

SANTA CLARITA VALLEY SANITATION DISTRICT
CHLORIDE COMPLIANCE FACILITIES PLAN
AND ENVIRONMENTAL IMPACT REPORT
EXECUTIVE SUMMARY
FINAL




SANITATION DISTRICTS OF LOS ANGELES COUNTY
www.lacsd.org

SCH# 2012011010
OCTOBER 2013



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OVERVIEW

The State of California has determined that high levels of chloride (salt) harm salt-sensitive avocado and strawberry crops along Highway 126, downstream from the Santa Clarita Valley's (Valley's) two wastewater (sewage) treatment plants owned and operated by the Santa Clarita Valley Sanitation District (SCVSD). The State has set a strict limit on the levels of chloride (salt) in the recycled water produced by these two plants as well as deadlines for the Santa Clarita Valley to meet the State-mandated chloride limit.

Under Federal and State law, the State has ordered the SCVSD to reduce the chloride levels in the Valley's treated wastewater to below the State's strict legal limit. In 2004, the California Regional Water Quality Control Board-Los Angeles Region (RWQCB-LA), approved higher interim chloride limits to allow the SCVSD time to construct new treatment facilities. The interim limits expire on May 4, 2015. Once the interim limits expire, the SCVSD must meet the lower permanent limits.

The SCVSD has spent many years seeking the least costly solution to meeting State mandates related to the chloride levels allowed in the Valley's wastewater, which is produced by the Valley's homes and businesses. The SCVSD is working hard to protect Valley property owners from paying millions of dollars in state fines and prevent loss of local control in the Santa Clarita Valley.

The SCVSD's two wastewater treatment plants are not designed to remove chloride. To lower chloride levels to the limits set by the State and avoid fines, new wastewater treatment facilities must be constructed. The Draft Santa Clarita Valley Sanitation District Chloride Compliance Facilities Plan and Environmental Impact Report (Facilities Plan and EIR) documents the technical studies completed to identify the most cost-effective and environmentally-sound methods of meeting the State-mandated chloride limit.

The SCVSD is dedicated to a local planning process that encourages community input. The EIR portion of the document was prepared in conformance with the California Environmental Quality Act (CEQA). The Facilities Plan and EIR were prepared in conformance with the California State Revolving Fund (SRF) Guidelines. These Guidelines indicate topics that must be discussed for a project to be eligible for SRF loan funding. A disc containing a complete digital copy of the Facilities Plan and EIR, including appendices, is provided in the interior pocket on the back cover of this Executive Summary. In addition, all of the documents can be accessed at www.lacsd.org.

BACKGROUND

The SCVSD is a local agency that collects the wastewater from the Valley's homes and businesses, including the wastewater from toilets, sinks, showers, and washing machines, and sends the wastewater through sewer pipes to the Valley's two wastewater treatment plants, the Saugus and Valencia Water Reclamation Plants (WRPs). These plants clean and disinfect the wastewater to produce high quality recycled water. The recycled water is either returned to the environment through the Santa Clara River or provided to local water agencies for landscape irrigation, helping to keep the Valley green. Valley property owners pay for their sewer services, including operating the wastewater treatment plants, through a sewer service charge. The SCVSD's service area is shown on Figure ES-1.

As depicted on Figure ES-2, chloride in the Valley's wastewater comes from: (1) the Valley's water supply consisting of local groundwater and water imported from Northern and Central California, (2) soaps, shampoos and cleaning agents from normal daily residential, commercial and industrial uses in the Valley, and (3) treatment processes at the Valley's wastewater treatment plants. Chloride occurs naturally in the Valley's water supplies and levels vary depending on rainfall.

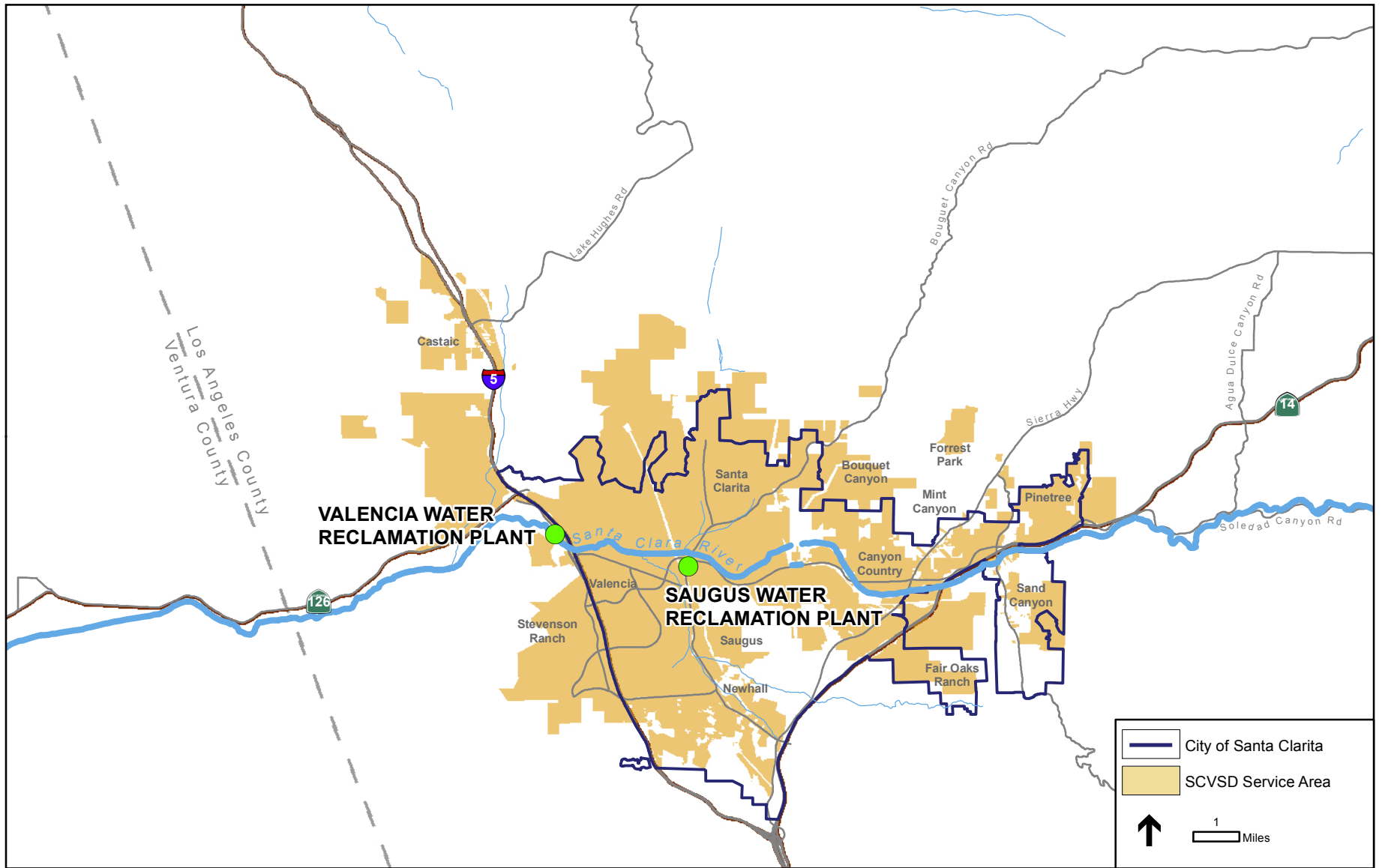
Valley residents who have removed their automatic water softeners are to be commended for their role in keeping the Valley's sewer service charge rates as low as possible. The removal of automatic water softeners significantly reduced the chloride level in the Valley's wastewater, which will save over \$100 million in costs to upgrade the wastewater treatment plants. Although the removal of automatic water softeners made major strides in lowering chloride level, it was not enough to bring the Valley's treatment plants into full compliance with the State-mandated limit, especially in dry years.

NEED FOR PROJECT

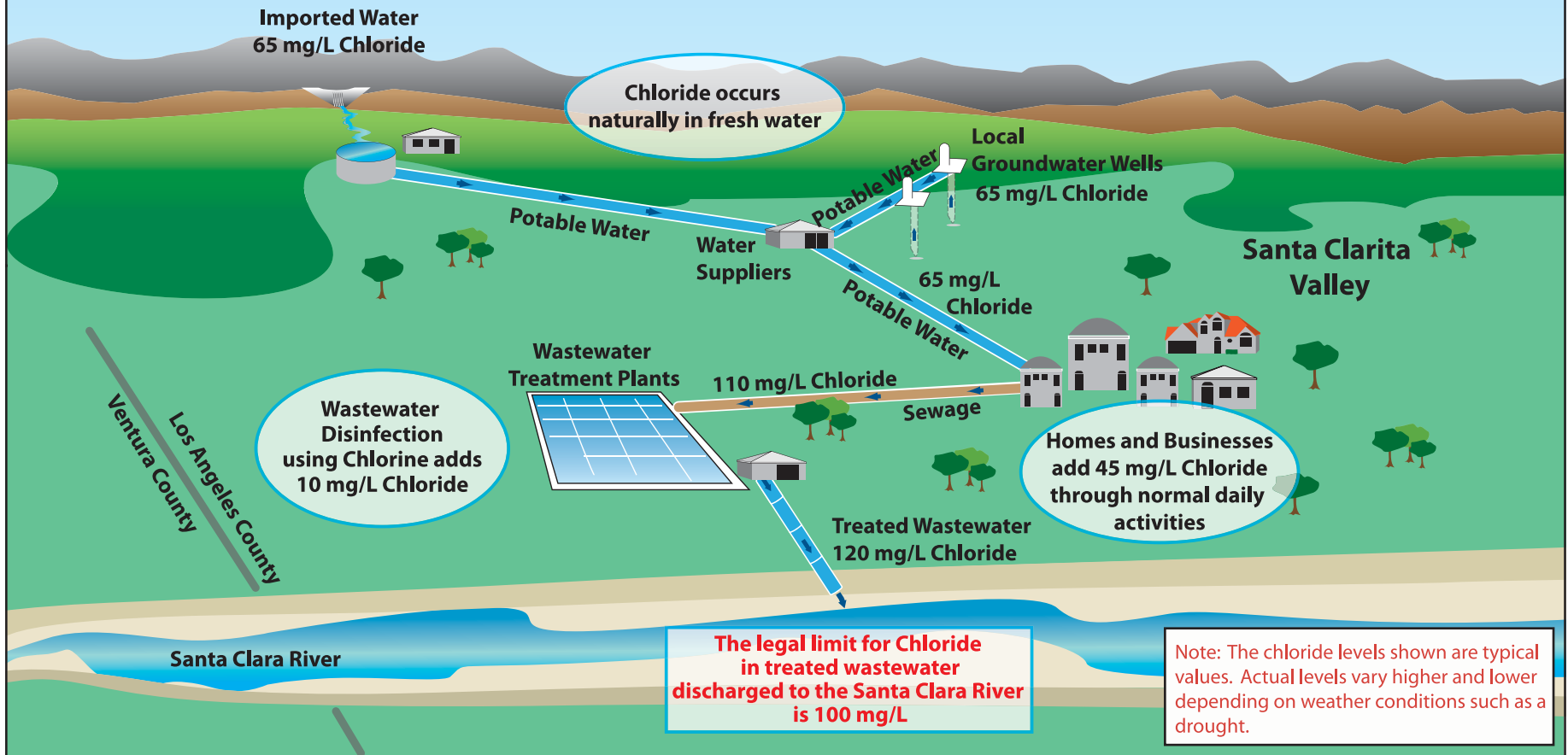
The chloride levels in the Valley's treated wastewater have changed over time due to variations in rainfall (more rainfall dilutes chloride levels) and how the water is utilized (for washing, flushing toilets, industrial processes, etc. – each type of use adds different amounts of chloride to the water). Automatic water softeners were one of the biggest contributors to the high chloride levels. Since a ban on automatic water softeners took effect, chloride levels have decreased significantly but still remain above the State-mandated limit as shown on Figure ES-3. The SCVSD has investigated and implemented all feasible source control strategies for further reducing chloride levels. Unless additional measures are taken to lower chloride levels, the SCVSD will not be able to meet the State-mandated chloride (salt) limit, and will be subject to State fines, as has already happened in Palmdale, Lancaster, and the community of Los Osos in San Luis Obispo County.

The SCVSD has challenged the State-mandated chloride limit for more than a decade as summarized below and as illustrated on Figure ES-4. The State rejected these challenges.

- In 2000, the SCVSD sought permanent relaxation of the limit from 100 to 143 milligrams per liter (mg/L). The RQWCB-LA rejected this request.
- In 2002, the RWQCB-LA adopted the Chloride Total Maximum Daily Load (State-mandated chloride limit) which established a 100 mg/L limit for chloride and higher interim limits. The SCVSD appealed these requirements to the State Water Resources Control Board.

