

Cambria Community Services District Groundwater Management Plan

November 19, 2015


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ADOPTED BY CCSD BOARD, ORDINANCE 01-2015

ON November 19, 2015

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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.

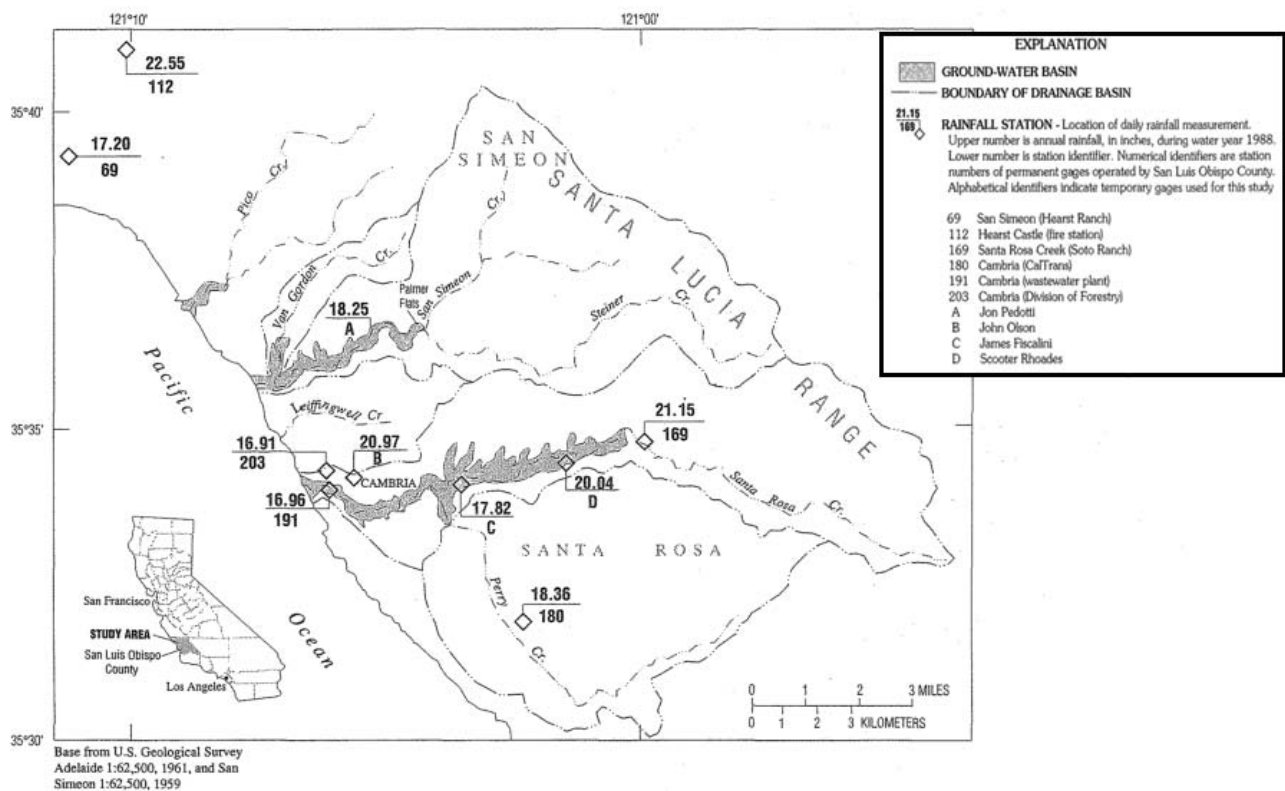


Figure 1. Locations of creeks, drainage-area boundaries, ground-water basins, and rainfall stations in the Cambria area, San Luis Obispo County, California—Continued.

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 Santa 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 develop 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

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

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		0	550	
Rural Pumpage	0	10		0	<10	
Wastewater Recharge			-240			-50
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:

- All values rounded to the nearest 10 AFY. Positive net flow indicates flow into basin; negative net flow indicates flow out of basin.
- 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.

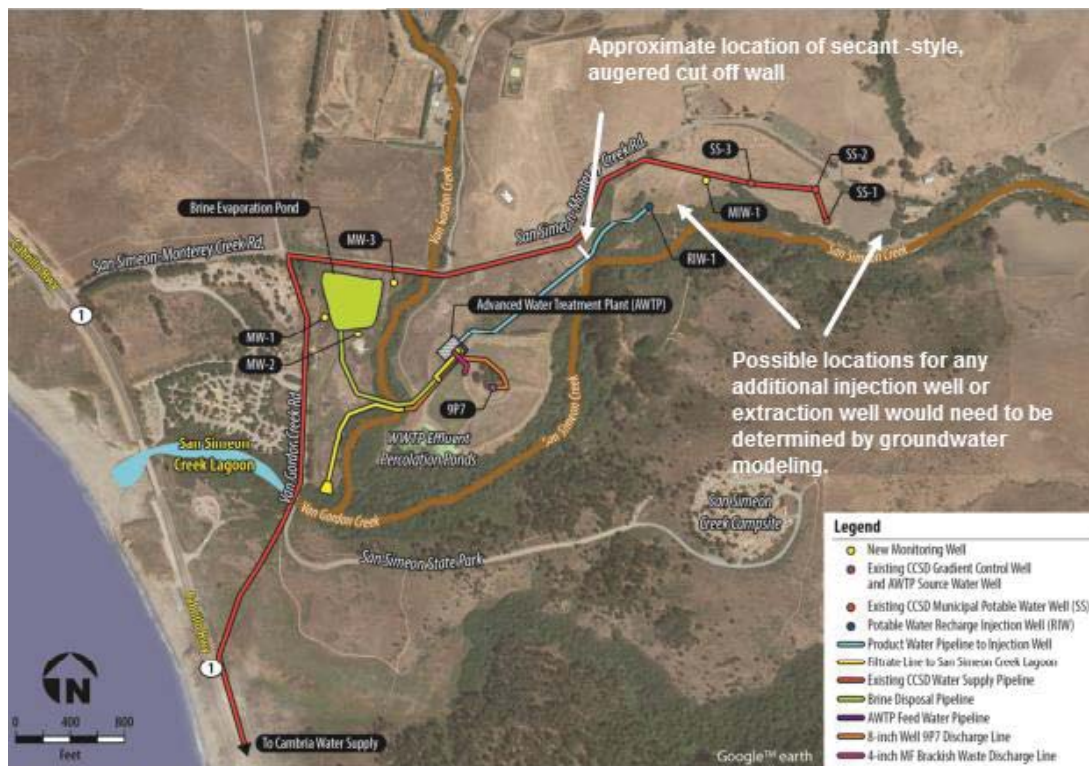


Figure 1-3 – Concept Associated with Pending Long-Term Water Supply Analyses

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 NO₃-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 NO₃-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 NO₃-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).

