

Section 2. SERVICE AREA DESCRIPTION

THE EXISTING RETAIL SERVICE AREAS WITHIN ZONE 40 INCLUDES ZONE 41, CAL-AM, AND FRCD/EGWS. THE ZONE 40 WHOLESALE SERVICE AREA HAS BEEN DIVIDED INTO THREE SMALLER SERVICE AREAS FOR PURPOSES OF DESCRIBING THE PHASING OF FACILITIES AND HYDRAULIC INTERRELATIONSHIPS THAT TAKE PLACE WITHIN THE WATER DISTRIBUTION SYSTEM. THESE SMALLER SERVICE AREAS ARE THE NORTH SERVICE AREA (NSA), THE CENTRAL SERVICE AREA (CSA), AND THE SOUTH SERVICE AREA (SSA) (FIGURE 2-2). FOLLOWING THE DESCRIPTION OF EACH SERVICE AREA IS A TABLE SUMMARIZING THE MAJOR ISSUES CONFRONTING THAT SERVICE AREA. THESE ISSUES ARE DESCRIBED IN DETAIL LATER IN THE WSIP.

2.1 Existing Retail Service Areas

SCWA is responsible for the planning and construction of major capital facilities within Zone 40. These responsibilities also include water related obligations outside of Zone 40 that are connected to various agreements which SCWA has entered into (e.g., environmental water projects, water service to Aerojet Lands, and participation in the county-wide habitat conservation plan). In the case of existing or future retail areas, water supply is produced at planned facilities for conveyance to the retail purveyors for sale to their customers. Within Zone 40, water retail services are provided by Zone 41, Cal-Am, and FRCD/EGWS. See **Figure 2-1** for the location of existing retail service areas. Undeveloped areas outside of the Cal-Am franchise area and the FRCD/EGWS retail service area will ultimately be served by Zone 41.