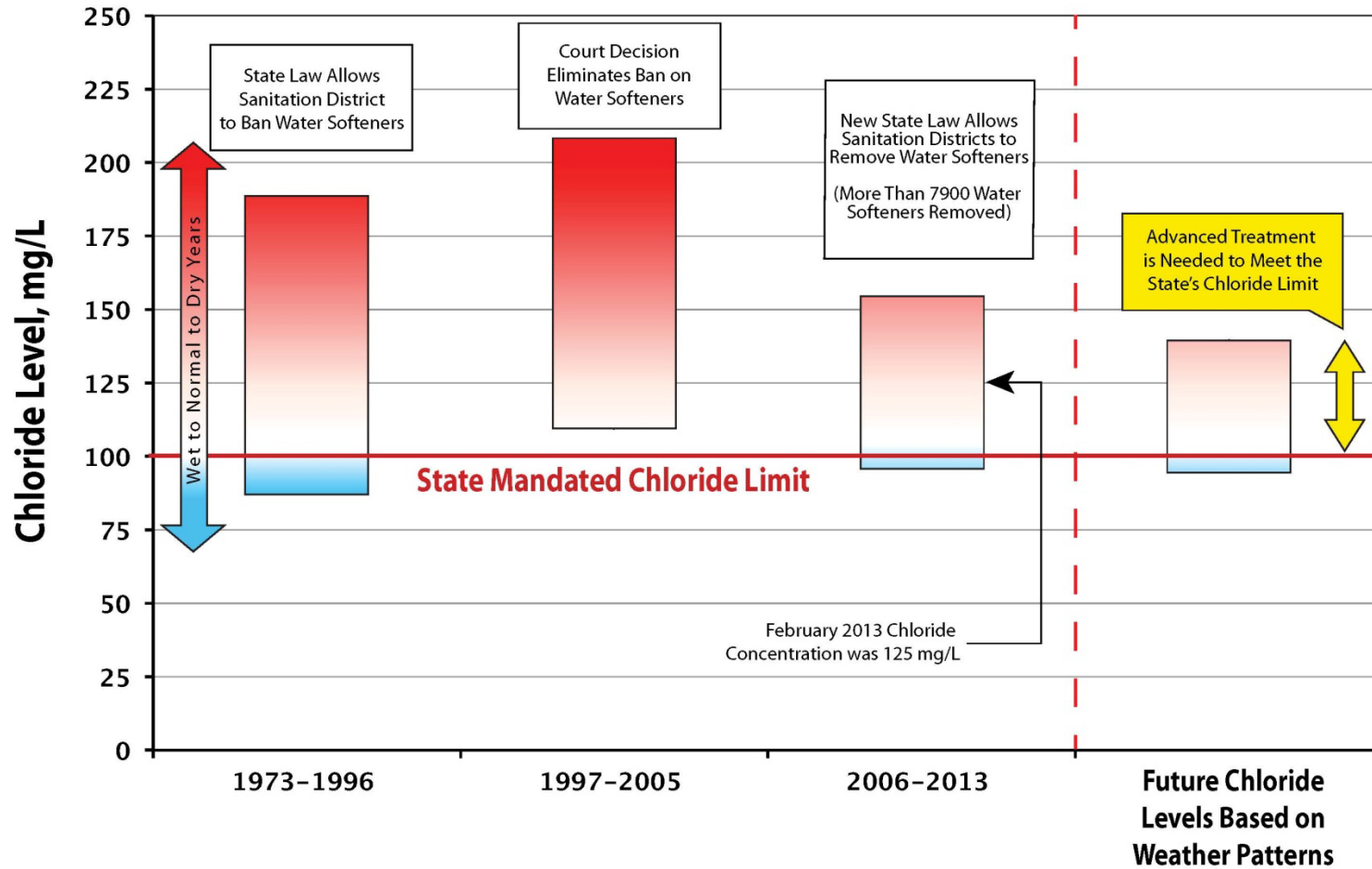


HOW DOES CHLORIDE GET INTO TREATED WASTEWATER ?



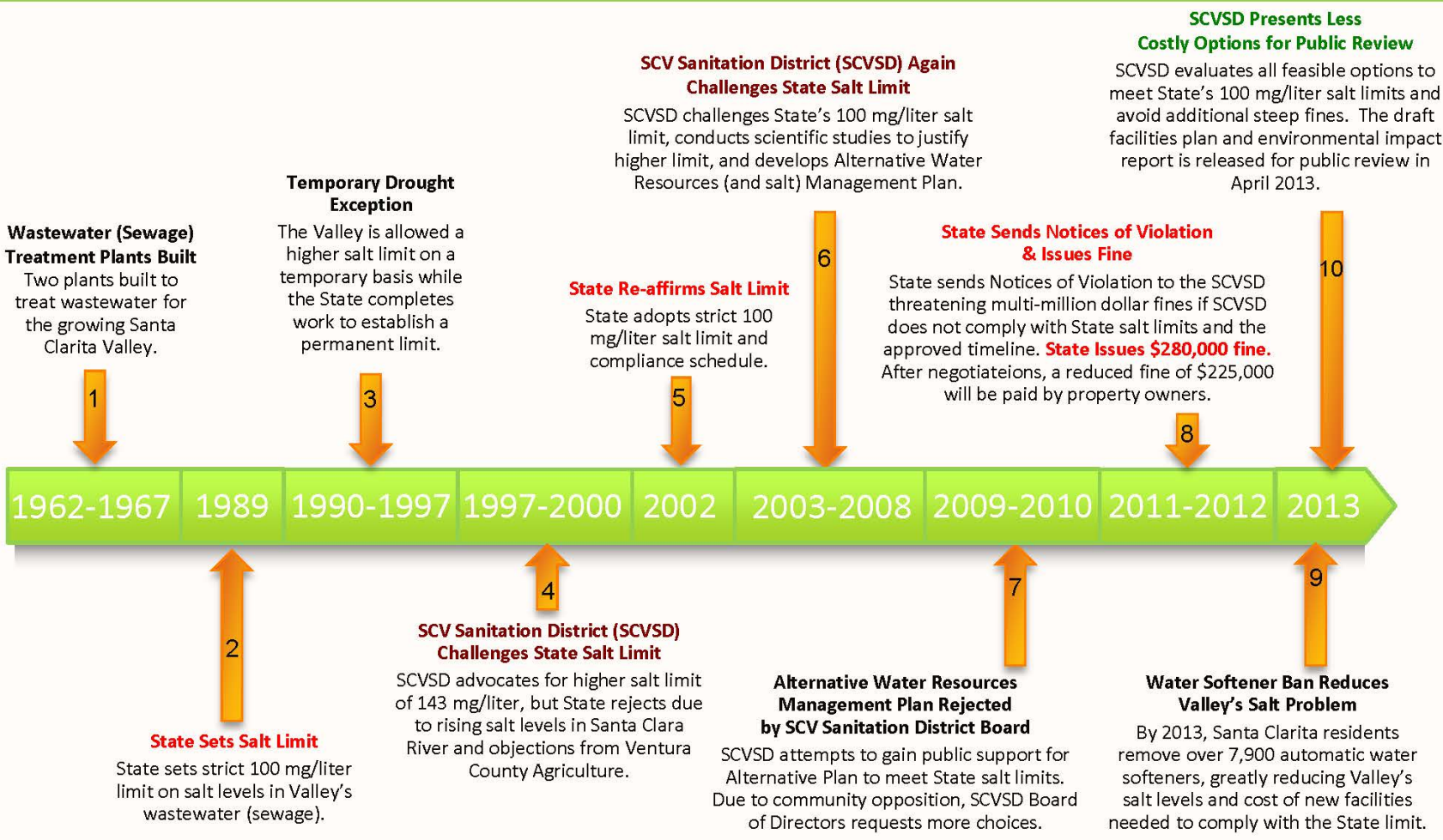
CHLORIDE LEVELS IN TREATED WASTEWATER

1973 - Future



Key Events - Chloride (Salt) in the Santa Clarita Valley

The timeline below lists the key actions the SCV Sanitation District Board has taken to preserve local control and to protect its customers – the Valley’s property owners – from unreasonable State fines and to develop the smallest and least costly solution to meeting the State’s legal requirements, since 1989, when the State set strict limits on the salt level in the Valley’s wastewater (sewage) discharge to the Santa Clara River.



- In 2004, a settlement with the State extended the compliance deadline to 2018 to include time for scientific studies on the chloride limit.
- In 2006, the RWQCB-LA shortened the compliance deadline to 2016 based on the scientific studies that had been completed. The SCVSD appealed this decision to the State Water Resources Control Board, but the State Water Resources Control Board approved the shortened deadline, and admonished all parties to work together for a solution.
- In 2008, the RWQCB-LA approved an alternative plan known as the Alternative Water Resources Management Plan (AWRM) and shortened the compliance deadline to May 4, 2015.
- As currently mandated by the RWQCB-LA, there are two ways to comply with chloride limit: implement a project that meet a 100 mg/L chloride limit or implement the AWRM. Either must be implemented by May 4, 2015.

If the SCVSD does not upgrade the Valley's wastewater treatment plants to meet the State's requirements and deadlines, the State must issue mandatory minimum fines and can issue larger fines for every day and gallon that chloride levels are above the limit. Fine amounts could reach many millions of dollars. In addition, if the Valley's treatment plants are not upgraded, the State could take away the local control provided by the SCVSD. Valley property owners would have to pay the State fines and would still have to pay the costs to upgrade the plants. This has already happened elsewhere in the State. The SCVSD's planning process is aimed at protecting Valley property owners from paying millions of dollars in fines and preventing loss of local control.

In 2007, property owners in Lancaster and Palmdale ended up paying both the costs of upgrading their wastewater treatment plants and \$4.75 million in fines. Due to their unique location, the Lancaster and Palmdale treatment plants do not have federal permits and are subject only to state laws and policies regarding fines. State law and policy at that time allowed nearly all of the fines to be spent on projects that benefited the local community. Due to subsequent changes in State policy in 2009 and the fact that SCVSD treatment plants have federal permits, a maximum of 50 percent of any fines imposed on the SCVSD could be used for local projects; the remainder would go to the State.

In the community of Los Osos in San Luis Obispo County, the State took control away from local authorities when property owners and local authorities refused to build a new community sewer system and treatment plant. The local Community Services District was fined \$11 million, went into bankruptcy, and State legislation was passed that took authority for the project away from the local district. Property owners are still subject to State fines and will have to pay for the costs of building new facilities selected by a State appointed authority.

PROJECT OBJECTIVES

The project objectives are contained in Section 1 of the Facilities Plan and paraphrased below:

- Provide compliance with the State-mandated chloride limit for SCVSD wastewater treatment and discharge facilities.
- Provide the necessary wastewater treatment facilities for chloride removal and leave space for future expansion of the Valencia Water Reclamation Plant.

- Provide a wastewater treatment and effluent management program that accommodates recycled water reuse opportunities in the Santa Clarita Valley while protecting beneficial uses of the Santa Clara River.

RANGE OF ALTERNATIVES

The SCVSD followed the process shown on Figure ES-5 to evaluate a wide range of approaches for complying with the State-mandated chloride limit. The approaches fall into four broad categories: (1) discontinuing the discharge of treated wastewater to the Santa Clara River, (2) removing chloride at the source before it gets to the wastewater treatment plant, (3) implementing additional treatment facilities to remove chloride at the wastewater treatment plants, and (4) a watershed-based compliance effort with Ventura County stakeholders (Phased Alternative Water Resources Management Plan [Phased AWRM]). These approaches are listed in Table ES-1. Only approaches meeting all project objectives in a cost-effective and environmentally sound way were deemed feasible.

Table ES-1. Evaluation of Compliance Approaches

Approaches	Conclusion
Alternative Discharge Location	
Convey Treated Effluent to Ventura for Ocean Discharge	Not Feasible
Convey Raw Sewage to Los Angeles Basin for Treatment and Ocean Discharge	Not Feasible
Convey All Treated Effluent to Los Angeles Basin for Ocean Discharge	Not Feasible
Complete Reuse by Community	Not Feasible
Complete Reuse by GW Recharge	Not Feasible
Convey Treated Effluent to Upstream Portion of Santa Clara River	Not Feasible
Convey Treated Effluent to Flood Control Channel for Ocean Discharge	Not Feasible
Convey Treated Effluent to an Existing Drinking Water Reservoir	Not Feasible
Discharge Treated Effluent to a Rubber Dam for Blending with Stormwater	Not Feasible
Source Control	
Satellite Chloride Treatment Systems	Not Feasible
Bay Delta Conveyance Facility	Not Ready in Time
Delivering Water from a Different Source	Not Feasible
Chloride Treatment at Drinking Water Treatment Plants	Not Feasible
Modify Plant Operations (UV Disinfection)	Feasible
New Treatment System	
Advanced Wastewater Treatment	Feasible
Supplemental Water	Feasible
Other	
Phased AWRM	Potentially Feasible
No Project Alternative	Not Feasible

Alternative Discharge Location

Eliminating discharge of treated wastewater to the Santa Clara River would potentially remove the need to comply with stringent chloride limit imposed by the State. Discharging the Valley's treated wastewater to other water bodies would be subject to State requirements that could allow more than 100 mg/L of chloride. The nine approaches under this broad category are not feasible because most of the treated wastewater that is currently discharged to the Santa Clara River must continue to be discharged to protect biological resources such as the unarmored threespine

Process Used to Analyze Alternatives



stickleback, an endangered species that is protected by State and Federal laws. As part of the EIR, a study was completed that identified a minimum combined discharge of 13 million gallons per day (mgd) being needed to protect the biological resources in the river (see Appendix 6-A).

Source Control

The source control approach involving delivery of the Valley's drinking water from a source with lower chlorides is not feasible. One potential source, the Los Angeles Aqueduct, is controlled by the City of Los Angeles, and the city's charter prohibits sale of that water to users outside the City of Los Angeles. The other potential source is lower chloride water from the south end of the Central Valley. However, all water imported from the Central Valley, including relatively-high chloride State Water Project water, is conveyed through the same pipes and channels, which prevents delivery of low chloride water. Providing a separate delivery system to avoid dilution with higher-chloride State Water Project water would be cost prohibitive.