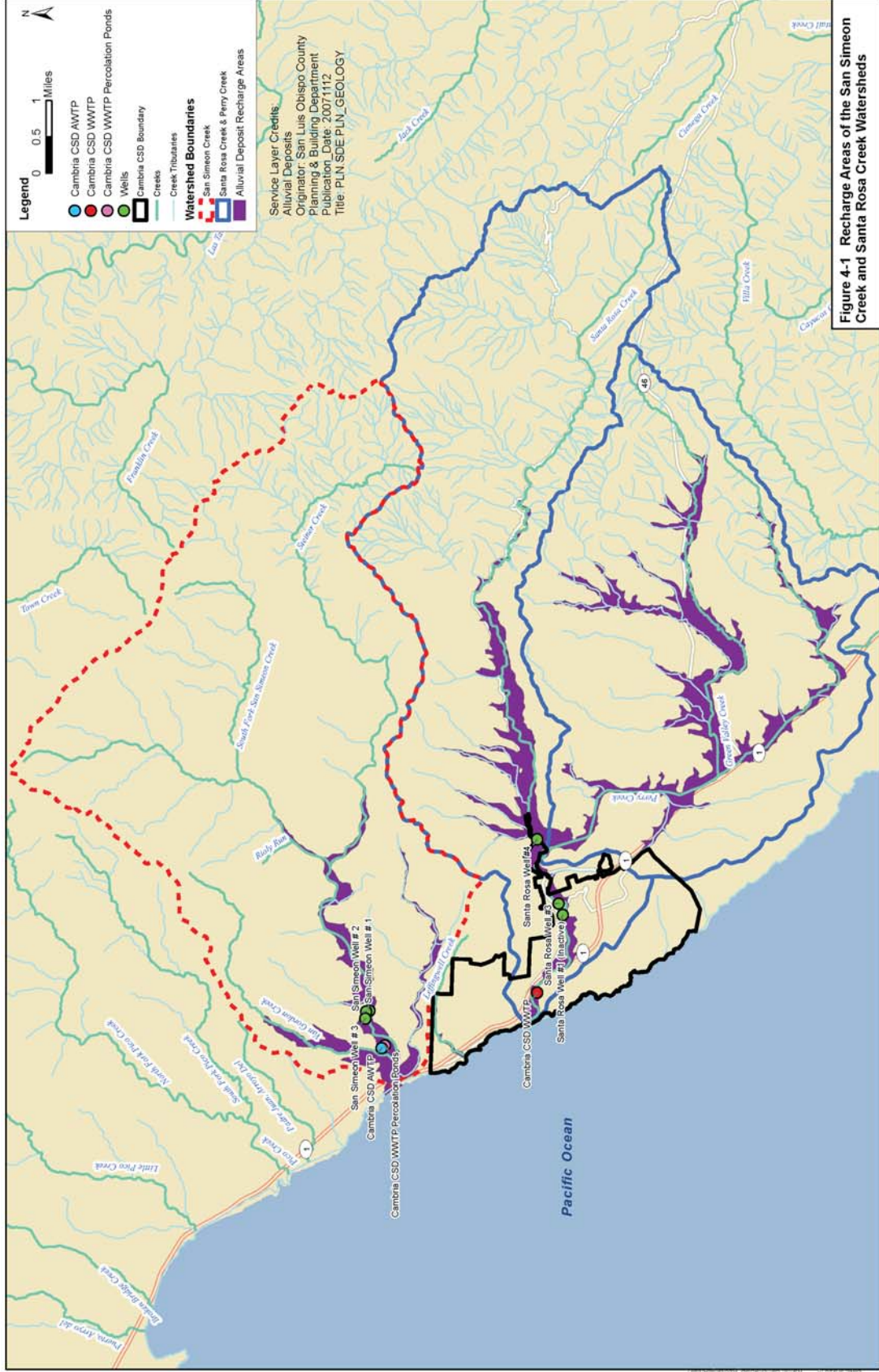


Figure 4-1 Recharge Areas of the San Simeon Creek and Santa Rosa Creek Watersheds

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 Latitude	Longitude	Reference Elevation Point Feet Above Mean Sea Level	Notes	Estimated Survey Date
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	County-owned well	
21R3	27S 8E 21R3	Shamel Park Irrigation Well		12.88		
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		
9I3		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	
M1W		N35° 36' 04.44"	W121° 06' 41.51"	29.89	Elevation at Top of casing	2/12/2015 NCE
R1W		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

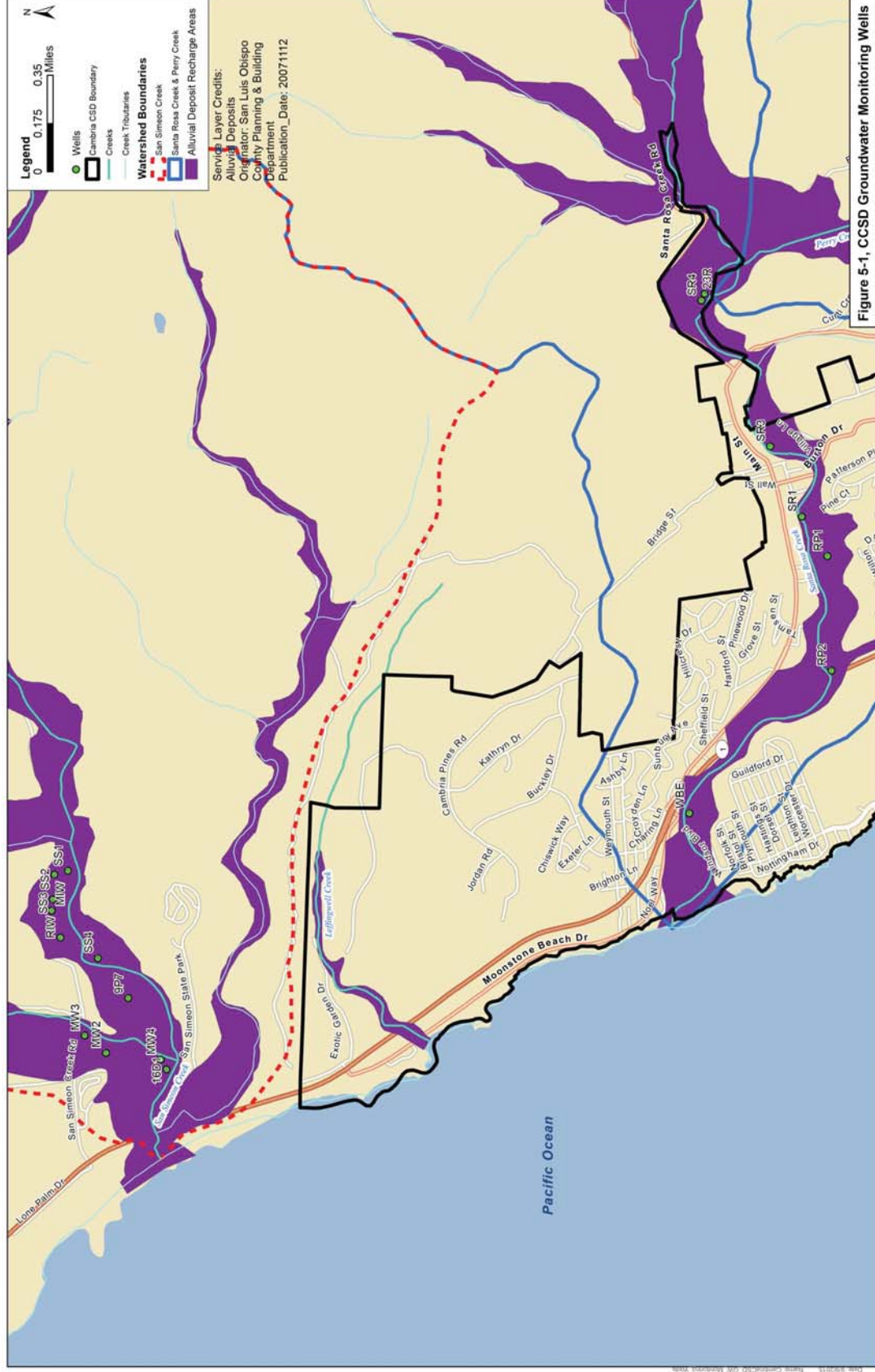


Figure 5-1 – Map of CCSD Monitoring Wells

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 (NO₃-N); 2) operation of the emergency water supply project requires the maximum NO₃-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 NO₃-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.

