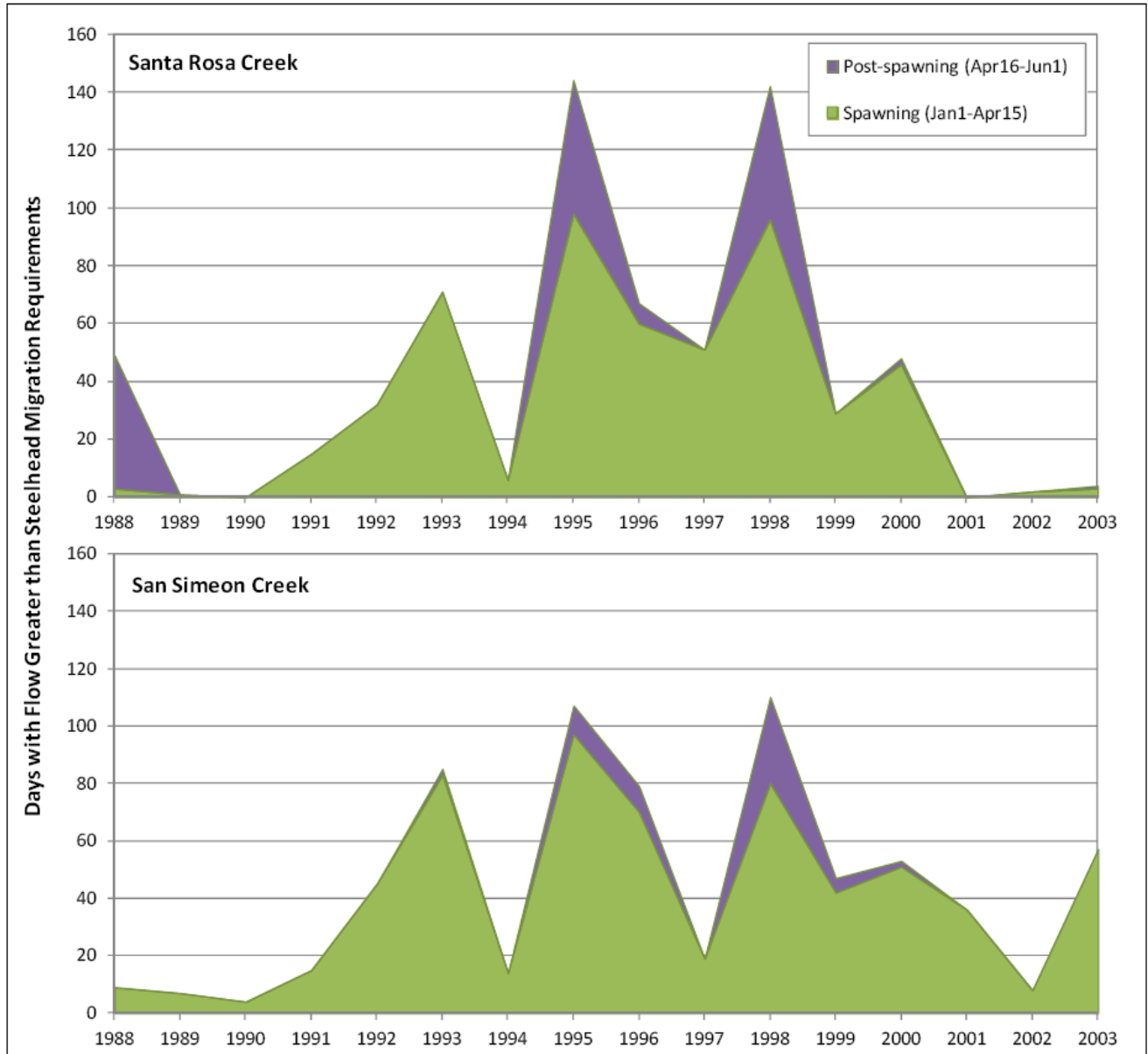
1) CCSD demand divided between San Simeon and Santa Rosa groundwater basins based on assumed Santa Rosa pumping of 35 af/mo in November – April, with remainder of demand from San Simeon well pumping. Other operational scenarios were not evaluated, but are not expected to significantly impact fish passage

2) Based on 1988 – 2003 assessment of flow gauge data in relation to minimum passage flow at critical riffles as determined by Alley and Associates (1992, 1993) for San Simeon Creek at Palmer Flat and Santa Rosa Creek at Main Street.