Under current State Water Project operating conditions, chloride levels in the water supply vary during drought conditions that are expected to occur three out of every ten years. Per work done in conjunction with the Castaic Lake Water Agency, chloride levels in the Valley's water supply are expected to peak at 85 mg/L during drought and average at 70 mg/L during non-drought years. Higher chloride levels in the water supply result in higher levels in the treated wastewater. In May 2013, a complete Administrative Draft of the Bay Delta Conservation Plan was released for comment. The information in this draft indicates that implementation of the Bay Delta Conveyance Facility would provide a much smaller improvement in the chloride level of the water delivered to the Santa Clarita Valley during drought conditions than previously expected. Consequently, implementation of the Bay Delta Conveyance Facility would not be sufficient to provide compliance with the Chloride TMDL.

Removing chloride at the source would eliminate the need to remove it at the wastewater treatment plant. One approach considered involves treating the water supply at the drinking water treatment plants or groundwater wells to remove chloride. These were found to be cost prohibitive. About one-third of the Valley's drinking water supply goes to the sewer system. Thus, three times the volume of the water supply would require treatment versus treating only the wastewater, and the costs and energy usage would be three times higher.

The Valley's wastewater treatment plant operations could be modified so that they add less chloride. Ultraviolet light (UV) disinfection could be installed to replace the existing chlorine based disinfection system, which produces chloride as a byproduct. This would reduce the chloride levels in the wastewater but would not consistently provide compliance with the chloride limit. It could be combined with advanced treatment in a final alternative and is thus considered feasible.

New Treatment System

Two treatment options are potential approaches. Advanced treatment through microfiltration and reverse osmosis (MF/RO) or other similar technologies could be used to remove chloride at the Valley's wastewater treatment plant and result in compliance. Advanced treatment through MF/RO is considered feasible.

Supplemental water (low chloride groundwater) could be blended with treated wastewater before discharge to the Santa Clara River to dilute chloride levels in the treated wastewater. Supplemental water would not consistently provide compliance because the volume of

supplemental water required during severe droughts would likely exceed the amount available. However, this approach could be combined with an advanced treatment system to meet the chloride limit.

Other

Another approach involves revising the State-mandated chloride limit to allow application of the higher chloride limits granted in 2008 for the AWRM to a new project similar to the AWRM. This new project is known as the Phased AWRM alternative. The Phased AWRM involves postponing, potentially indefinitely, the advanced treatment (MF/RO), brine disposal, and permeate conveyance facilities until they are needed. The Phased AWRM could provide a significantly lower cost solution but, at present, does not comply with the State-mandated chloride limit. Under this alternative, the SCVSD would need the State to approve revised chloride limits of 130 mg/L during drought and 117 mg/L at other times measured in the Santa Clara River at the Los Angeles-Ventura County line.

Section 6 of the Facilities Plan provides a detailed description of these evaluations.

DISPOSAL OF BRINE WASTE

The brine waste from the MF/RO process must be disposed in a safe manner. For MF/RO systems built near the coast, brine can be disposed relatively simply and inexpensively by discharging brine into the ocean. For inland areas like the Valley, brine disposal is more difficult and expensive. The costs for brine disposal represent over 50 percent of total project costs. The SCVSD evaluated many processes to reduce the volume of brine waste, and a brine concentration system is recommended as part of the alternatives that include MF/RO.

Through extensive analysis, three top brine disposal methods were identified: (1) a brine pipeline to the Los Angeles Basin and discharge to a sewer owned by the Sanitation Districts of Los Angeles County (Sanitation Districts) that discharges to the ocean, (2) deep well injection (DWI) of brine over one mile below ground surface, and (3) truck transport of brine to the Los Angeles Basin and discharge to an existing Sanitation Districts' sewer that discharges to the ocean. After looking at several possible sites for a truck unloading terminal, the site located closest to the Valencia WRP was used for further analysis. The SCVSD worked with the City of Los Angeles to see if brine could be discharged into a City of Los Angeles-owned sewer in the San Fernando Valley. City of Los Angeles staff determined this would not be feasible. Unlike the hydraulic fracturing process (or “fracking”) used by the natural gas industry, deep well injection is operated at much lower pressures that do not fracture the underground rock formations, thereby, protecting groundwater that is used for domestic water suppliers. An extensive siting analysis was completed for potential injection sites, and two screening areas were identified, Site A and Site B. Site A is expected to accommodate all wells required, while Site B could only accommodate some of the wells required. Consequently, Site A is the preferred site because it is expected to handle all wells while use of Site B would require development of Site A as well as construction of two pipelines.

FINAL ALTERNATIVES

Four final alternatives were identified – one for each of three brine disposal methods and Phased AWRM. These alternatives are described in Table ES-2, and the components are briefly described below. The potential environmental impacts of each final alternative were analyzed in the EIR along with the “No Project” alternative as required by CEQA. Alternatives 1, 2, and 3 would comply with the chloride limit of 100 mg/L through treatment, source control, and brine disposal. Alternative 4, Phased AWRM, does not currently comply with the State-mandated chloride limit.

None of the final alternatives can be designed, permitted, and built before the State’s deadline of May 2015. The SCVSD will pursue a schedule extension from the RWQCB-LA. The process to extend the compliance deadline beyond May 2015 requires the RWQCB-LA to complete an amendment to the Basin Plan. This amendment must then be approved by the State Water Resources Control Board, State Office of Administrative Law, and the U.S. Environmental Protection Agency. The entire process can take eighteen months and must be completed prior to May 4, 2015. The SCVSD would begin this process after approval by the SCVSD Board of Directors of the final recommended project and certification of the Final EIR.

Table ES-2. Final Alternatives

Component	Alternative 1 (pipeline)	Alternative 2 (DWI)	Alternative 3 (trucking)	Alternative 4 (Phased AWRM)	
				Phase I	Phases I & II
UV Disinfection	—	@ VWRP & SWRP	@ VWRP & SWRP	@ VWRP & SWRP	@ VWRP & SWRP
MF/RO	7.1 mgd @ VWRP	5.6 mgd @ VWRP	5.6 mgd @ VWRP	—	2.0 mgd @ VWRP
Second-Pass RO	0.6 mgd	0.5 mgd	0.5 mgd	—	0.2 mgd
RO Product Water Conveyance System	2.3 mgd	1.8 mgd	1.8 mgd	—	2.0 mgd
Brine Disposal	0.6 mgd (Pipeline to Los Angeles Basin and JWPCP)	0.5 mgd (Deep Well Injection)	0.5 mgd (Trucking to LA Basin)	—	0.2 mgd (Deep Well Injection)
Salt Management Facilities	—	—	—	32 mgd via 11 Groundwater Extraction Wells	32 mgd via 11 Groundwater Extraction Wells
Supplemental Water	—	—	—	6.0 mgd max. 1.7 mgd avg.	6.0 mgd max. 1.7 mgd avg.

Disinfection

Unlike the current disinfection systems at the Saugus and Valencia WRPs that use a chlorine solution (similar to household bleach), which produces chloride as a byproduct, UV disinfection does not add chloride to the treated wastewater. Use of UV for wastewater disinfection has been growing over the past decade due to concerns with the disinfection byproducts produced during chlorine disinfection.

Advanced Treatment

Microfiltration followed by reverse osmosis (MF/RO) is the most common technology used to remove salts from water. MF acts as a pretreatment for the RO membranes. The RO process involves pumping treated wastewater at high pressures through a membrane and results in two liquid streams. The water passing through the membrane (product water) is extremely clean with low levels of chloride. The other stream, with much smaller volume, is a brine waste that must be disposed. To minimize construction and operating costs, the MF/RO system would be built and operated to produce just enough clean product water to create a blend of product water and treated wastewater that meets the State-mandated chloride limit of 100 mg/L. The brine waste volume can be further reduced through further treatment called brine minimization.

Location

Advanced treatment systems and UV disinfection would be built at the Valencia WRP; the only construction at Saugus WRP would be installation of UV disinfection. A pipeline would be built to convey MF/RO product water from Valencia WRP to blend with treated effluent at the Saugus WRP.

Phased AWRM

The Phased AWRM alternative consists of two phases. Phase I includes UV disinfection, supplemental water, and groundwater wells and distribution piping in the Piru groundwater basin located in Ventura County just west of the Los Angeles-Ventura County line. The wells and piping in Ventura County would be used to extract high chloride groundwater, blend it with lower chloride water, and discharge the resulting blend (having acceptable chloride level) downstream. The blend would provide a new water supply, and the extraction of high chloride groundwater would lead to lower groundwater chloride levels over time as the groundwater basin is replenished through rainfall percolation. Salt management facilities would provide regional water quality and supply benefits that were the primary reason why the RWQCB-LA and Ventura County interests agreed to support chloride limits higher than 100 mg/L under the AWRM. The concept of supplemental water is to blend treated wastewater with low chloride groundwater from the Valley's Saugus Formation to maintain compliance when chloride levels are peaking during drought. To ensure no net loss of water supply to the Valley, the Saugus Formation groundwater would be replaced with additional imported water from a water bank in the Central Valley of California.

Phase II represents a formal backup plan in case Phase I facilities cannot consistently provide compliance with the chloride limit. The specific conditions that would constitute lack of compliance and trigger Phase II are under negotiation with stakeholders and regulators. Phase II would add advanced treatment (MF/RO), brine minimization, brine disposal by DWI, and potentially a pipeline from the Valencia WRP to Ventura County to supply RO product water.

Support for Municipal Reuse of Recycled Water

The Castaic Lake Water Agency (CLWA) provides recycled water to the Santa Clarita Valley. In the most recent Recycled Water Master Plan and Urban Water Management Plan, an increasing need for recycled water was projected. Using recycled water reduces the use of potable water and eases concerns of a water shortage during drought. The California Legislature declared its intent that the State undertake all possible steps to encourage development of water recycling facilities so that recycled water may be made available to help meet the growing water requirements of the

State. The third project objective, to accommodate recycled water reuse opportunities, is consistent with State policy, and each alternative would include making recycled water available in quantities needed to support the Recycled Water Master Plan. Currently, the Valencia WRP and Saugus WRP produce tertiary-treated water that has suitable quality to meet Santa Clarita Valley recycled water needs. Depending on how quickly demand for recycled water increases relative to growth in wastewater flow due to population growth in the Santa Clarita Valley, discharge of treated wastewater from the WRPs to the Santa Clara River could decrease. However, the combined WRP discharges would not be lower than the minimum flow of 13 mgd identified to sustain the river's biological resources (see Appendix 6-A).

COMPARISON OF FINAL ALTERNATIVES

Table ES-3 presents costs for the final alternatives. Table ES-4 presents data on the energy usage, air emissions, greenhouse gases, and other environmental factors.

The values for Equivalent Annual Cost (EAC) provide a way to compare the life-cycle costs of alternatives. A project's capital costs are amortized over 20 years at the projected State Revolving Fund interest rate. The resulting annual capital payment is then added to the annual operations and maintenance (O&M) costs to determine the EAC.

When assessing the severity or significance of an impact as required by the California Environmental Quality Act (CEQA), a significance threshold or limit is used. If the project's potential impact is greater than this limit, the impact is said to be significant, and feasible mitigation measures are required to reduce the impact to less than significant level. Oxides of nitrogen called NO_x, and oxides of sulfur, called SO_x are "criteria air pollutants" and are used to determine air quality impacts. Both NO_x and SO_x are byproducts of combustion processes. Greenhouse gases generated by an alternative are expressed in metric tons of CO₂ equivalents (MTCO₂e).

Table ES-3. Final Alternative Costs

Component	Alternative 1 (pipeline)	Alternative 2 (DWI)	Alternative 3 (trucking)	Alternative 4 (Phased AWRM)	
				Phase I	Phases I & II
Capital Cost	\$150 M	\$130 M	\$105 M	\$110 M	\$225 M
O&M (avg.)	\$4.3 M/yr	\$4.1 M/yr	\$8.7 M/yr	\$3.8 M/yr	\$5.5 M/yr
Equivalent Annual Cost	\$14.2 M/yr	\$12.7 M/yr	\$15.6 M/yr	\$11.1 M/yr	\$20.4 M/yr

Table ES-4. Final Alternatives Energy/Air Emissions

	Alternative 1 (pipeline)	Alternative 2 (DWI)	Alternative 3 (trucking)	Alternative 4 (Phased AWRM)		CEQA Significance Limit
				Phase I	Phases I & II	
Construction						
Pounds per day of NO _x	374	233	215	73	181	100
Pounds per day of So _x	0.60	0.35	0.36	0.12	0.30	150
Operation						
GWh/yr (at design flow)	11.1	11.3	17.8	17.2	21.7	n/a
Operation and Construction						
MTCO ₂ e/yr (at design flow)	3,249	3,307	5,210	5,034	5,620	10,000
GWh/yr = million kilowatt-hour/year						
MTCO ₂ e/yr = metric tons CO ₂ equivalents/year						

Costs

There are two types of costs that must be funded by users of the Valley's sewer system: capital costs and annual O&M costs. Generally, alternatives with higher capital costs have lower annual O&M costs. Table ES-5 shows the total costs (capital plus O&M) spent by 2030 and 2045, about 10 and 25 years into operation of the new facilities. The data in Table ES-5 show that, over time, alternatives with lower annual O&M costs result in lower overall total costs than the low capital cost alternatives.

Table ES-5. Cumulative Project Costs

	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Phased AWRM)	
	(pipeline)	(DWI)	(trucking)	Phase I	Phases I & II
Total Capital & Interest ^a	\$201 M	\$173 M	\$140 M	\$147 M	\$300 M
O&M Costs Thru 2030	\$76 M	\$74 M	\$146 M	\$74 M	\$87 M
Capital + O&M Thru 2030	\$276 M	\$247 M	\$286 M	\$220 M	\$387 M
O&M Costs Thru 2045	\$219 M	\$211 M	\$438 M	\$106 M	\$256 M
Capital + O&M Thru 2045	\$420 M	\$398 M	\$578 M	\$335 M	\$556 M

^a Interest expense is based on a 20-year SRF loan at 2.8 percent.