Cambria Community Services District Groundwater Management Plan

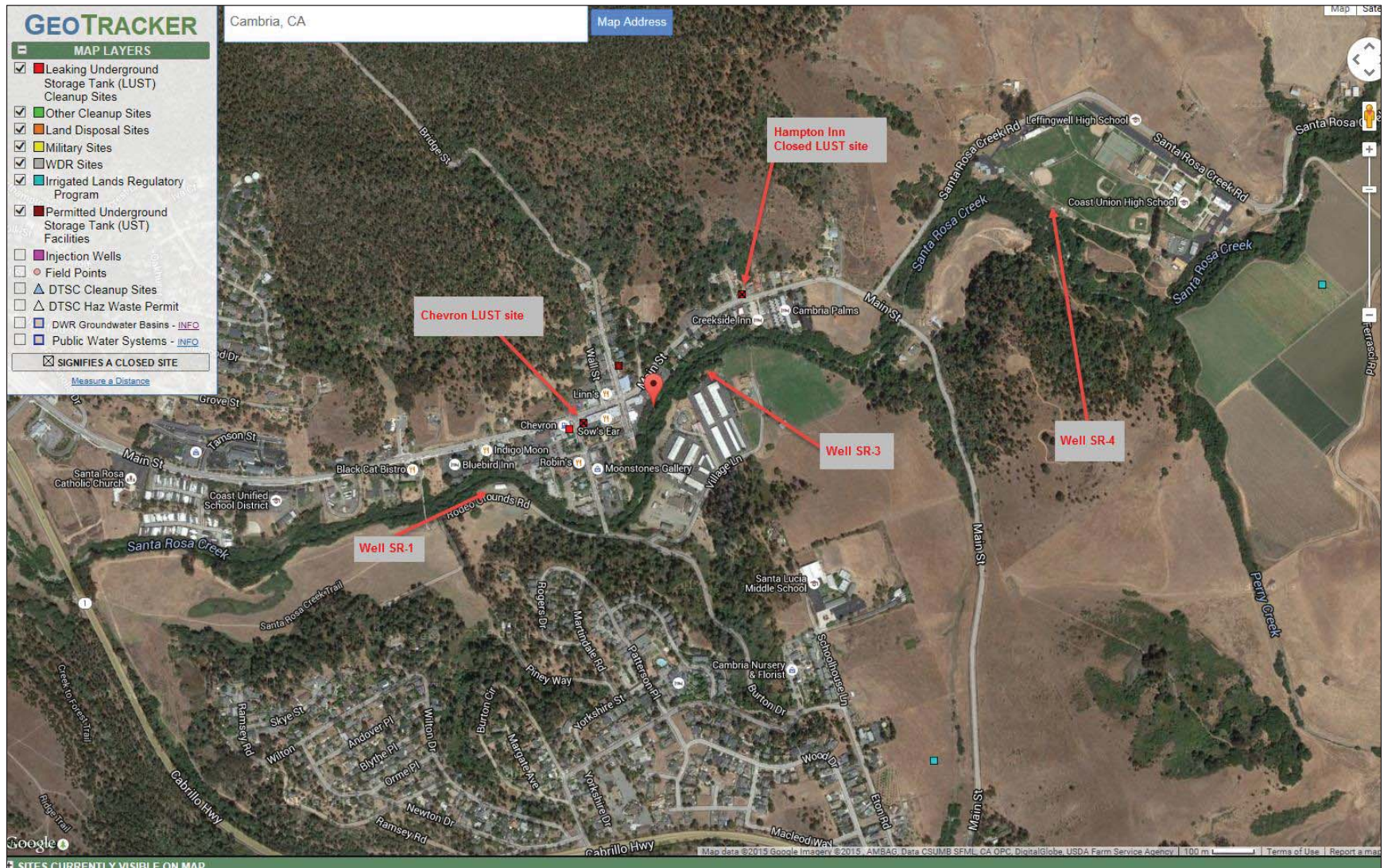


Figure 5-2 – Map of Leaking Underground Fuel Storage Sites and CCSD Santa Rosa Wells

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 (NO₃), 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

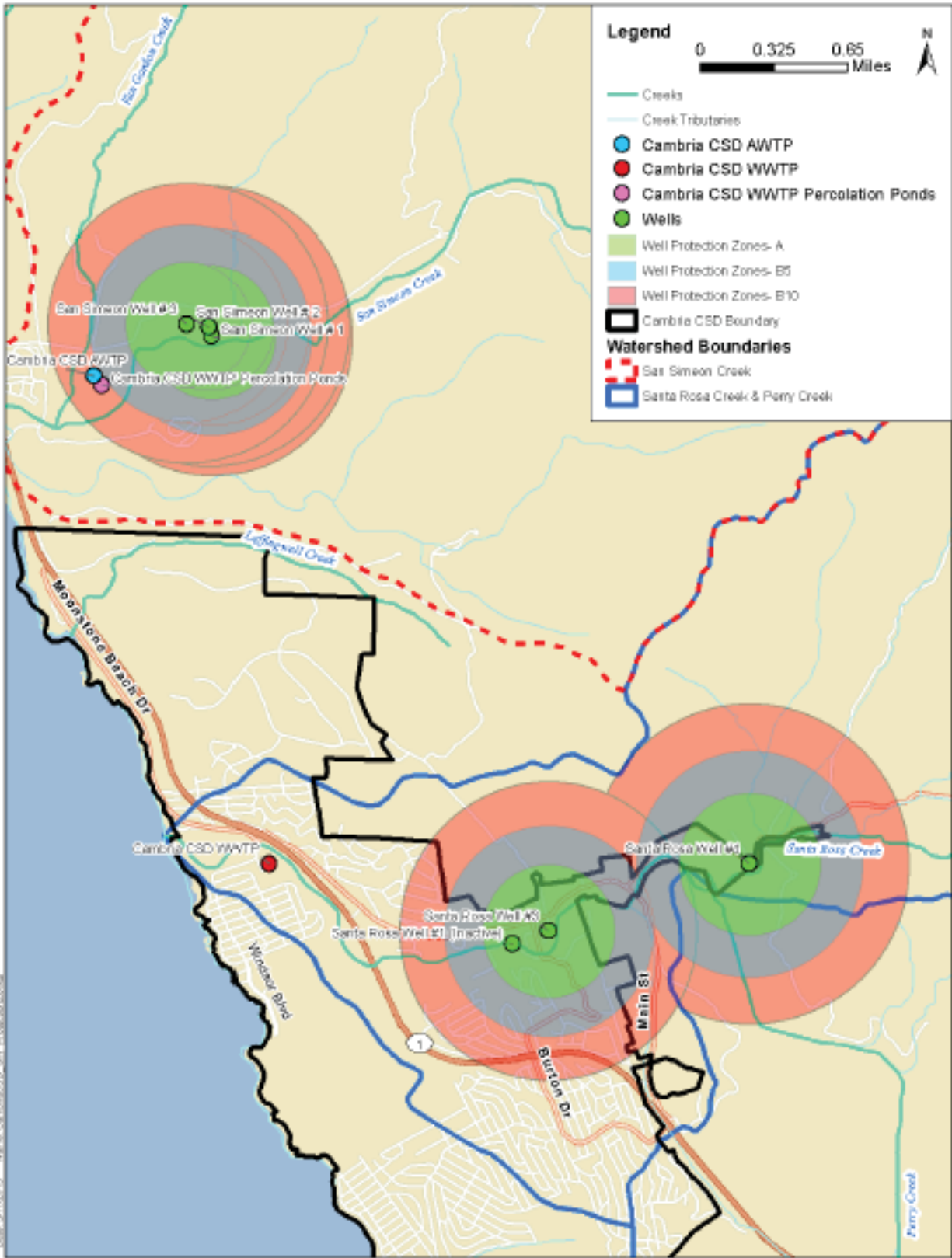
The San Luis Obispo County Department of Environmental Health administers programs within the San Simeon Creek and Santa Rosa Creek watersheds that further protect groundwater and drinking water quality. These programs include the permitting of wells and associated enforcement of the California Department 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, President
Board of Directors

ATTEST:



Monique Madrid, District Clerk

APPROVED 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 Muriel 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

**HOW TO PARTICIPATE 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 *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 # 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.



(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 *Newspaper of the Central Coast*
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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.



(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 GROUND-WATER 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

APPROVED 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.



(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

Cambria Community Services District Contacts List

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 Bettrue, 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.

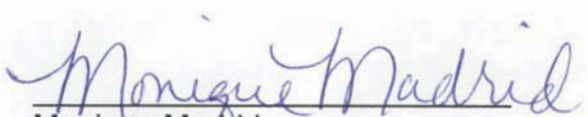
Section 5. This Ordinance shall take effect thirty (30) days after its adoption.

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.

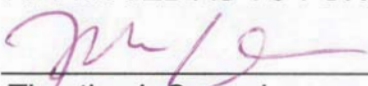
AYES: 5
NOES: 0
ABSENT: 0



Gail Robinette
President, Board of Directors



Monique Madrid
District Clerk

APPROVED AS TO FORM:


Timothy J. Carmel
District Counsel

CAMBRIA COMMUNITY SERVICES DISTRICT

TO: Board of Directors
FROM: Jerry Gruber, General Manager

AGENDA NO. **9.B.**

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 than 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

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.

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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)

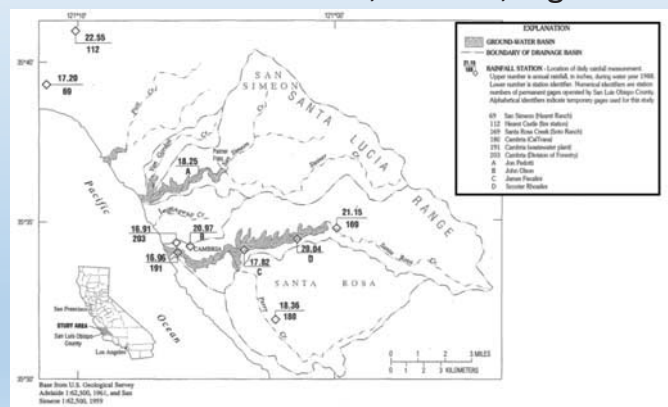


Figure 1-1 – San Simeon Creek and Santa Rosa Creek Groundwater Basins

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



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., NO₃-N), which were still well below the allowable drinking water limit of 10 mg/l (NO₃-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.