Minimum flow thresholds are not typically sustained throughout the entire migration season in Santa Rosa and San Simeon Creeks. Figure 1-2 shows the number of days with sufficient flow to allow for Steelhead Trout migration based on historical flow gauge data from 1987 to 2003 on both creeks. CCSD currently uses only one well in the Santa Rosa Creek groundwater basin and is limited in its use by conditions within the CCSD's SWRCB-issued diversion permit. Based on the aforementioned data and assuming pumping were limited to the wet season, this production represents only one percent of runoff that would otherwise be discharged to the Pacific Ocean. The impact of a daily flow reduction of 0.6 cfs (~35 af/mo) on Steelhead migration frequency is minimal, suggesting there could be only 4 more migration days over the 1988-2004 period if Santa Rosa Creek diversions were not utilized during the wet season.

The North Coast Area Plan (NCAP) includes standards and findings required for any new public water supply project that will assure CCSD water withdrawals are limited to protect adequate in-stream flows to support sensitive species and riparian/wetland habitat within the reach of streams effected by CCSD pumping. This leads to an in-stream flow management study objective to determine the sustainable amount of withdrawals for new development that may be accommodated, which will not adversely affect riparian and wetland habitat or agricultural activities. In addition, the CCSD has implemented a rigorous demand offset conservation program, which avoids such impacts from any new or future connections. Based on this assessment of flows in San Simeon and Santa Rosa Creeks, additional demand from new development would not be expected to significantly impact Steelhead migration. One caveat to this conclusion is that the minimum flow requirements for Steelhead Trout migration are based on studies from 1992 and 1993. Changes to the creek morphology in the past 20 years to modify the location and minimum passage flow rates at critical riffles for Steelhead Trout migration are unknown.

CCSD is evaluating several water supply alternative concepts that would sustain or potentially improve current riparian and wetland habitat and agricultural water uses by providing alternative sources of water to meet demands.



**Figure 1-2** Number of Days with Flow Equal to or Greater than Minimum Flow Requirements for Steelhead Migration during Spawning (Jan 1 – Apr 15) and Post-Spawning / Smolting (Apr 16 – Jun 15) Life Stages

## Section 2

# Water Supply Alternative Concept Impacts

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 storage is consequently incapable of sustaining current pumping rates through one or more years of substantially decreased recharge. Because local groundwater aquifers are the only supply of water, CCSD is investigating means to further augment and diversify its existing potable supplies including seawater desalinization, enhanced wet season storage, and indirect potable reuse. The following sections describe the impact of proposed projects on in-stream flow conditions.