Final Ranking

Table ES-6 ranks the final alternatives in terms of environmental/social factors while Table ES-7 ranks the final alternatives in terms of cost. Higher numbers indicate more desirable scores. Table ES-8 combines the two sets of rankings giving equal weighting to the environmental/social factors score and the cost score and identifies the overall ranking.

Table ES-6. Evaluation of Environmental/Social Factors for Final Alternatives

Criteria	5 Points Maximum for Each Criterion				
	Alternative 1 (pipeline)	Alternative 2 (DWI)	Alternative 3 (trucking)	Alternative 4 (Phased AWRM)	
				Phase I	Phases I & II
Air Emissions	3	4	1	5	3
Energy Usage/GHG	5	4	1	3	2
Biology	4	4	5	3	2
Cultural Resources	3	5	5	4	2
Hydrology	4	4	5	5	4
Traffic	4	5	2	5	4
Adaptability	2	3	5	4	3
Constructability	3	3	5	4	2
Institutional Feasibility	4	3	2	2	1
Public Acceptability	5	3	1	2	1
Risk	5	3	4	4	3
Time to Implement	3	4	5	4	4
Total Points (60 Possible)	45	45	41	45	31
Percent of Total	75%	75%	68%	75%	52%

Table ES-7. Cost Evaluation of Final Alternatives

Criteria	Alternative 1 (pipeline)	Alternative 2 (DWI)	Alternative 3 (trucking)	Alternative 4 (Phased AWRM)	
				Phase I	Phases I & II
Equivalent Annual Cost (15 points max)	9	11	7	15	4
Cumulative \$ Spent by 2030 ^a (15 points max)	10	13	9	15	5
Cumulative \$ Spent by 2045 ^a (10 points max)	7	8	4	10	4
Total Points (40 Possible)	26	32	20	40	13
Percent of Total	65%	80%	50%	100%	33%

^a "Cumulative \$ Spent" includes annualized capital cost and annual O&M cost.

Table ES-8. Overall Evaluation of Final Alternatives

Criteria	Points Possible	Alternative 1 (pipeline)	Alternative 2 (DWI)	Alternative 3 (trucking)	Alternative 4 (Phased AWRM)	
					Phase I	Phases I & II
Environmental/ Social	50	75% / 38	75% / 38	68% / 34	75% / 38	52% / 26
Cost	50	65% / 33	80% / 40	50% / 25	100% / 50	33% / 16
Overall Rating		71	78	59	88	42
Overall Ranking		3	2	4	1	5

RECOMMENDED PROJECT

Alternative 4 (Phased AWRM) Phase I is the top-ranked alternative but requires regulatory approvals to be implemented. If Phase II is triggered, Alternative 4 is the lowest-ranked and most costly alternative. However, based on the triggers being proposed, Phase II is not expected to be needed. Alternative 2 is the second-highest ranked alternative and would comply with the existing 100 mg/L chloride limit. Therefore, the recommended project consists of Alternative 4

and, as a backup, Alternative 2 if Alternative 4 does not receive the necessary regulatory approvals or if the final negotiated Phase II triggers are unacceptable to the SCVSD.

Alternative: Alternative 4 – Phased AWRM

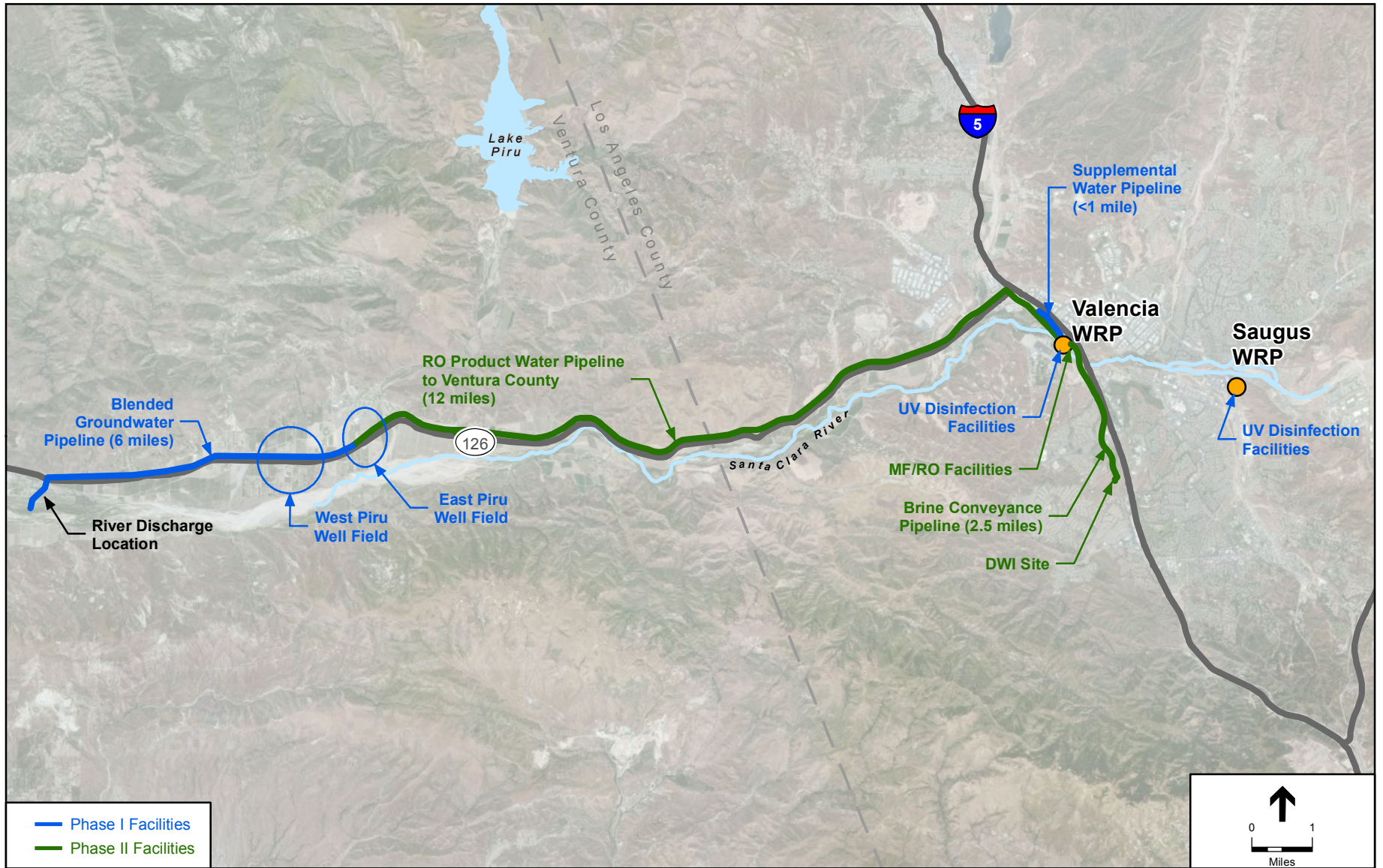
The Phased AWRM alternative consists of two phases. Phase I includes UV disinfection at both of the Valley’s Wastewater Reclamation Plants (WRPs), supplemental water, and groundwater wells and distribution piping in the Piru Subbasin located in Ventura County just west of the Los Angeles-Ventura County line (see Figure ES-6). The wells and piping in Ventura County would be used to extract high chloride groundwater, blend it with lower chloride water, and discharge the resulting blend (having acceptable chloride level) downstream. The blend would provide a new water supply, and the extraction of high chloride groundwater would lead to lower groundwater chloride levels over time. Phase II is a backup plan that would only be built if Phase I does not consistently provide compliance with the chloride limit. Phase II would add advanced treatment (MF/RO), brine minimization, brine disposal via deep well injection (DWI), and potentially a pipeline from the Valencia WRP to Ventura County to supply RO product water. There is the possibility of lower costs and environmental impacts for Phase II than shown in Tables ES-3, ES-4 and ES-5 through the replacement of the 12-mile pipeline with an alternate solution. However, these savings cannot be identified until regulatory requirements for this alternative are defined and finalized. There is also potential to share capital and operations and maintenance costs for supplemental water facilities between the SCVSD and Santa Clarita Valley water suppliers. However, no cost allocation has been agreed to, and the costs presented assume SCVSD pays the entire cost. MF/RO treatment would be constructed at Valencia WRP. Resulting brine would be further treated using additional RO membranes to reduce volume in a process called brine minimization. Minimized brine would then be injected over one mile beneath the earth’s surface in permeable soil through dedicated disposal wells. Deep well injection is a commonly used method of disposal of brine with 47,000 active wells in California alone. Unlike the hydraulic fracturing (or “fracking”) process used by the natural gas industry, deep well injection is operated at pressures well below the fracture pressure of the formation to ensure that confining geologic layers maintain their integrity and continue to protect groundwater resources. Site A, as shown in Figure ES-6, is the preferred injection site area. If there is a need to use Site B as a second or alternate injection site, the SCVSD would conduct appropriate environmental review as needed to comply with CEQA.

Backup: Alternative 2 – Microfiltration/Reverse Osmosis With Brine Disposal via Deep Well Injection

Alternative 2 consists of new treatment facilities consisting of UV disinfection at both of the Valley’s WRPs, MF/RO, brine minimization, and brine disposal via DWI (see Figure ES-7). MF/RO, brine minimization, and brine disposal facilities would be similar to those described in Alternative 4 but would need to be larger to meet the 100 mg/L chloride limit. A pipeline would also be constructed to convey product water from Valencia WRP to Saugus WRP for compliance at discharge from that facility.

Selection of Final Recommended Project

As part of the planning process, input from the public and interested parties has been used to guide the selection of the final recommended project. Four informational meetings and four public hearings were held to provide the public an opportunity to learn more about the process, discuss the process with SCVSD staff, and submit written and verbal comments on the Draft EIR for the administrative record.





Santa Clarita Valley Sanitation District Chloride Compliance Facilities Plan and EIR
Figure ES-7
 Alternative 2: MF/RO With Brine Disposal via Deep Well Injection

PROJECT SCHEDULES

The project would be divided into a number of construction projects all designed and constructed concurrently. The implementation schedules for the top-ranked and backup alternatives are shown on Figures ES-8 and ES-9. Despite these efforts, the work cannot be completed before the State's compliance deadline of May 2015. The SCVSD will pursue a schedule extension from the RWQCB-LA consistent with the schedules shown on Figures ES-8 and ES-9. While concluding negotiations regarding the Phased AWRM, it is recommended that efforts to obtain a permit from the EPA and install a test well for brine injection be started to allow timely implementation of the backup alternative in case the necessary regulatory approvals for the Phased AWRM are not obtained. The test well effort is a lengthy process and is needed to verify the geologic suitability for injection.

IMPACT ON RATES

Service Charges

The capital costs of the recommended project are considered to be "upgrade costs" and benefit existing users of the Valley's sewerage system by providing a higher level of treatment without providing additional capacity. These new capital costs would be paid by existing users through annual service charges. Annual operations and maintenance (O&M) costs are also paid by current users through annual service charges. Estimates of future service charges with no chloride treatment project and with the recommended project are shown in Table ES-9. Although Alternatives 1 and 3 are not part of the recommended project, projected service charges for those alternatives are provided for comparison. These estimates are for fiscal year 2019-20 (when the project would become operational). These projections are based on best available financing assumptions, anticipated inflation of construction costs, anticipated inflation of O&M costs, and an assumed series of annual increases to service charges. For comparison, the current annual sewer service charge rate is \$231 per sewage unit and is projected to increase to \$270 by fiscal year 2019-20 as shown in Table ES-9.

Table ES-10 shows the projected INCREASE in annual service charge for each recommended alternative for fiscal year 2019-20. The increase is shown in two parts: the portion for annual loan payments for capital costs, and the portion for operation and maintenance of the facilities. Note that the capital repayment portion of the service charge would stop after loans are repaid while operation and maintenance costs would continue into the future. Although Alternatives 1 and 3 are not part of the recommended project, projected increases in annual service charge for those alternatives are provided for comparison.

Table ES-9. Comparison of Projected Annual Service Charges at Project Completion (Fiscal Year 2019-20) Assuming Typically Sized Uses^{a,b}

Type of Use	With No Chloride Treatment Project	Alternative 1 (pipeline)	Alternative 2 (DWI)	Alternative 3 (trucking)	Alternative 4 (Phased AWRM)	
					Phase I	Phases I & II
Single-Family Home	\$270	\$430	\$410	\$430	\$395	\$535
Condominium	\$203	\$323	\$308	\$323	\$296	\$401
Store/Wholesale 5,000 ft ²	\$515	\$815	\$780	\$815	\$750	\$1,015
Office Building 5,000 ft ²	\$1,015	\$1,615	\$1,540	\$1,615	\$1,480	\$2,005
Warehouse 20,000 ft ²	\$820	\$1,300	\$1,240	\$1,300	\$1,180	\$1,600
Restaurant (Stand-alone on separate parcel) 3,000 ft ²	\$7,176	\$11,430	\$10,899	\$11,430	\$10,500	\$14,220
Shopping Center 15,000 ft ²	\$7,815	\$12,450	\$11,865	\$12,450	\$11,430	\$15,495
Laundromat 1,000 ft ²	\$3,848	\$6,128	\$5,843	\$6,128	\$5,629	\$7,624

^a These examples are based on standard charges and do not reflect special conditions that could reduce charges for a specific property such as very low water usage.