Ms. Mary Webb, Greenspace
November 5, 2015
Page 4

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,

A handwritten signature in blue ink, appearing to read "Robert C. Gresens". The signature is fluid and cursive, written on a light-colored background.

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



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:

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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 be 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 detail 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. 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

CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE (415) 904-5200
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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 –

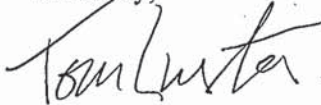
² We understand that the CCSD’s initial applications were for water rights of up to 798 acre-feet per year from the Santa Rosa watershed and up to 1230 acre-feet per year from the San Simeon watershed (including a maximum dry season diversion from San Simeon of no more than 370 acre-feet). When those 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
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.

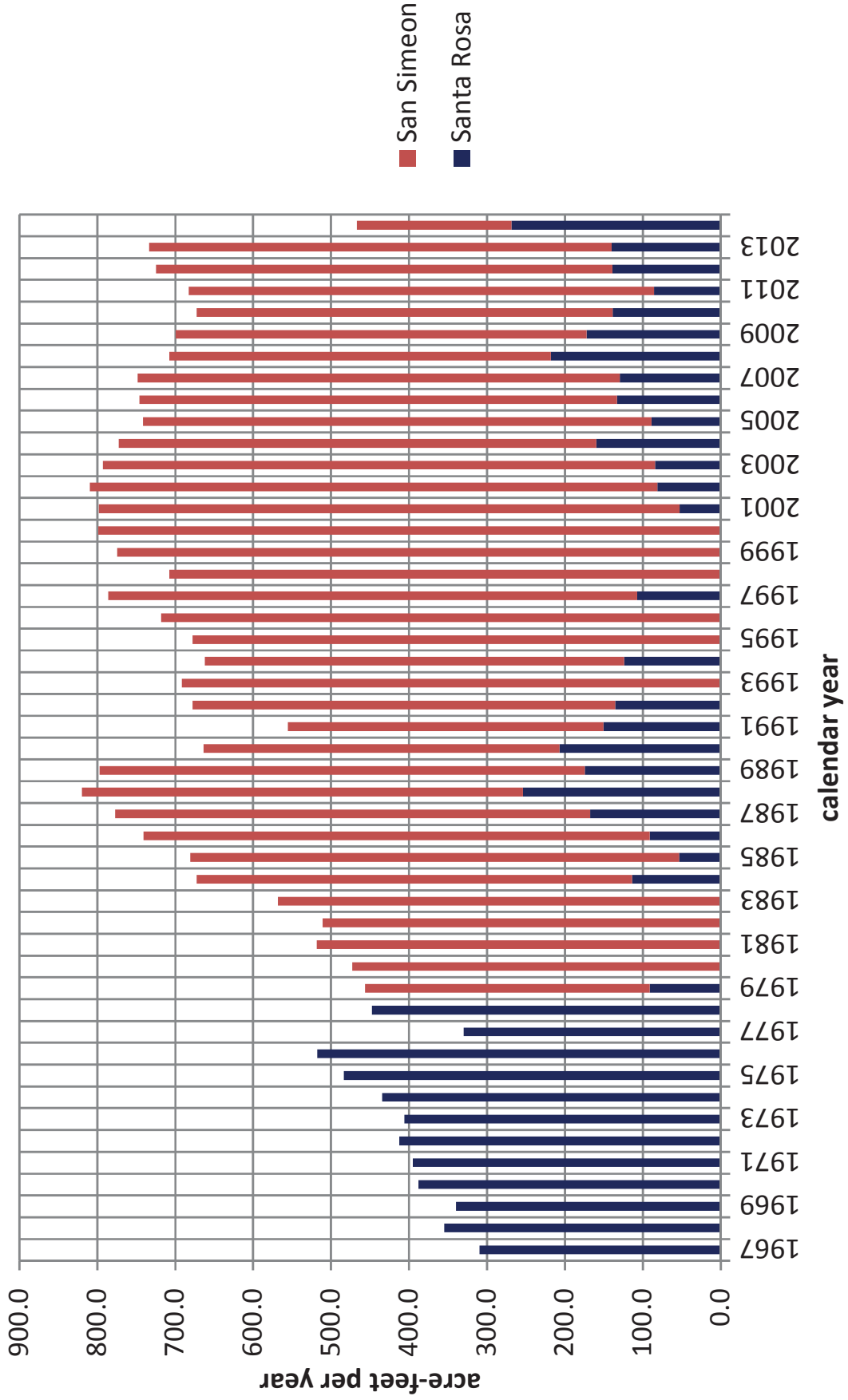
Sincerely,

George W. Kendall

Appendix C

Plots of Historic Groundwater Elevations

Total CCSD Well Production 1967 - 2014



Example Cambria CSD Well Levels Summary

11/2/15

CAMBRIA COMMUNITY SERVICES DISTRICT
WELL WATER LEVELS FOR 11/2/15

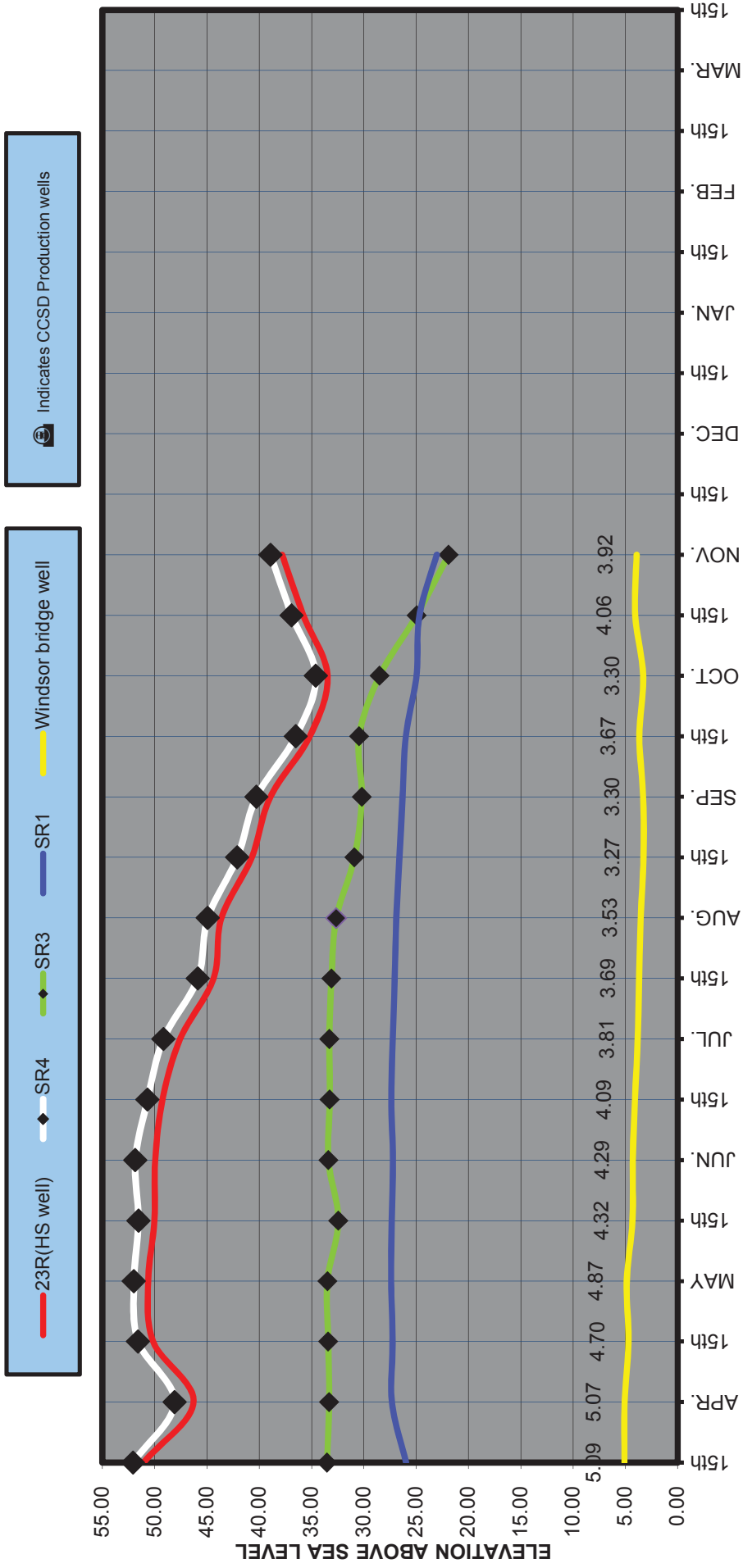
Well Code	Distance Ref. Point to Water Level	Reference Point Distance Above Sea Level	Depth of Water to Sea Level	Remarks
SANTA ROSA CREEK WELLS				
23R	45.61	83.42	37.81	
SR4	43.08	82.00	38.92	
SR3	32.40	54.30	21.90	
SR1	23.06	46.40	23.34	
RP#1	23.22	46.25	23.03	
RP#2		33.11		Not Read
21R3	9.16	12.88	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