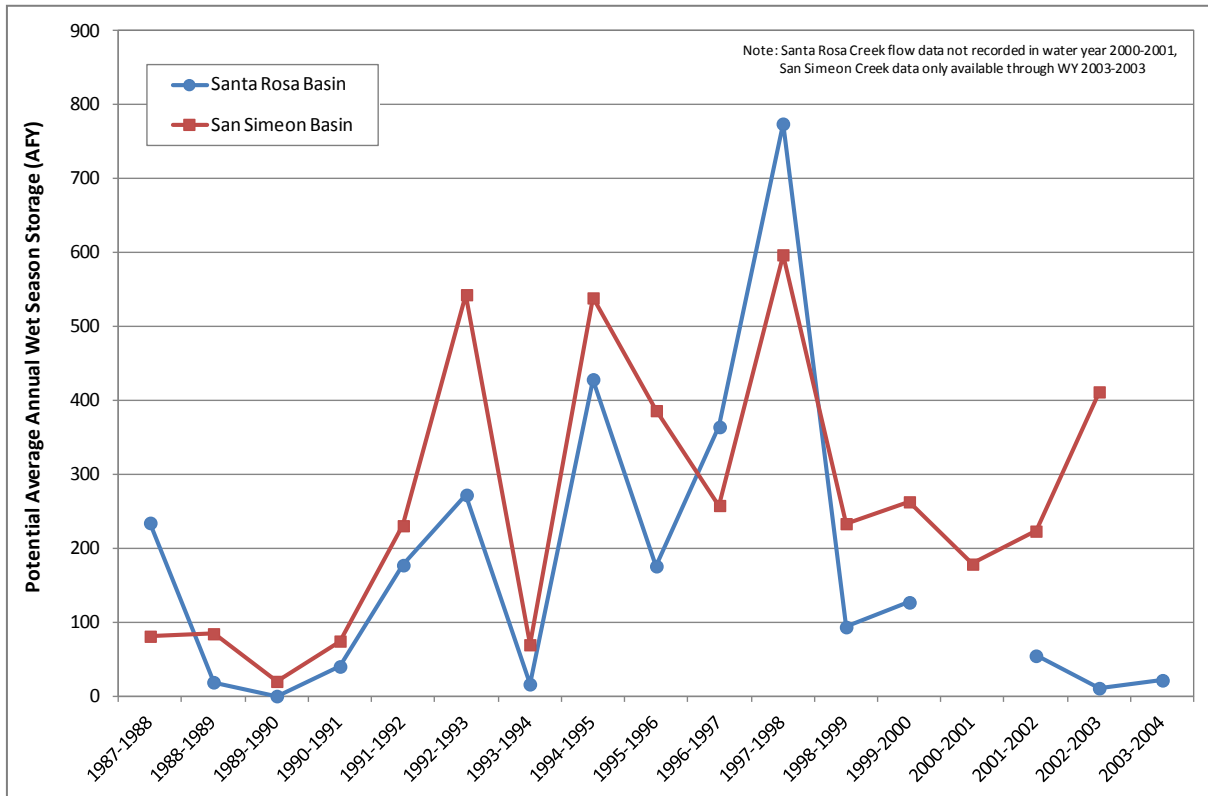
## 2.1 Enhanced Wet Basin Storage

Three of the proposed projects involve capture of additional wet season groundwater for storage and subsequent use during the dry season. For most of the wet season, this would reduce the volume of runoff lost to the Ocean as surface runoff from both San Simeon and Santa Rosa Creeks. The projects are briefly described below:

- The Hard Rock Aquifer Storage and Recovery (ASR) Project would extract additional wet season groundwater from existing and new wells in the Santa Rosa Creek groundwater basins for recharge into a nearby geologic formation that may be capable of holding water. Further geotechnical investigation of the proposed site is needed to determine the feasibility of this project.
- The Whale Rock Reservoir project would extract additional groundwater from existing and new wells in both San Simeon and Santa Rosa Creek groundwater basins for transmission through the existing CCSD water system to a new pump station and 16 mile of new pipeline to Whale Rock Reservoir. In the dry season, water from Whale Rock reservoir would be sent back in the same pipeline to meet CCSD water demands.
- San Simeon Off-channel Storage is an alternative concept that involves construction of dams and reservoirs in minor tributaries to San Simeon Creek. During the wet season, additional pumping from San Simeon groundwater basin would fill the reservoirs behind each dam to replace the volume of water used during the preceding dry season. Runoff from the small (<500 acre) watersheds above each tributary is not included in the stored water calculations.

Daily runoff data from 1987-2004 was evaluated to determine the potential for these projects to capture and store adequate supply of water during the wet season to provide a minimum of 250 afy of groundwater during the wet season for use in the dry season, as further discussed and directed by the CCSD Board during its regular April 26, 2012 meeting (agenda Item 9.C) (Figure 2-1). Historical flow data from the SLO County gauges on San Simeon and Santa Rosa Creeks were evaluated to determine the volume of wet season runoff that is in excess of minimum flow requirements for Steelhead Trout and immediate consumptive demand. This analysis showed that for each creek, an annual average volume 10,000 -15,000 afy is in excess of flow required to maintain the baseline frequency of Steelhead Trout migration days (see Figure 2-1). Table 2-1 summarizes the potential average annual runoff capture for addition to long-term storage based on an assumed storage capacity of 1200 af and runoff diversion up to the permitted rates. Combining the permitted diversion pumping limits from

both the Santa Rosa and San Simeon Creeks, it is possible to divert up to 5.17 cfs of wet weather flow into long term storage, as envisioned by the San Simeon Off-channel Storage, Hard Rock ASR, and Whale Rock Reservoir water supply concepts. Potential runoff capture with the considered water supply concepts was estimated using a daily water balance analysis of historical hydrology, minimum Steelhead Trout flow requirements, consumptive demand, and diversion permit limits. If constrained to the currently permitted diversions of 5.17 cfs, the estimated long term average annual runoff capture and storage potential is 470 afy.



**Figure 2-1 Hydrologic Variability in Estimated Wet Season Diversion from Santa Rosa Creek to the Proposed Hard Rock ASR Project**

**Table 2-1 Storage and Capacity Requirements to Allow for Long-Term Average Annual Wet Season Storage of 250 afy for San Simeon and Santa Rosa Creeks**

Groundwater Basin	Pumping/Conveyance/ Recharge Capacity of Project (cfs)	Storage Capacity of Project (af)	Average Annual Wet Season Storage (afy)
San Simeon Creek	2.5	1,200	268
Santa Rosa Creek	2.67		202
Total	5.17	1,200	470