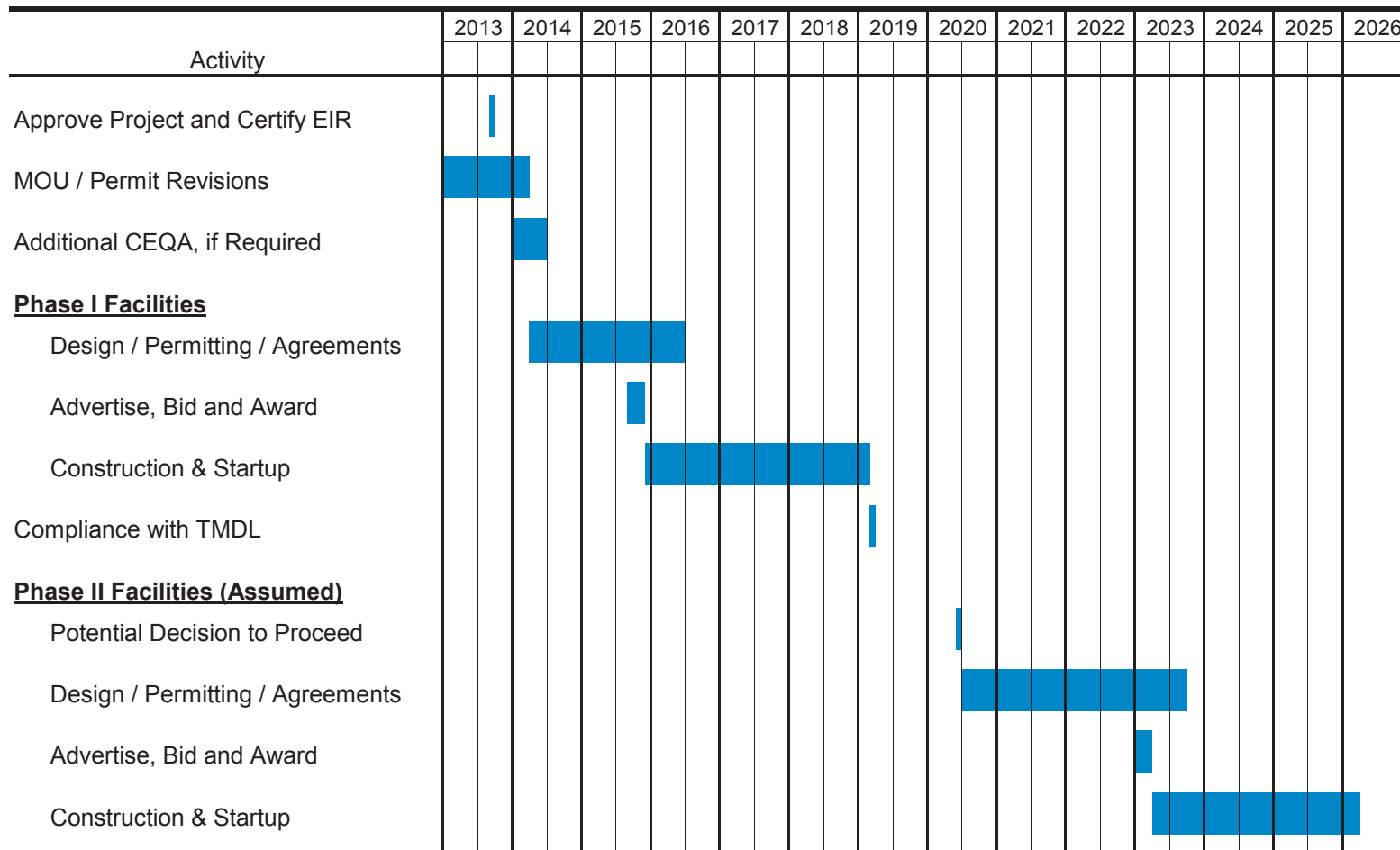
^b These projections are based on best estimates of construction costs, interest rates, inflation, and ramp-up in rates.

Table ES-10. Comparison of Projected Service Charge INCREASE in Fiscal Year 2019-20 Assuming Typically Sized Uses^{a,b}

Type of Use	Service Charge With No Chloride Treatment Project	Estimated Service Charge * INCREASE * With Chloride Project									
		Alternative 4 (Phased AWRM)									
		Alternative 1 (pipeline)		Alternative 2 (DWI)		Alternative 3 (trucking)		Phase I		Phases I & II	
		Capital	O&M	Capital	O&M	Capital	O&M	Capital	O&M	Capital	O&M
Single-Family Home	\$270	\$101	\$59	\$90	\$50	\$63	\$97	\$78	\$47	\$192	\$73
Condominium	\$203	\$76	\$44	\$67	\$37	\$47	\$73	\$58	\$35	\$144	\$54
Store/Wholesale 5,000 ft ²	\$515	\$189	\$111	\$171	\$94	\$117	\$183	\$146	\$89	\$363	\$137
Office Building 5,000 ft ²	\$1,015	\$378	\$222	\$338	\$187	\$235	\$365	\$289	\$176	\$718	\$272
Warehouse 20,000 ft ²	\$820	\$302	\$178	\$271	\$149	\$188	\$292	\$224	\$136	\$567	\$213
Restaurant (Stand-alone on separate parcel) 3,000 ft ²	\$7,176	\$2,680	\$1,574	\$2,399	\$1,324	\$1,665	\$2,589	\$2,065	\$1,259	\$5,105	\$1,939
Shopping Center 15,000 ft ²	\$7,815	\$2,920	\$1,715	\$2,610	\$1,440	\$1,815	\$2,820	\$2,246	\$1,369	\$5,568	\$2,112
Laundromat 1,000 ft ²	\$3,848	\$1,436	\$844	\$1,286	\$709	\$893	\$1,387	\$1,107	\$674	\$2,737	\$1,039

^a These examples are based on standard charges and do not reflect special conditions that could reduce charges for a specific property such as very low water usage.

^b These projections are based on best estimates of construction costs, interest rates, inflation, and ramp-up in rates.



Activity	2013		2014				2015				2016				2017				2018				2019			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	
Approve Project and Certify EIR		■																								
<u>UV, MF/RO & RO Product Water Conveyance</u>																										
Design / Permitting		■	■	■	■	■	■	■	■	■	■	■	■													
Advertise, Bid and Award													■													
Construction & Startup														■	■	■	■	■	■	■	■	■	■	■	■	■
<u>Deep Well Injection</u>																										
Design/Permit/Construct		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			

Connection Fees

New users who connect to the sewerage system (or existing users who significantly increase their discharge) would pay a one-time connection fee for the right to use the existing system, i.e., they must “buy-in” to the system. Once connected, new users would pay for on-going expenses through service charges. In order to treat all new users in a fair manner, the connection fee would increase over time. Thus, new users who join the system early will pay a lower connection fee but would also be paying the annual service charge over time. Table ES-11 provides current connection fees (fiscal year 2013-14) for all types of use.

Assuming no unexpected events occur, it is recommended that the adopted connection fee for fiscal year 2013-14 not be increased for costs related to the selected project until fiscal year 2019-20 (when the project is expected to become operational). At that time, the connection fee would increase by approximately \$200 per capacity unit. However, the increase could be more or less depending upon the alternative ultimately selected, the final cost of the selected alternative, and the percentage of the costs financed. In subsequent years, the connection fee would increase until the loan for the selected project is paid off. When the loan is paid off, the connection fee would have increased to fully reflect the capital cost of the selected alternative.

Table ES-11. Current Sewer Connection Fee Rates (Fiscal Year 2013-14)

Category	Unit Of Usage	Capacity Units	Connection Fee Rate Per Capacity Unit	Charge
Single-Family Home	Parcel	1.00	5,500	5,500.00
Condominium	No. of Units	0.75	5,500	4,125.00
Multi-Unit Residential	No. of Units	0.60	5,500	3,300.00
Mobile Home Park	Spaces	0.60	5,500	3,300.00
Drive-In Theatre	1,000 ft ²	0.08	5,500	440.00
Nursery/Greenery	1,000 ft ²	0.10	5,500	550.00
Light Manufacturing	1,000 ft ²	0.13	5,500	715.00
Lumber Yard	1,000 ft ²	0.13	5,500	715.00
Warehousing	1,000 ft ²	0.13	5,500	715.00
Open Storage	1,000 ft ²	0.13	5,500	715.00
Store	1,000 ft ²	0.38	5,500	2,090.00
Bank, Credit Union	1,000 ft ²	0.38	5,500	2,090.00
Service Shop, Auto Maint./Repair	1,000 ft ²	0.38	5,500	2,090.00
Animal Kennel	1,000 ft ²	0.38	5,500	2,090.00
Gas Station Auto	1,000 ft ²	0.38	5,500	2,090.00
Sales	1,000 ft ²	0.38	5,500	2,090.00
Wholesale Outlet	1,000 ft ²	0.38	5,500	2,090.00
Golf Course & Park	1,000 ft ²	0.38	5,500	2,090.00
Indoor Theatre	1,000 ft ²	0.47	5,500	2,585.00
Club & Lodge Halls	1,000 ft ²	0.47	5,500	2,585.00
Mortuary/Funeral Home	1,000 ft ²	0.71	5,500	3,905.00
Office Building	1,000 ft ²	0.76	5,500	4,180.00
Bowling/Skating Regional	1,000 ft ²	0.83	5,500	4,565.00
Mall	1,000 ft ²	0.98	5,500	5,390.00
Supermarket	1,000 ft ²	1.07	5,500	5,885.00
Medical, Dental, Veterinary Clinic	1,000 ft ²	1.14	5,500	6,270.00
Health Spa without Showers	1,000 ft ²	1.14	5,500	6,270.00

Table ES-11 (continued)

Category	Unit Of Usage	Capacity Units	Connection Fee Rate Per Capacity Unit	Charge
Night Club	1,000 ft ²	1.32	5,500	7,260.00
Auditorium/Amusement	1,000 ft ²	1.32	5,500	7,260.00
Shopping Center	1,000 ft ²	1.67	5,500	9,185.00
Health Spa with Showers Car	1,000 ft ²	2.27	5,500	12,485.00
Wash - Wand Restaurant	1,000 ft ²	2.65	5,500	14,575.00
Car Wash - Tunnel, Recycling	1,000 ft ²	6.89	5,500	37,895.00
Car Wash - Tunnel, No Recycling	1,000 ft ²	10.26	5,500	56,430.00
Laundromat	1,000 ft ²	13.97	5,500	76,835.00
Special Event Center	1,000 ft ²	14.45	5,500	79,475.00
	1,000 ft ²	0.04	5,500	220.00
Convalescent Home	Beds	0.47	5,500	2,585.00
Hotel/Motel/Rooming House	Rooms	0.47	5,500	2,585.00
Campground, Marina, RV Park	Spaces	0.23	5,500	1,265.00
Private School	1,000 ft ²	0.76	5,500	4,180.00
Library/Museum	1,000 ft ²	0.38	5,500	2,090.00
Post Office (Local)	1,000 ft ²	0.38	5,500	2,090.00
Post Office (Regional)	1,000 ft ²	0.13	5,500	715.00
Church	1,000 ft ²	0.19	5,500	1,045.00

Projected connection fees for selected user categories are presented in Table ES-12. Although Alternatives 1 and 3 are not part of the recommended project, projected connection fees for those alternatives are provided for comparison.

Table ES-12. Comparison of Projected Sewer Connection Fee Rates^a

Type of Use	Unit of Measure	Capacity Units per Unit of Measure	Connection Fee Rate per Capacity Unit	Current Charge per Unit of Measure (2013-14 through 2018-19)	Initial Increase in FY 2019-20 (for any alternative)	Remaining Increase Over Subsequent 20-30 Years in 2013 dollars				
						Alt. 1 (pipeline)	Alt. 2 (DWI)	Alt. 3 (trucking)	Alt. 4 (Phased AWRM)	
									Phase I Only	Phases I & II
Single-Family Home	Parcel	1.00	\$5,500	\$5,500	\$200	\$1,450	\$1,300	\$1,100	\$1,060	\$2,225
Condominium	No. of Units	0.75	\$5,500	\$4,125	\$150	\$1,088	\$975	\$825	\$795	\$1,669
Hotel/Motel/Rooming House	Rooms	0.47	\$5,500	\$2,585	\$94	\$682	\$611	\$517	\$498	\$1,046
Store	1,000 ft ²	0.38	\$5,500	\$2,090	\$76	\$551	\$494	\$418	\$403	\$846
Shopping Center	1,000 ft ²	1.67	\$5,500	\$9,185	\$334	\$2,422	\$2,171	\$1,837	\$1,770	\$3,718
Office Building	1,000 ft ²	0.76	\$5,500	\$4,180	\$152	\$1,102	\$988	\$836	\$806	\$1,691
Medical, Dental, Veterinary Clinic	1,000 ft ²	1.14	\$5,500	\$6,270	\$228	\$1,653	\$1,482	\$1,254	\$1,208	\$2,537
Restaurant	1,000 ft ²	6.89	\$5,500	\$37,895	\$1,378	\$9,991	\$8,957	\$7,579	\$7,303	\$15,330
Light Manufacturing	1,000 ft ²	0.13	\$5,500	\$715	\$32	\$189	\$169	\$143	\$139	\$289
Warehousing	1,000 ft ²	0.13	\$5,500	\$715	\$32	\$189	\$169	\$143	\$138	\$289

^a These projections are based on best estimates of construction costs, interest rates, inflation and ramp-up in rates.