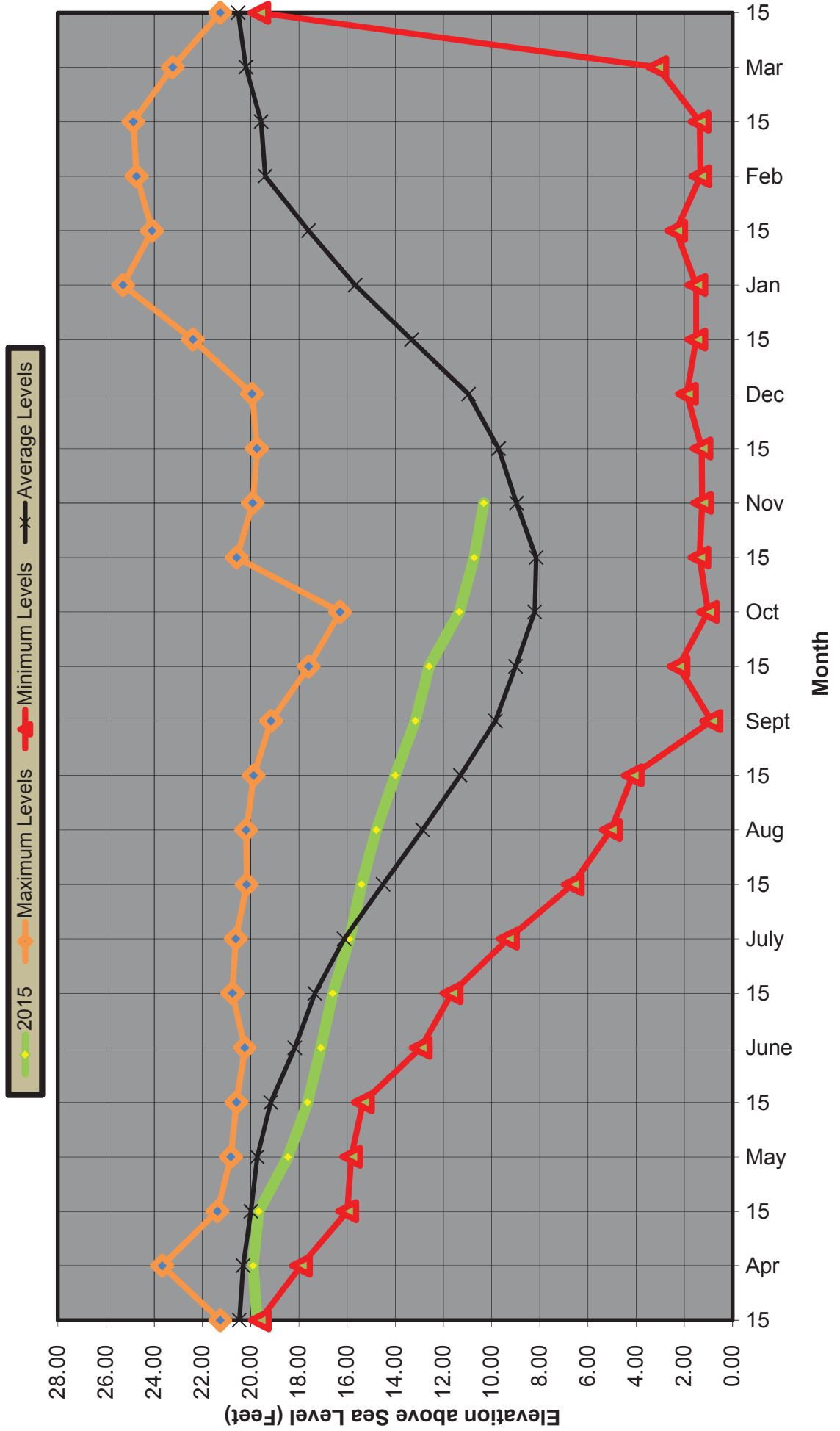
Red Font are the CCSD's Production Wells, as measured on 11/2/15
Reference point on 16d1,miw1,miw2,miw3,9p7,riw,miw1,ss1,ss2 and ss3 updated 2/17/2015

Example Cambria CSD
 Santa Rosa Creek Well Levels Plot

SANTA ROSA CREEK WELL LEVELS March 15th, 2015 - Current



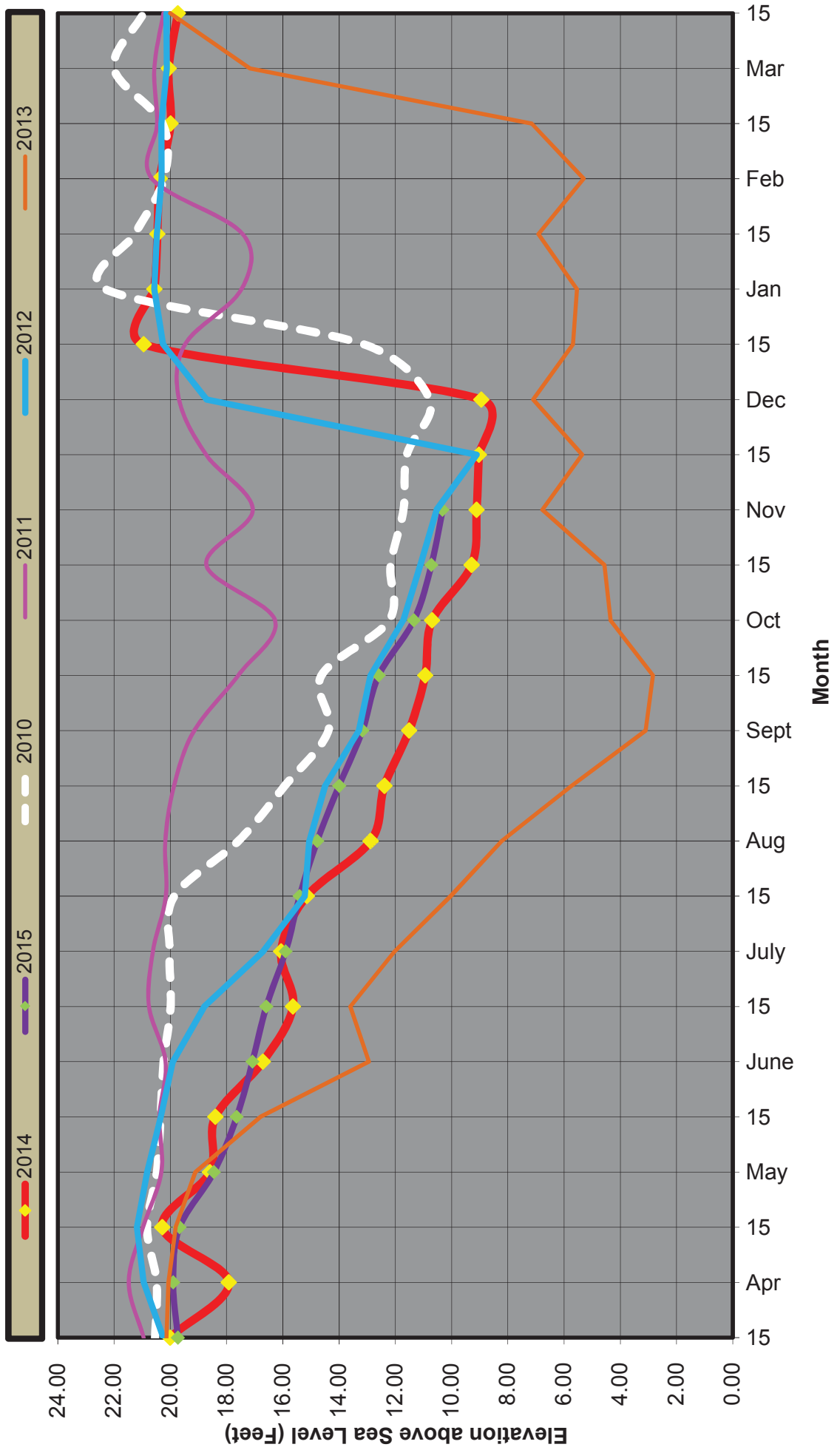
San Simeon Creek Well Levels Water Year 2015/2016 levels to date and 1988 to Current Min, Max, & Average