Process to Change Rates

Approval of the Facilities Plan and EIR is required to secure SRF loans and to start design work on the selected project. However, approval of the Final Facilities Plan and EIR would not provide legal authority to increase rates. A separate process would be used for setting rates that would involve multiple opportunities for public input. At a minimum, the SCVSD must comply with Proposition 218, which would entail mailing public notices to approximately 70,000 property owners at least 45 days before the SCVSD Board of Directors holds a public hearing in Santa Clarita. Each public notice, in addition to providing information about the public hearing, must include the actual charges to be imposed on a given parcel and the basis for those charges.

In practice, the SCVSD typically goes much further than what is required by law. The public notices explain what projects are being undertaken, the cost of these projects, and the anticipated future rates. The notices also include a series of commonly asked questions and provide answers to those questions. Last, the notices reference an internet site where, in addition to supplementary information, Spanish language translations are provided. Prior to the public hearing, the SCVSD also conducts a series of information meetings, usually consisting of a brief presentation followed by a question and answer period.

ENVIRONMENTAL REVIEW

In conformance with the California Environmental Quality Act (CEQA), a Draft Environmental Impact Report (EIR) was prepared to assess the environmental impacts of the final alternatives.

California Environmental Quality Act

CEQA requires public agency decision makers to consider and document the environmental effects of their actions. CEQA applies to projects proposed to be undertaken, or requiring approval, by state and local government agencies. Proposed projects undergo an environmental review process to determine whether there may be any environmental impacts.

When a proposed project could result in significant environmental effects, an EIR is prepared. CEQA requires that the EIR evaluate the impacts of the project on the environmental resources of the state and identify ways to mitigate or avoid significant impacts. In instances where significant impacts cannot be mitigated or avoided, the project may nonetheless be carried out or approved if the lead agency finds that economic, legal, social, technological, or other benefits outweigh the unavoidable significant environmental effects.

Scope of Analysis

The Draft EIR provides a project-level environmental assessment of the potential environmental impacts of the final alternatives identified in the Draft Facilities Plan. The impacts from both construction and operation are considered as direct and indirect impacts.

No Project Alternative

Pursuant to CEQA, an EIR must evaluate a No Project Alternative. A No Project Alternative describes the no-build scenario and what would be reasonably expected to occur in the foreseeable future if the project were not approved. In this alternative, the SCVSD would take no additional

actions towards compliance with the State-mandated chloride limit and would exceed the chloride limit thereby violating discharge requirements set by the State through the RWQCB-LA.

Nonetheless, this No Project Alternative was analyzed in the EIR as required by CEQA. This alternative would result in fewer impacts in all areas except hydrology and water quality. The No Project Alternative would eliminate a significant unavoidable impact to air quality that would occur during construction but the No Project Alternative would result in a significant unavoidable impact to water quality because it would lead to a violation of an environmental regulation. Overall, this alternative is judged to have greater environmental impacts than any of the final alternatives. Exceeding the chloride limit would result in fines to the SCVSD, which would be passed on to the SCVSD ratepayers. The SCVSD ratepayers would pay the cost of the fines in addition to the cost of facilities to comply with the State-mandated chloride limit.

CEQA Environmental Baseline

To determine if there would be significant impacts, environmental conditions that would result from implementation of the final alternatives are compared to baseline conditions. In an EIR, the baseline is generally defined as the physical environmental conditions in the vicinity of a proposed project that exist at the time the Notice of Preparation (NOP) was published (January 2012).

Threshold of Significance

The threshold of significance for a given environmental effect is the level at which the SCVSD finds an effect of an alternative to be significant. A threshold of significance can be defined as a “quantitative or qualitative standard or set of criteria, pursuant to which significance of a given environmental effect may be determined” (CEQA Guidelines). The thresholds of significance provided in the CEQA Guidelines have been used as the basis of the environmental impact analysis for this EIR.

Mitigation Measures

The EIR considers feasible mitigation measures to reduce a significant environmental impact to a less than significant level. To reduce significant effects, mitigation measures must avoid, minimize, rectify, reduce, eliminate, or compensate for a given impact. After the EIR is certified, a mitigation monitoring program would be adopted to ensure that the mitigation measures are fully implemented.

Significant Unavoidable Impacts

A significant unavoidable impact results if, even with mitigation, the impact cannot be reduced to less than significant level, or if no feasible mitigation exists.

Significant and unavoidable impacts to air quality would occur during construction of Alternatives 1, 2, 3, and Phase II of Alternative 4. Construction of these alternatives would exceed the South Coast Air Quality Management District’s (SCAQMD) daily regional threshold for NO_x and could violate or contribute substantially to an existing or projected air quality violation even after mitigation. Construction of Alternatives 1, 2, 3, and Phase II of Alternative 4 would result in a cumulatively considerable net increase of criteria pollutants that cannot be mitigated to a less than significant level. All other impacts are less than significant without mitigation or less than significant with mitigation.

Areas of Controversy and Issues to be Resolved

In accordance with §§15063 and 15082 of CEQA Guidelines, the SCVSD, as the Lead Agency, prepared an NOP for the SCVSD Chloride Compliance Facilities Plan and EIR. Based on comments received on the NOP, known areas of controversy include:

- The basis for the State-mandated chloride limit established by the RWQCB-LA.
- Potential impacts to downstream beneficial uses if the Valley's wastewater reclamation plant discharges are reduced from current levels.

An additional area of controversy, trucking brine into the City Terrace area for disposal, was identified based on comments received during the review period of the Draft Facilities Plan and EIR. Therefore, brine disposal via trucking was eliminated from the recommended project.

The primary issue yet to be resolved is the receipt of regulatory approval for Alternative 4 to determine which portion of the recommended project will be implemented.

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Table ES-13 presents a summary of the potential environmental impacts and mitigation measures for each alternative.

Table ES-13. Significant Impacts and Mitigation Measures

Impacts	Mitigation Measures	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Phase I)	Alternative 4 (Phase I & II)
Air Quality						
<p>10-2: The proposed project could violate air quality standards or contribute substantially to an existing or projected air quality violation.</p>	<p>AQ-1: Equipment Tier Requirements. All construction equipment shall meet or exceed Environmental Protection Agency Tier 3 certification requirements when feasible. The contractor shall be required to document efforts to utilize Tier 3 equipment including providing justification when using Tier 3-certified or better equipment is not feasible. At a minimum, diesel-powered construction equipment that meets Tier 2 emission standards shall be used.</p>	<p>MF/RO (C)(SU) UV disinfection at SWRP (C)(SU) UV disinfection at VWRP (C)(SU) RO product water pipeline (C)(SU) RO product water pump station (C)(SU) Brine disposal pipeline (C)(SU) VWRP brine disposal pipeline pump station (C)(SU) Offsite brine disposal pipeline pump station (C)(SU)</p>	<p>MF/RO (C)(SU) UV disinfection at SWRP (C)(SU) UV disinfection at VWRP (C)(SU) RO product water pipeline (C)(SU) RO product water pump station (C)(SU) DWI site (C)(SU) DWI brine pipeline (C)(SU) DWI pump station (C)(SU)</p>	<p>MF/RO (C)(SU) UV disinfection at SWRP (C)(SU) UV disinfection at VWRP (C)(SU) RO product water pipeline (C)(SU) RO product water pump station (C)(SU) Truck loading terminal (C)(SU) Truck unloading terminal (C)(SU)</p>		<p>MF/RO (C)(SU) RO product water pipeline (C)(SU) RO product water pump station (C)(SU) Brine disposal pipeline (C)(SU) VWRP brine disposal pipeline pump station (C)(SU) Offsite brine disposal pipeline pump station (C)(SU) DWI site (C)(SU) DWI brine pipeline (C)(SU) DWI pump station (C)(SU) Truck loading terminal (C)(SU) Truck unloading terminal (C)(SU)</p>

Impacts	Mitigation Measures	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Phase I)	Alternative 4 (Phase I & II)
10-2 (cont.)	<p>AQ-2: Dust Control Measures. The contractor shall be required to implement dust control measures throughout all phases of construction. Control measures shall be in accordance with the Ventura County Air Pollution Control District's requirements and recommendations.</p> <p>AQ-3: Ozone Precursor Emission Reduction. The contractor shall be required to implement control measures throughout all phases of construction to mitigate ozone precursor emissions from construction motor vehicles. Control measures shall be in accordance with the Ventura County Air Pollution Control District's requirements and recommendations.</p>				<p>East Piru well field (C)(LTSM)</p> <p>West Piru well field (C)(LTSM)</p> <p>East Piru well field pump station (C)(LTSM)</p> <p>West Piru well field pump station (C)(LTSM)</p> <p>East Piru well field extraction pipeline (C)(LTSM)</p> <p>West Piru well field extraction pipeline (C)(LTSM)</p> <p>Blended groundwater pipeline (C)(LTSM)</p>	<p>East Piru well field (C)(LTSM)</p> <p>West Piru well field (C)(LTSM)</p> <p>East Piru well field pump station (C)(LTSM)</p> <p>West Piru well field pump station (C)(LTSM)</p> <p>East Piru well field extraction pipeline (C)(LTSM)</p> <p>West Piru well field extraction pipeline (C)(LTSM)</p> <p>Blended groundwater pipeline (C)(LTSM)</p> <p>Ventura County RO product water pipeline (C)(LTSM)</p> <p>Ventura County RO product water pump station (C)(LTSM)</p>

Impacts	Mitigation Measures	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Phase I)	Alternative 4 (Phase I & II)
10-2 (cont.)	AQ-4: NO_x Emission Reduction. The brine hauling contractor shall be required to only use trucks that meet or exceed the 2010 U.S. Environmental Protection Agency standards for NO _x .			Truck unloading terminal (O)(LTSM) Truck loading terminal (O)(LTSM) Trucking route (O)(LTSM)		Truck unloading terminal (O)(LTSM) Truck loading terminal (O)(LTSM) Trucking route (O)(LTSM)
10-3: The proposed project could result in a cumulatively considerable net increase of criteria pollutants for which the project region is classified as non-attainment under applicable federal or state ambient air quality standards.	Implement AQ-1.	MF/RO (C)(SU) UV disinfection at SWRP (C)(SU) UV disinfection at VWRP (C)(SU) RO product water pipeline (C)(SU) RO product water pump station (C)(SU) Brine disposal pipeline (C)(SU) VWRP brine disposal pipeline pump station (C)(SU) Offsite brine disposal pipeline pump station (C)(SU)	MF/RO (C)(SU) UV disinfection at SWRP (C)(SU) UV disinfection at VWRP (C)(SU) RO product water pipeline (C)(SU) RO product water pump station (C)(SU) DWI site (C)(SU) DWI brine pipeline (C)(SU) DWI pump station (C)(SU)	MF/RO (C)(SU) UV disinfection at SWRP (C)(SU) UV disinfection at VWRP (C)(SU) RO product water pipeline (C)(SU) RO product water pump station (C)(SU) Truck loading terminal (C)(SU) Truck unloading terminal (C)(SU)		MF/RO (C)(SU) RO product water pipeline (C)(SU) RO product water pump station (C)(SU) Brine disposal pipeline (C)(SU) VWRP brine disposal pipeline pump station (C)(SU) Offsite brine disposal pipeline pump station (C)(SU) DWI site (C)(SU) DWI brine pipeline (C)(SU) DWI pump station (C)(SU) Truck loading terminal (C)(SU) Truck unloading terminal (C)(SU)

Impacts	Mitigation Measures	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Phase I)	Alternative 4 (Phase I & II)
<p>10-3 (cont.)</p>	<p>Implement AQ-4.</p>			<p>Truck unloading terminal (O)(LTSM) Truck loading terminal (O)(LTSM) Trucking route (O)(LTSM)</p>		<p>Truck unloading terminal (O)(LTSM) Truck loading terminal (O)(LTSM) Trucking route (O)(LTSM)</p>
<p>Biological Resources</p>						
<p>11-1: The proposed project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.</p>	<p>BIO-1: Preconstruction Breeding Bird Surveys. If construction of select pipeline segments is within or immediately adjacent to native vegetation during the bird nesting period (typically February 1 through August 31), preconstruction surveys for nesting/roosting bird species shall be conducted by a qualified biologist no more than 5 days prior to the start of construction. The select pipeline segments shall consist of those that are within or adjacent to Los Angeles County Significant Ecological Areas Nos. 23 and 64, the portion of The Old Road between Calgrove Boulevard and Sierra Highway, the blended groundwater pipeline between State Route 126 and the outfall at the Santa Clara River bank, and any blended groundwater pipeline construction activity within 100 feet of the Santa Clara River. The preconstruction surveys shall be limited to areas of native habitat located directly adjacent to and extending up to 500 feet from the construction area. The preconstruction surveys shall include species protected under the Migratory Bird Treaty Act, including raptors.</p> <p>Active nest sites identified during the preconstruction surveys shall be avoided and a non-disturbance buffer zone established as determined by a qualified biologist. Buffer distances shall be 150 feet for common birds, 300 feet for special-status birds, and 500 feet for raptors. The size of individual buffers may be modified based on site-specific conditions and pre-existing disturbance levels (e.g., species-specific information; ambient conditions and birds' habituation to them; and the terrain, vegetation, and birds' lines of sight between the project activities and the nest and foraging areas), as determined by a qualified biologist. Documentation of any buffer zone modifications shall be maintained and submitted to the Santa Clarita Valley Sanitation District (SCVSD). The buffer zone shall be delineated in the field with flagging, stakes, or construction fencing, and all clearing and grubbing activities shall remain outside the demarcated area. Nest sites shall be avoided until the adults and young are no longer reliant on the nest site for survival as determined by a qualified biologist.</p>	<p>RO Product water pipeline (C)(LTSM) Brine disposal pipeline (C)(LTSM)</p>	<p>RO Product water pipeline (C)(LTSM) DWI site (C)(LTSM)</p>	<p>RO Product water pipeline (C)(LTSM) Truck loading terminal (C)(LTSM)</p>	<p>Blended groundwater pipeline (C)(LTSM) Supplemental water pipeline (C)(LTSM)</p>	<p>Blended groundwater pipeline (C)(LTSM) Supplemental water pipeline (C)(LTSM) RO Product water pipeline (C)(LTSM) Brine disposal pipeline (C)(LTSM) DWI site (C)(LTSM) Truck loading terminal (C)(LTSM)</p>

Impacts	Mitigation Measures	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Phase I)	Alternative 4 (Phase I & II)
<p>11-1 (cont.)</p>	<p>BIO-1 (cont.) Project personnel, including all contractors working on site, shall be instructed on the sensitivity of the area. Documentation of all surveys and recommended protective measures shall be maintained by the biologist and provided to the SCVSD on a regular basis.</p>					
	<p>BIO-2: Special-Status Species Survey. If it is determined that the deep well injection site will be located in undisturbed native vegetation, a qualified biologist shall survey the site for special-status plant and wildlife species prior to ground disturbance. The preconstruction survey for wildlife shall occur no more than 1 year before ground-disturbing activities within undisturbed native habitats to be considered valid. The rare plant surveys shall occur during the spring when plants are more easily identified and no more than 2 years before ground disturbing activities within undisturbed native habitats. The qualified biologist shall walk transects spaced 20 feet apart or at an appropriate distance to obtain 100-percent visual coverage within the area where disturbance may occur. No more than 2 weeks prior to construction, a biologist with a California Department of Fish and Wildlife Scientific Collection Permit shall capture and release terrestrial special-status species to nearby suitable habitat located outside of the construction limits. If a bat maternity roost is observed, a 500-foot “no disturbance” buffer shall be implemented around the roost and construction activities within the buffer shall be limited to daylight hours until the roost is determined by a qualified biologist to no longer be active.</p>		<p>DWI site (C)(LTSM)</p>			<p>DWI site (C)(LTSM)</p>
	<p>BIO-3: Southern California Steelhead Plan. Prior to discharging water from the blended groundwater pipeline to the Santa Clara River, a plan shall be developed to identify discharge conditions throughout the year that are compatible with southern California steelhead management goals through the portion of the Santa Clara River channel between the Fillmore Fish Hatchery and the Freeman Diversion. The plan may involve modifying the discharge rate during low flow season. The plan shall be compatible with local habitat conservation planning efforts approved by the National Marine Fisheries Service. The plan shall include operational requirements to ensure compatibility with adopted conservation plans and with all biological resources in the river, including identification of seasonal discharge restriction periods, monitoring, and reporting to wildlife agencies.</p>				<p>Blended groundwater pipeline (O)(LTSM)</p>	<p>Blended groundwater pipeline (O)(LTSM)</p>

Impacts	Mitigation Measures	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Phase I)	Alternative 4 (Phase I & II)
11-1 (cont.)	BIO-4: Arroyo Toad Survey. Prior to discharging water from the blended groundwater pipeline to the Santa Clara River, a qualified biologist shall conduct a survey (or review a survey performed within the past 3 years) of the Santa Clara River between the Fillmore Fish Hatchery and the Freeman Diversion for arroyo toads. If arroyo toads are identified in this segment of the river, a plan shall be developed to determine discharge conditions during the breeding and aestivation periods that are compatible with the arroyo toad management goals.				Blended groundwater pipeline (O)(LTSM)	Blended groundwater pipeline (O)(LTSM)
11-2: The proposed project could have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS.	BIO-5: Oak Tree Preservation. Native and heritage oak trees shall be avoided to the extent feasible. If oak trees occur in close proximity to the construction zone, protective fencing shall be erected at least 5 feet outside of the tree drip line or 15 feet from the tree trunk, whichever is greater, to prevent any disturbances to the tree trunk, branches, or root system. Protected trees and heritage oak trees that cannot be avoided shall be replaced at a 2:1 and 10:1 ratio, respectively, as required by the Los Angeles County Oak Tree Ordinance.	Brine disposal pipeline (C)(LTSM)	DWI site (C)(LTSM)			Brine disposal pipeline (C)(LTSM) DWI site (C)(LTSM)
11-4: The proposed project could interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Implement BIO-3.				Blended groundwater pipeline (O)(LTSM)	Blended groundwater pipeline (O)(LTSM)
11-5: The proposed project could conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Implement BIO-3.				Blended groundwater pipeline (O)(LTSM)	Blended groundwater pipeline (O)(LTSM)
	Implement BIO-5.	Brine disposal pipeline (C)(LTSM)	DWI site (C)(LTSM)			Brine disposal pipeline (C)(LTSM) DWI site (C)(LTSM)
11-6: The proposed project could conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP.	Implement BIO-5.		DWI site (C)(LTSM)			DWI site (C)(LTSM)

Impacts	Mitigation Measures	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Phase I)	Alternative 4 (Phase I & II)
Cultural Resources						
<p>12-1: The proposed project could potentially cause a substantial adverse change in the significance of a historical or archaeological resource pursuant to §15054.5.</p>	<p>CUL-1: Qualified Archaeologist. Prior to the start of ground-disturbing activities, a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior’s Professional Qualification Standards for archaeology (Department of the Interior 2008), shall be retained to carry out all mitigation measures related to archaeological resources. The qualified archaeologist shall be available on an on-call basis throughout ground-disturbing activities.</p> <p>CUL-2: Cultural Resources Training. Prior to the start of ground-disturbing activities, all construction forepersons and field supervisors conducting or overseeing subsurface excavations shall be trained in person by a qualified archaeologist, or an archaeological monitor working under the direction of a qualified archaeologist, to recognize potential cultural resources. All other construction workers shall be trained to recognize cultural resources, but training may include a video recording of the initial training and/or the use of written materials rather than in-person training. In addition, the training shall describe procedures to follow in the event of a potential cultural resources discovery.</p>	<p>Brine disposal pipeline (C)(LTSM)</p>			<p>Blended groundwater pipeline (C)(LTSM)</p>	<p>Blended groundwater pipeline (C)(LTSM)</p> <p>Ventura County RO product water pipeline (C)(LTSM)</p> <p>Brine disposal pipeline (C)(LTSM)</p>
	<p>CUL-3: Archaeological Resources Testing Plan. Prior to the start of ground-disturbing activities, a qualified archaeologist shall develop and implement an evaluation and testing plan for subsurface investigation, as applicable, for the portions of the project area located within or immediately adjacent to sites CA-LAN-2233, CA-LAN-2234, CA-LAN-2681/H, and CA-LAN-1262H. The plan shall describe the vertical and horizontal extent of cultural deposits, and state whether the deposit qualifies as a historical resource or as a unique archaeological resource under the California Environmental Quality Act.</p> <p>CUL-4: Archaeological Resources Treatment Plan. If significant intact cultural deposits are discovered within the project area located within or immediately adjacent to sites CA-LAN-2233, CA-LAN-2234, CA-LAN-2681/H, and CA-LAN-1262H, and avoidance is not feasible, then a qualified archaeologist shall develop and implement, as applicable, an archaeological resources treatment plan for data recovery. The plan shall include provisions for analysis of data in a regional context; curation of artifacts and data at an approved facility; and dissemination of reports to local and state repositories, libraries, and interested professionals.</p>	<p>Brine disposal pipeline (C)(LTSM)</p>				<p>Ventura County RO product water pipeline (C)(LTSM)</p> <p>Brine disposal pipeline (C)(LTSM)</p>

Impacts	Mitigation Measures	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Phase I)	Alternative 4 (Phase I & II)
<p>12-1 (cont.)</p>	<p>CUL-5: Cultural Resources Monitoring and Mitigation Plan. A qualified archaeologist shall develop a cultural resources monitoring and mitigation plan. The plan shall:</p> <ul style="list-style-type: none"> • Be based on grading plans, the Phase I Cultural Resources Assessment Report (Ehringer and Vader 2013), and any other relevant information • Specify the location, duration and timing of monitoring, which shall occur from the time of initial ground disturbance until excavations reach a depth at which the potential for encountering buried archaeological deposits is greatly reduced • Establish response procedures applicable to the discovery of unanticipated significant archaeological resources • State that avoidance or preservation in place shall be the preferred means of mitigating impacts to historical resources • Include procedures for re-direction of ground-disturbing activities in the event of a discovery, evaluation and protection of resources encountered, notification protocols, and treatment options if avoidance is determined to be infeasible • Be developed in coordination with the Santa Clarita Valley Sanitation District • Include provisions for permanent curation <p>Based on the Phase I Cultural Resources Assessment Report, the following portions of the project shall be monitored, as applicable:</p> <ul style="list-style-type: none"> • Five segments of the brine disposal pipeline: <ul style="list-style-type: none"> ○ Central Avenue to Kadota Street in Sylmar (archaeological and Native American monitoring) ○ Astoria Street to Fox Street in San Fernando (archaeological and Native American monitoring) ○ Pierce Street to Osborne Street in the City of Los Angeles (archaeological and Native American monitoring) ○ Lacy Street to North Main Street in the City of Los Angeles (archaeological monitoring) ○ Daly Street to Indiana Street in the City of Los Angeles (archaeological monitoring) • Blended groundwater pipeline alignment in proximity to identified archaeological sites (CA-VEN-660) as determined by a qualified archaeologist (archaeological and Native American monitoring) 	<p>Brine disposal pipeline (C)(LTSM)</p>			<p>Blended groundwater pipeline (C)(LTSM)</p>	<p>Blended groundwater pipeline (C)(LTSM)</p> <p>Ventura County RO product water pipeline (C)(LTSM)</p> <p>Brine disposal pipeline (C)(LTSM)</p>

Impacts	Mitigation Measures	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Phase I)	Alternative 4 (Phase I & II)
<p>12-1 (cont).</p>	<p>CUL-5 (cont.)</p> <ul style="list-style-type: none"> RO product water pipeline alignment to Ventura County near identified archaeological sites (CA-LAN-2233, CA-LAN-2234, CA-LAN-2681/H, and CA-VEN-1262H) as determined by a qualified archaeologist (archaeological and Native American monitoring) <p>CUL-6: Cultural Resources Monitoring. A qualified archaeologist, or an archaeological monitor working under the supervision of a qualified archaeologist, and a Native American monitor (if required at that location), shall monitor ground-disturbing activities as specified in the cultural resources monitoring and mitigation plan. Monitoring shall be conducted by an archaeological monitor familiar with the types of historic and prehistoric resources that could be encountered within the project area, and under the direct supervision of a qualified archaeologist. The plan shall provide for the duration and timing of monitoring, but a qualified archaeologist may, following consultation with the Santa Clarita Valley Sanitation District (SCVSD) and a Native American monitor, reduce or increase monitoring as necessary based on soil and resource observations. In the event that cultural resources are unearthed during ground-disturbing activities, the archaeological monitor shall be empowered to halt or redirect ground-disturbing activities within 25 feet of the find so that the find can be evaluated. The archaeological and Native American monitors shall keep daily logs, copies of which shall be provided to the SCVSD.</p> <p>After monitoring has been completed, a qualified archaeologist shall prepare a monitoring report that details the results of monitoring for submission to the SCVSD and to the South Central Coastal Information Center.</p>					
	<p>CUL-7: Additional Survey Inventory and Evaluation of Cultural Resources. Prior to the start of ground-disturbing activities, a qualified archaeologist shall carry out a Phase I cultural resources survey for any areas that were not surveyed in the preparation of the environmental impact report. The survey shall identify any previously recorded and new cultural resources and shall formally evaluate the significance of any potentially eligible resources that may be directly or indirectly impacted by the project. The survey results shall be documented in a Phase I cultural resources assessment report. Archaeological resources determined eligible shall be subject to Mitigation Measures CUL-1 through CUL-6.</p>			<p>Truck unloading terminal (C)(LTSM)</p>	<p>East Piru well field (C)(LTSM) West Piru well field (C)(LTSM) Supplemental water pipeline (C)(LTSM)</p>	<p>East Piru well field (C)(LTSM) West Piru well field (C)(LTSM) Supplemental water pipeline (C)(LTSM) Truck unloading terminal (C)(LTSM)</p>