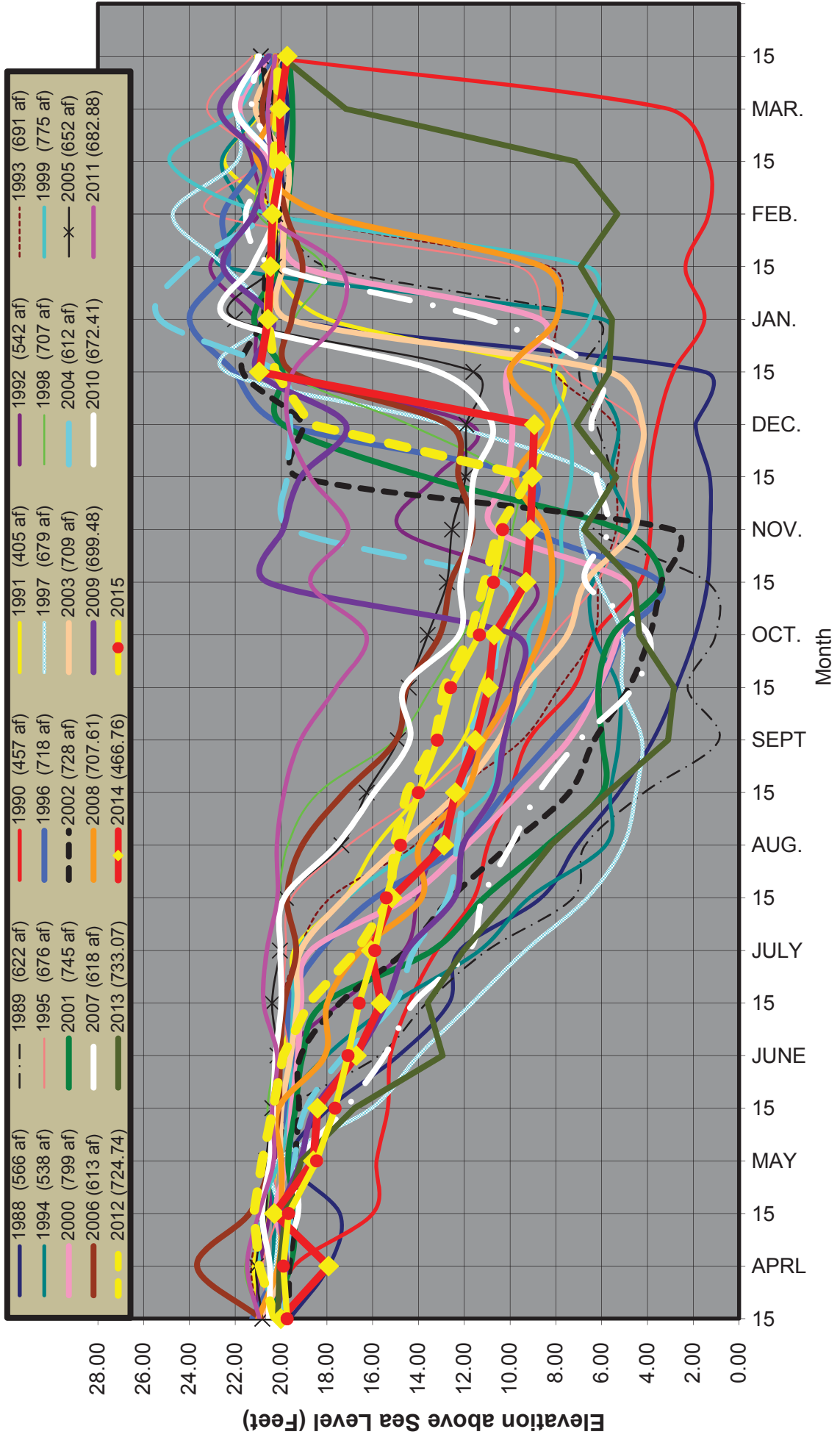
San Simeon Creek Well Levels

Last 5 years

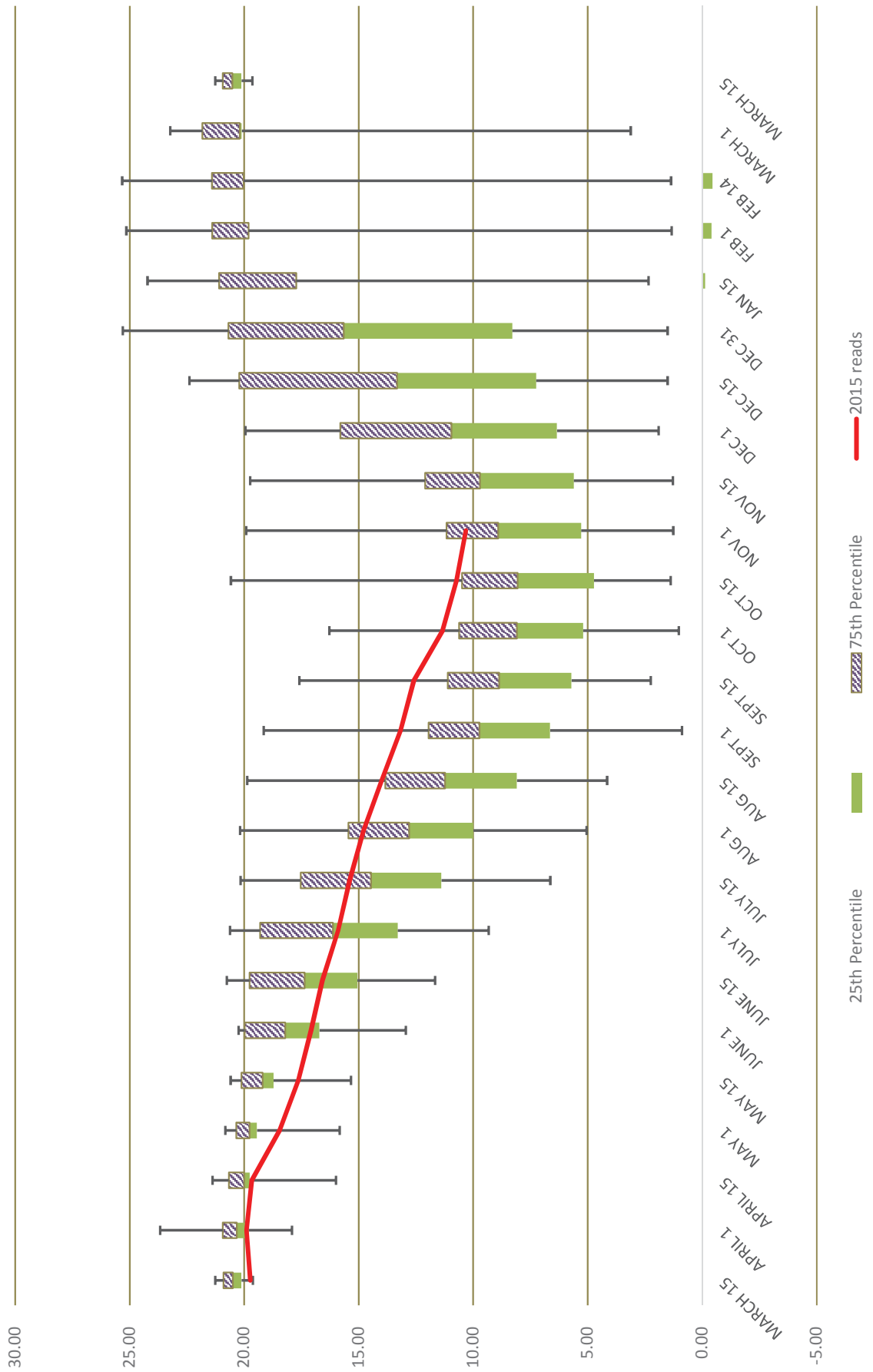
March, 2010 - Current



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:



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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-Nitrosodiethylamine (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-chloroethoxy)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	Reportin g 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
<i>(b) non-volatile synthetic organic chemical</i>							
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-Butylbenzene	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
<i>Pesticides</i>							
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
<i>Acid Extractables</i>							
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-Methyl-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
<i>Base/Neutral Extractables</i>							
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-chloroethoxy)-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
<i>Volatile Organics</i>							
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/cm²), 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 fails 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 Format¹) 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.

¹ For help with EDF go to http://www.waterboards.ca.gov/ust/electronic_submittal/
18-20

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 SWRCB². 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.

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



Michael Baker
INTERNATIONAL

CAMBRIA EMERGENCY WATER SUPPLY PROJECT

San Luis Obispo County, California

Adaptive Management Plan

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March 2015

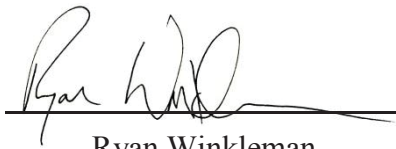
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CAMBRIA EMERGENCY WATER SUPPLY PROJECT

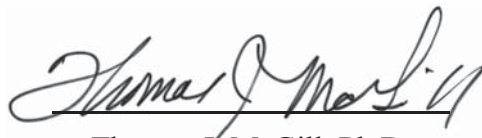
COMMUNITY OF CAMBRIA, SAN LUIS OBISPO COUNTY, CALIFORNIA

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 Winkleman
Biologist
Natural Resources



Thomas J. McGill, Ph.D.
Vice President
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March 2015

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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

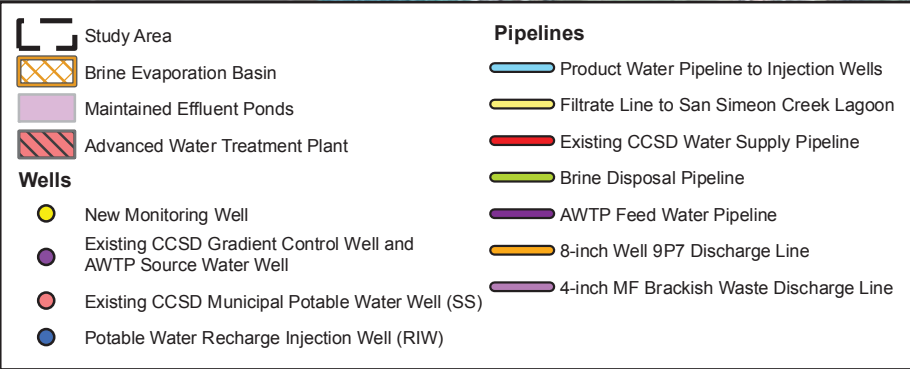
All of Cambria’s potable water is supplied by groundwater wells in the San Simeon and Santa Rosa Creek aquifers. The San Simeon and Santa Rosa Creek aquifers are relatively shallow and porous, with the groundwater levels typically recharged every year during the rainy season. Groundwater levels generally 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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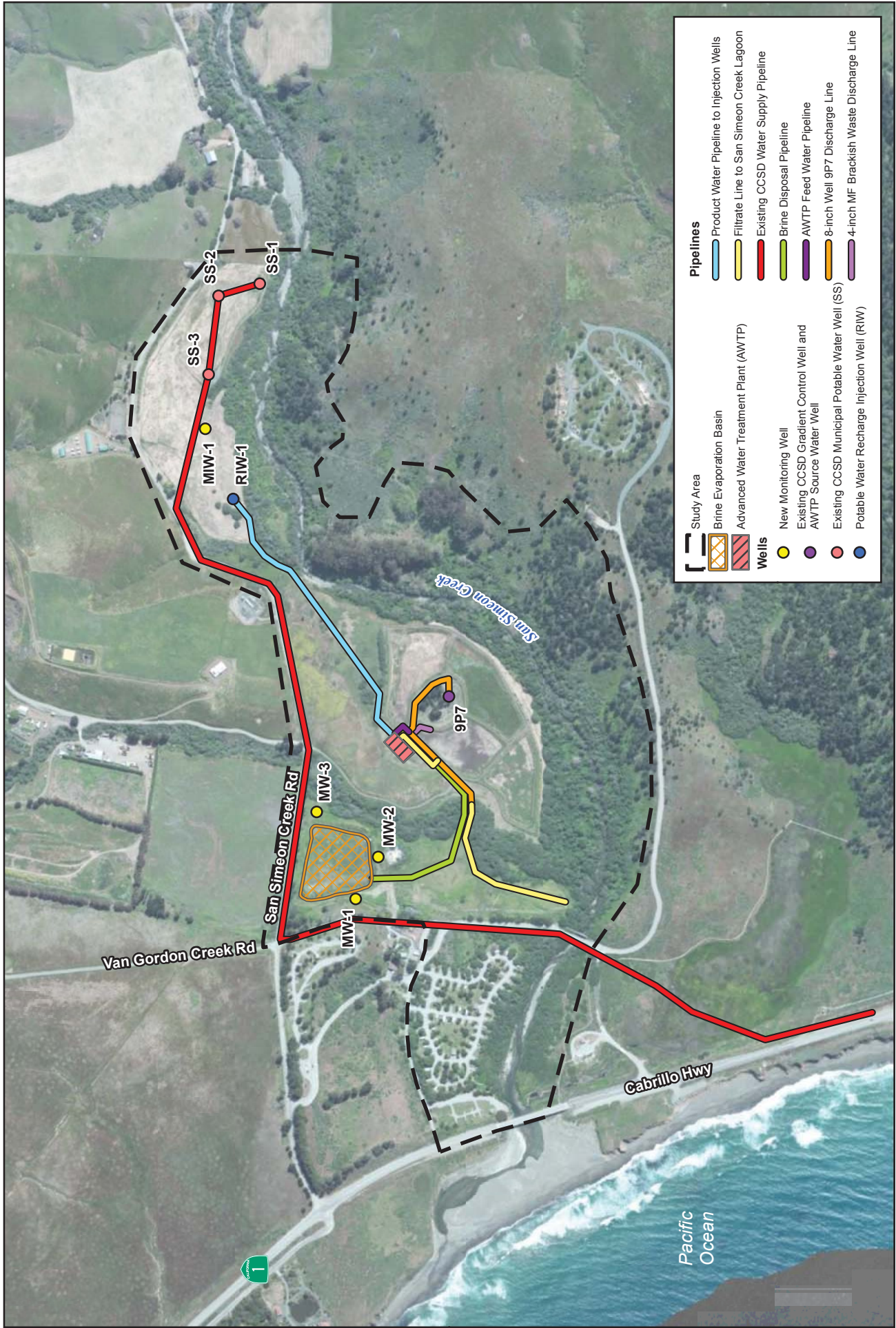
Source: ESRI Relief Map, National Highway Planning Network



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CAMBRIA EMERGENCY WATER SUPPLY PROJECT
 ADAPTIVE MANAGEMENT PLAN
Local Vicinity Map





CAMBRIA EMERGENCY WATER SUPPLY PROJECT
ADAPTIVE MANAGEMENT PLAN

Project Site Map



Source: National Hydrography Dataset, CDM Smith, ESRI World Imagery Basemap

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.