Impacts	Mitigation Measures	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Phase I)	Alternative 4 (Phase I & II)
<p>12-2: The proposed project could potentially destroy a unique paleontological resource or site or unique geologic feature.</p>	<p>CUL-8: Qualified Paleontologist. Prior to the start of ground-disturbing activities at depths greater than 10 feet below ground surface, a qualified paleontologist, who could be a California Registered Professional Geologist with appropriate paleontological expertise, shall be retained to carry out all mitigation measures related to paleontological resources. A qualified paleontologist shall be available on an on-call basis throughout ground-disturbing activities.</p> <p>CUL-9: Paleontological Resources Training. Prior to the start of ground-disturbing activities at depths greater than 10 feet below ground surface, all construction forepersons and field supervisors conducting or overseeing subsurface excavations shall be trained in person by a qualified paleontologist to recognize potential fossil materials. All other construction workers shall be trained to recognize paleontological resources, but training may include a video recording of the initial training and/or the use of written materials rather than in-person training. In addition, the training shall describe procedures to follow in the event of a potential fossil discovery.</p> <p>CUL-10: Unanticipated Discovery of Paleontological Resources. If construction or other project personnel discover any potential fossils during ground-disturbing activities, work at the discovery location shall cease and a qualified paleontologist shall be contacted to further assess the discovery and make recommendations as necessary. If treatment and salvage is required, current professional standards shall be employed. Treatment for fossil remains may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection. If, as a result of an unanticipated discovery, a qualified paleontologist determines that additional monitoring is warranted, monitoring shall follow the procedures outlined in Mitigation Measure CUL-11.</p> <p>CUL-11: Paleontological Resources Monitoring. If a qualified paleontologist determines that additional monitoring is warranted due to an unanticipated discovery, then a qualified paleontologist, or a paleontological monitor working under the direction of a qualified paleontologist, shall monitor ground-disturbing activities. Paleontological monitoring shall be conducted by a qualified paleontological monitor familiar with the types of paleontological resources that could be encountered within the project area, and under the direct supervision of a qualified paleontologist. Monitoring would consist of periodically inspecting disturbed, graded, and excavated surfaces, as well as soil stockpiles and disposal sites. The duration and timing of monitoring shall be determined by a qualified paleontologist in consultation with the Santa Clarita Valley Sanitation</p>	<p>Brine disposal pipeline (C)(LTSM)</p>	<p>DWI brine pipeline (C)(LTSM)</p>	<p>Truck unloading terminal (C)(LTSM)</p>		<p>Ventura County RO product water pipeline (C)(LTSM)</p> <p>Brine disposal pipeline (C)(LTSM)</p> <p>DWI brine pipeline (C)(LTSM)</p> <p>Truck unloading terminal (C)(LTSM)</p>

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Impacts	Mitigation Measures	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Phase I)	Alternative 4 (Phase I & II)
12-2 (cont.)	<p>CUL-11 (cont.) District (SCVSD). In the event that paleontological resources are unearthed during ground-disturbing activities, a paleontological monitor shall be empowered to halt or redirect ground-disturbing activities within 25 feet of the find so that the find can be evaluated. A paleontological monitor shall keep daily logs, copies of which shall be provided to SCVSD. After monitoring has been completed, a qualified paleontologist shall prepare a monitoring report that details the results of monitoring submission to the SCVSD and to the appropriate repositories.</p> <p>CUL-12: Additional Evaluation of Paleontological Resources Sensitivity. Prior to the start of ground-disturbing activities at depths greater than 10 feet below ground surface, a qualified paleontologist shall evaluate any areas that were not screened in the preparation of the environmental impact report for paleontological sensitivity. Any areas determined to be highly sensitive for paleontological resources shall be subject to Mitigation Measures CUL-8 through CUL-11.</p>				Supplemental water pipeline (C)(LTSM)	Supplemental water pipeline (C)(LTSM)
12-3: The proposed project could potentially disturb human remains, including those interred outside of formal cemeteries.	<p>CUL-13: Encountered Human Remains. If human remains are uncovered during construction, work shall immediately be halted, the appropriate county coroner shall be contacted to evaluate the remains, and the procedures and protocols set forth in California Environmental Quality Act Guidelines §15064.5(e)(1) shall be followed. If the county coroner determines that the remains are Native American, the Native American Heritage Commission shall be notified in accordance with Health and Safety Code §7050.5(c) and Public Resources Code (PRC) §5097.98 (as amended by Assembly Bill 2641). The Native American Heritage Commission shall designate a Most Likely Descendent for the remains pursuant to PRC §5097.98.</p>				East Piru well field (C)(LTSM) West Piru well field (C)(LTSM) Supplemental water pipeline (C)(LTSM)	East Piru well field (C)(LTSM) West Piru well field (C)(LTSM) Supplemental water pipeline (C)(LTSM) Ventura County RO product water pipeline (C)(LTSM)
Geology, Soils, and Seismicity						
14-1: The proposed project could be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed project, and potentially result in onsite or offsite subsidence.	Implement HYDRO-1.				East Piru well field (O)(LTSM) West Piru well field (O)(LTSM)	East Piru well field (O)(LTSM) West Piru well field (O)(LTSM)

Impacts	Mitigation Measures	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Phase I)	Alternative 4 (Phase I & II)
Hydrology and Water Quality						
<p>16-2: The proposed project could substantially deplete groundwater supplies or interfere substantially with groundwater recharge resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level.</p>	<p>HYDRO-1: Groundwater Management Plan. Prior to operating the well fields within the Piru Subbasin, a groundwater management plan shall be prepared and implemented that shall be compatible with the Assembly Bill 3030 Groundwater Management Plan for the Piru and Fillmore Basins. The objective of the plan shall be to operate the well fields such that groundwater depths do not exceed historic maximum levels. However, future studies may indicate that operation of the well fields to exceed historic groundwater levels for limited periods of time may be desirable in meeting the goal of chloride extraction. The plan shall be developed by the well field operator and multiple opportunities for public input shall be provided prior to finalization. Public input shall include at least two workshops, one during business hours and another outside of business hours.</p> <p>The plan shall:</p> <ul style="list-style-type: none"> • Identify the number, location, and depth of monitoring wells to surround the production well fields. • Identify monitoring frequency and data tracking procedures. <p>Provide actions that will be implemented if groundwater depths exceed historic depths for sustained periods of time. These actions could include potential reduction of extraction rates.</p> <p>HYDRO-2: Water Supply Reliability Program. Prior to operating the well fields within the Piru Subbasin, a water supply reliability program shall be prepared to allow persons pumping water from the Piru Subbasin to make claims for alleged decreases in groundwater production yield, significantly increased pumping cost, or other impacts from operation of the well fields. The program shall be developed by the well field operator and multiple opportunities for public input shall be provided prior to finalization of the program. Public input shall include at least two workshops, one during business hours and another outside of business hours. The program shall include:</p> <ul style="list-style-type: none"> • Notification requirements from the affected groundwater user • Proof of claim by a groundwater user, which may include historic groundwater level measurements, bills from power provider, and/or additional records • Evaluation criteria for determining extent of impact 				<p>East Piru well field (O)(LTSM)</p> <p>West Piru well field (O)(LTSM)</p>	<p>East Piru well field (O)(LTSM)</p> <p>West Piru well field (O)(LTSM)</p>

Impacts	Mitigation Measures	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Phase I)	Alternative 4 (Phase I & II)
<p>16-2: (cont.)</p>	<p>HYDRO-2 (cont.)</p> <ul style="list-style-type: none"> • Measures that may be taken by the well field operator to mitigate any impact, which may include: <ul style="list-style-type: none"> ○ Arranging an alternate water supply for the affected party ○ Modifying pumping operations ○ Lowering the pump in an impacted well ○ Deepening or replacing an impacted well ○ Compensating a well operator for significantly increased pumping cost associated with additional lift 					
Noise						
<p>18-1: The proposed project could expose people to, or generate, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.</p>	<p>NOISE-1: Noise Reduction Measures. During construction, the contractor shall be required to implement the following measures as necessary to ensure compliance with applicable construction noise ordinances:</p> <ul style="list-style-type: none"> • All construction equipment, fixed or mobile, shall be outfitted with properly operating and maintained exhaust and intake mufflers, consistent with manufacturers' standards. • Impact tools (e.g., jack hammers, etc.) used for construction shall be hydraulically or electrically powered when feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. When use of pneumatic tools is necessary, an exhaust muffler on the compressed air exhaust shall be used. External jackets on the tools themselves shall be used when feasible. Quieter procedures, such as use of drills rather than impact tools, shall be used whenever feasible. • Stationary noise sources shall be located as far from adjacent receptors as possible. 	<p>RO product water pipeline (C)(LTSM) Brine disposal pipeline (C)(LTSM)</p>	<p>RO product water pipeline (C)(LTSM) DWI brine pipeline (C)(LTSM) DWI site (C)(LTSM)</p>	<p>RO product water pipeline (C)(LTSM)</p>	<p>East Piru well field (C)(LTSM) West Piru well field (C)(LTSM) East Piru well field pump station (C)(LTSM) West Piru well field pump station (C)(LTSM) East Piru well field extraction pipeline (C)(LTSM) West Piru well field extraction pipeline (C)(LTSM) Blended groundwater pipeline (C)(LTSM) Supplemental water pipeline (C)(LTSM)</p>	<p>East Piru well field (C)(LTSM) West Piru well field (C)(LTSM) East Piru well field pump station (C)(LTSM) West Piru well field pump station (C)(LTSM) East Piru well field extraction pipeline (C)(LTSM) West Piru well field extraction pipeline (C)(LTSM) Blended groundwater pipeline (C)(LTSM) Supplemental water pipeline (C)(LTSM)</p>

Impacts	Mitigation Measures	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Phase I)	Alternative 4 (Phase I & II)
<p>18-1 (cont.)</p>						<p>Ventura County RO product water pipeline (C)(LTSM) RO product water pipeline (C)(LTSM) Brine disposal pipeline (C)(LTSM) DWI brine pipeline (C)(LTSM) DWI site (C)(LTSM)</p>
	<p>NOISE-2: Noise Control Barrier. During construction, the contractor shall be required to install a noise control barrier between the construction site and nearby sensitive receptors for the duration of DWI drilling operations and East and West Piru well field and pump station construction. The noise control barrier shall be designed to ensure compliance with applicable construction noise ordinances.</p>		<p>DWI site (C)(LTSM)</p>		<p>East Piru well field (C)(LTSM) West Piru well field (C)(LTSM) East Piru well field pump station (C)(LTSM) West Piru well field pump station (C)(LTSM)</p>	<p>East Piru well field (C)(LTSM) West Piru well field (C)(LTSM) East Piru well field pump station (C)(LTSM) West Piru well field pump station (C)(LTSM) DWI site (C)(LTSM)</p>
	<p>NOISE-3: Restricted Use of Herbert and Eastern Avenues Truck Routes. Trucks hauling brine for disposal at the truck unloading terminal shall not utilize the Herbert Avenue and the Eastern Avenue routes between the hours of 10 PM and 7 AM. If nighttime deliveries are necessary, then the Mission Road route shall be utilized.</p>			<p>Trucking route (O)(LTSM)</p>		<p>Trucking route (O)(LTSM)</p>

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Impacts	Mitigation Measures	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Phase I)	Alternative 4 (Phase I & II)
<p>18-3: Operation of the proposed project could cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project or substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.</p>	<p>Implement NOISE-3.</p>			<p>Trucking route (O)(LTSM)</p>		<p>Trucking route (O)(LTSM)</p>
<p>Transportation and Traffic</p>						
<p>19-1: The proposed project could conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel, and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.</p>	<p>TRAN-1: Construction Staging and Traffic Management Plan. Prior to construction, the contractor shall be required to prepare a construction staging and traffic management plan in accordance with professional engineering standards and appropriate guidelines such as the Caltrans Construction Manual (revised 2012). The plan shall include the following strategies during construction:</p> <ul style="list-style-type: none"> • Maintain access for local land uses, including public properties, recreational properties, and commercial properties • Maintain emergency service access to local land uses at all times and inform local emergency service providers of lane closures and detours • Post advanced warning of construction activities to allow motorists to select alternative routes • Provide a telephone number for public questions and complaints • Minimize construction-related traffic during peak travel periods • Comply with all roadside safety protocols to reduce the risk of accident • Require construction haul trucks to follow pre-approved haul routes whenever feasible 	<p>RO product water pipeline (C)(LTSM) Brine disposal pipeline (C)(LTSM)</p>	<p>RO product water pipeline (C)(LTSM) DWI brine pipeline (C)(LTSM)</p>	<p>RO product water pipeline (C)(LTSM)</p>	<p>East Piru well field (C)(LTSM) West Piru well field (C)(LTSM) East Piru well field pump station (C)(LTSM) West Piru well field pump station (C)(LTSM) East Piru well field extraction pipeline (C)(LTSM) West Piru well field extraction pipeline (C)(LTSM) Blended groundwater pipeline (C)(LTSM) Supplemental water pipeline (C)(LTSM)</p>	<p>RO product water pipeline (C)(LTSM) Brine disposal pipeline (C)(LTSM) DWI brine pipeline (C)(LTSM) East Piru well field (C)(LTSM) West Piru well field (C)(LTSM) East Piru well field pump station (C)(LTSM) West Piru well field pump station (C)(LTSM) East Piru well field extraction pipeline (C)(LTSM)</p>

Impacts	Mitigation Measures	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (Phase I)	Alternative 4 (Phase I & II)
19-1 (cont.)						West Piru well field extraction pipeline (C)(LTSM) Blended groundwater pipeline (C)(LTSM) Supplemental water pipeline (C)(LTSM) Ventura County RO product water pipeline (C)(LTSM)
	<p>TRAN-2: Restricted Use of Eastern Avenue Route. Inbound and outbound trucks hauling brine for disposal at the truck unloading terminal shall not utilize the Eastern Avenue route during the AM peak hour (7:15 AM to 8:15 AM).</p> <p>TRAN-3: Restricted Use of Mission Road Route. Outbound trucks shall not utilize the Mission Road route during the PM peak hour (4:45 to 5:45 PM). Alternatively, the Santa Clarita Valley Sanitation District shall coordinate with the City of Los Angeles Department of Transportation for the addition of an Adaptive Traffic Control System (ATCS) to the existing Automated Traffic Surveillance and Control System at Marengo Street/Mission Road. With the addition of the ATCS, outbound trucks would have unrestricted use of the Mission Road route.</p>			Trucking route (O)(LTSM)		Trucking route (O)(LTSM)

LTSM = Less than significant after mitigation
 SU = Impact remains significant and unavoidable after mitigation
 C = Construction impact
 O = Operational impact