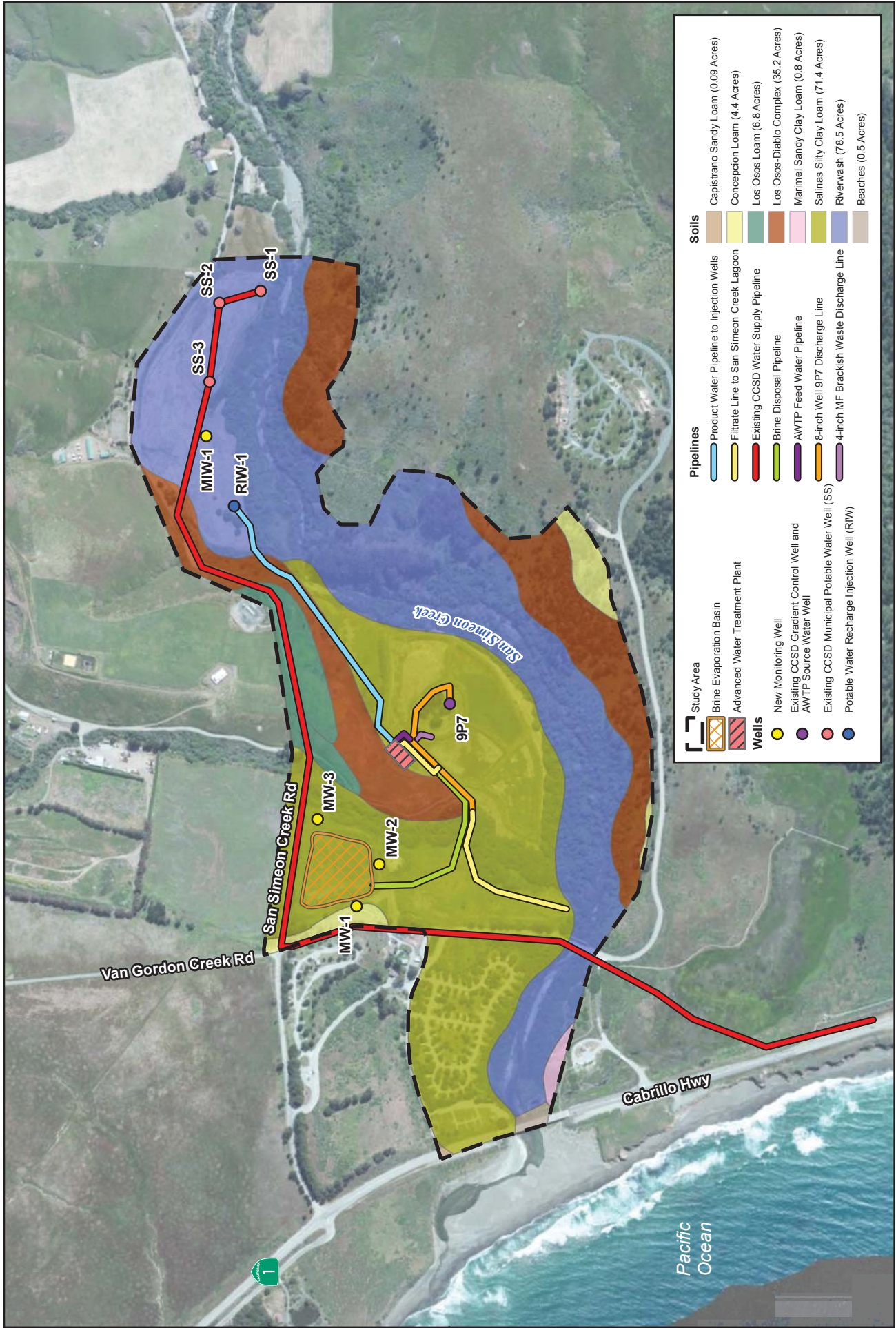
1.2 ENVIRONMENTAL SETTING

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

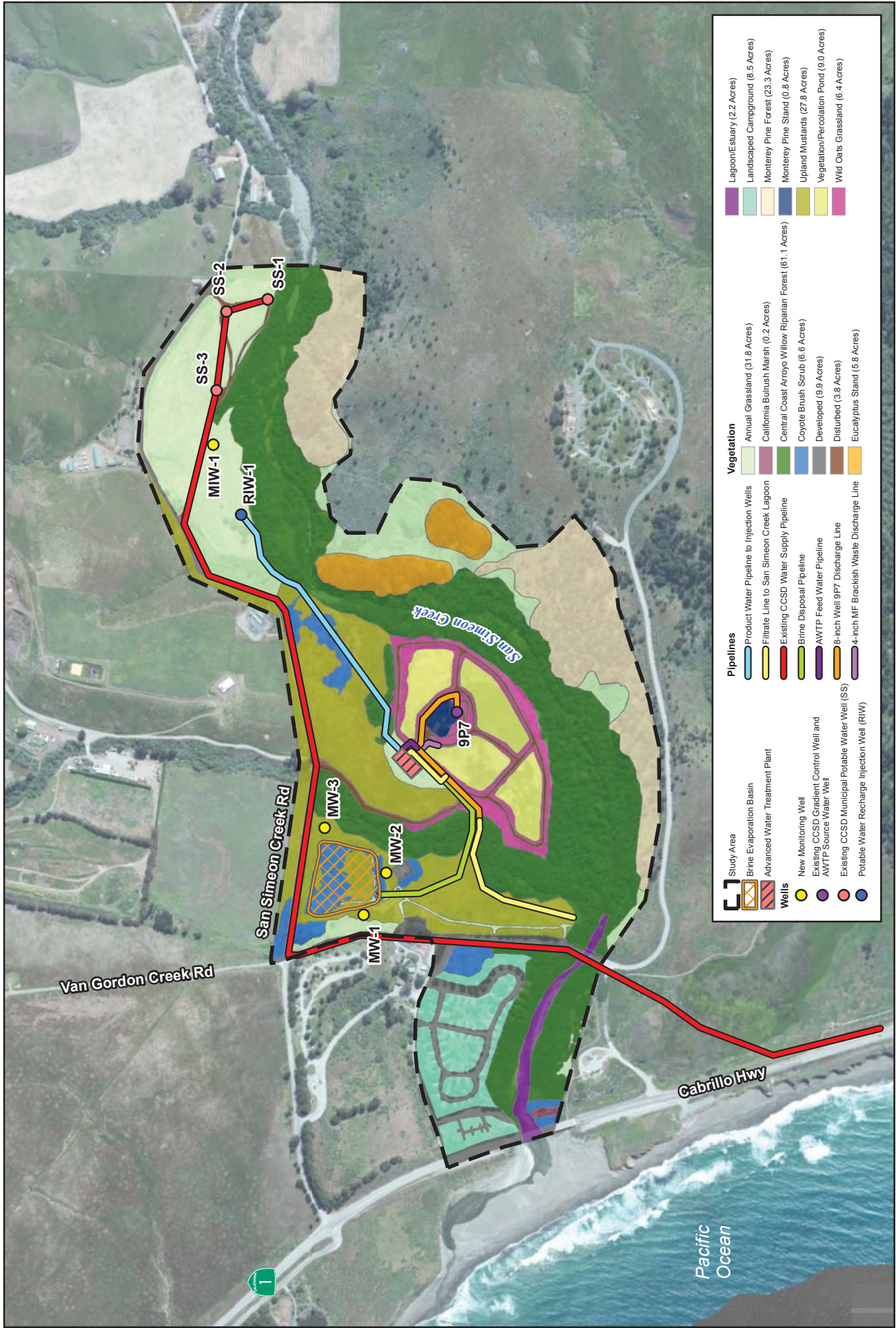
Eight (8) plant communities were identified within the survey area during the initial habitat assessment (Exhibit 5, *Vegetation Map*): Central Coast Arroyo Willow Riparian Forest, Monterey Pine Stand/Monterey Pine Forest, Coyote Brush Scrub, California Bulrush Marsh, Annual Grassland, Wild Oats Scrub, 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.



CAMBRIA EMERGENCY WATER SUPPLY PROJECT
ADAPTIVE MANAGEMENT PLAN

Soils Map





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- | Study Area | |
|------------|---------------------------------------------------------------|
| | Study Area |
| | Brine Evaporation Basin |
| | Advanced Water Treatment Plant |
| Wells | |
| | New Monitoring Well |
| | Existing CCSO Gradient Control Well and AWT/Source Water Well |
| | Existing CCSO Municipal Potable Water Well (SS) |
| | Potable Water Recharge Injection Well (RIW) |
| Pipelines | |
| | Product Water Pipeline to Injection Wells |
| | Filtrate Line to San Simeon Creek Lagoon |
| | Existing CCSO Water Supply Pipeline |
| | Brine Disposal Pipeline |
| | AWTP Feed Water Pipeline |
| | 8-inch Well 9P7 Discharge Line |
| | 4-inch MF Brackish Waste Discharge Line |
| Vegetation | |
| | Annual Grassland (31.8 Acres) |
| | California Bulrush Marsh (0.2 Acres) |
| | Central Coast Arroyo Willow Riparian Forest (61.1 Acres) |
| | Coyote Brush Scrub (6.6 Acres) |
| | Developed (9.9 Acres) |
| | Disturbed (3.8 Acres) |
| | Eucalyptus Stand (6.8 Acres) |
| | Lagoon/Estuary (2.2 Acres) |
| | Landscaped Campground (6.5 Acres) |
| | Monterey Pine Forest (23.3 Acres) |
| | Monterey Pine Stand (0.8 Acres) |
| | Upland Mustards (27.8 Acres) |
| | Vegetation/Percolation Pond (9.0 Acres) |
| | Wild Oats Grassland (6.4 Acres) |



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 boylei*) 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* spp.), 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 hammondi*).

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 Permit issued by San Luis 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 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

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:

$$\text{Flow} = \text{ALC} / \text{T}$$

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.

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.

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
<p>Introduction</p> <p>Briefly mention the monitoring programs conducted that year, the type of data, and the intended use of these data.</p>
<p>Methods</p> <p>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.</p>
<p>Results</p> <p>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.</p>
<p>Discussion</p> <p>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.</p>
<p>Conclusions</p> <p>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.</p>
<p>References</p> <p>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</p>

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