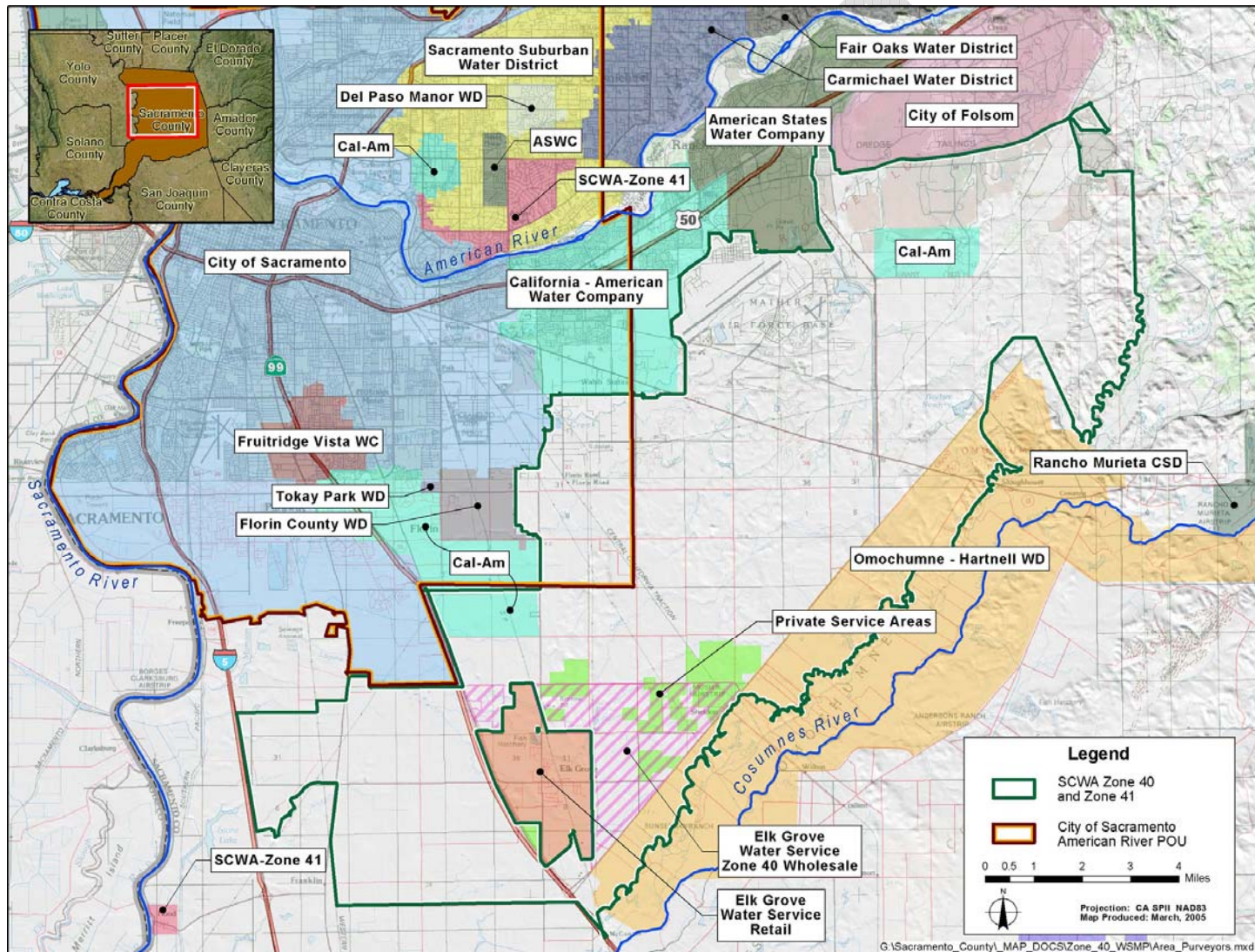
2.1.1.1 Zone 41 Service Area

Zone 41 (the retail water provider branch of SCWA) covers all of the area within Zone 40 that is not within an existing water purveyor's boundary (excluding Omochumne-Hartnell Water District) as designated in **Figure 2-1**. Currently Zone 41 actively provides service to areas within Zone 40 identified as the Mather System, the Sunrise Corridor System, the Vineyard System, the Laguna System, the Country Creek Estates System, and the East Elk Grove System. In some cases (e.g., East Elk Grove System), Zone 41 merely operates and maintains the production and transmission system with the treated water being wholesaled to the FRCD/EGWS. This distinction is made in **Figure 2-1**. The

Mather and Sunrise Corridor systems are unique in that they were not originally constructed as part of SCWA's conjunctive use program. SCWA assumed ownership of the Mather System shortly after the County of Sacramento took over the old Mather Air Force Base after it was shut down by the United States Air Force in the mid-1990's. In the case of the Sunrise Corridor System, SCWA was asked to take ownership and provide water service after the system was constructed through an assessment district in the late 1980's.

Both of these water systems were planned and developed as groundwater based systems and were not designed to provide large-scale conveyance of water between or through the system and are not capable of meeting new demands as they occur further to the east or south. Additionally, the primary source of supply for these systems has been compromised by groundwater contamination as a result of past disposal practices of rocket fuel and other organic carbon based solvents by Aerojet and Boeing. Consequently, both systems were interconnected in the late 1990's and now function as a single system (Mather/Sunrise). In some cases the only replacement supply for the long-term solution will come from Zone 40 through the infrastructure presented in this document. Zone 41 also provides retails water in service areas outside of Zone 40 in other portions of the County. Information regarding these service areas can be found in the adopted *2005 Zone 41 Urban Water Management Plan* (SCWA/MWH December 2005).

Figure 2-1. Zone 41 Retail and Zone 40 Wholesale Service Areas and Adjacent Purveyors



2.1.2 Cal-Am Security Park Service Area

The Cal-Am Security Park water system was originally constructed to support operations for the McDonnell Douglas (Boeing) Corporation at what was then called the Rancho Cordova Test Site. The system now serves a small industrial area called Security Park. The Cal-Am franchise area is much larger than the current Security Park service area. Some of the wells within the Security Park system have been impacted by groundwater contamination. It is expected that water supply for both the existing Security Park and the new growth portion of the larger franchise area will be wholesaled from Zone 40 to Cal-Am. SCWA has proposed a boundary modification to Cal-Am that provides a more logical separation between the Zone 41 retail area and the Cal-Am retail area based on the tentative land use plan and corresponding right-of-way corridors for the Boeing property known as Rio Del Oro. Negotiations with Cal-Am on this proposed boundary modification need to occur prior to constructing water supply infrastructure in the Rio Del Oro development area.

2.1.3 FRCD/EGWS Service Area

Zone 40 currently provides wholesale water to a portion of the FRCD/EGWS service area (Elk Grove Water Service Zone 40 Wholesale, see **Figure 2-1**) under the terms of the First Amended and Restated Master Water Agreement (see **Appendix B** of WSMP). The original agreement was developed in the mid 1990's to provide a way for new development in the FRCD/EGWS service area to access new water supplies being developed through the Zone 40 conjunctive use program. Through this agreement FRCD/EGWS agreed to purchase water from SCWA to serve their expanded retail area (Tariff Area 2). Tariff Area 2 is included as part of the CSA and is required to pay the Zone 40 Development Fee for new building permits and pay a monthly user fee for Zone 40 capital projects that support conjunctive use in the Central Basin.

The Elk Grove Water Service retail area (**Figure 2-1**) is served by water facilities constructed, maintained, and operated by FRCD/EGWS. This area comprises the older portions of Elk Grove (Tariff Area 1). Tariff Area 1 is not part of Zone 40 and is not included as part of the CSA.

2.2 Zone 40 Major Service Areas

For purposes of this report and meeting the immediate needs of the SCWA in responding to new development concerns, the Zone 40 service area has been broken into three major service areas. These areas are highlighted in **Figure 2-2** and named from east to west as the NSA, the CSA, and SSA, respectively. What follows is a detailed description of the retail agencies as they relate to providing water within the Zone 40 service area.

2.2.1 North Service Area (NSA)

The NSA is located in the northern portion of Zone 40 and includes the areas identified as Mather, Sunrise Corridor, Sunrise Douglas, Rio Del Oro, and Westborough. Both Rio Del Oro and Westborough are part of the “Aerojet Lands” identified in the County/SCWA/Aerojet and County/SCWA/McDonnell Douglas agreements. While Westborough lies outside of Zone 40, SCWA is obligated to make water available to this project provided a sufficient quantity of water remains after replacement water supply obligations are met according to the agreements. Westborough will receive water supplies through Zone 40 using remediated groundwater that has been diverted from the Sacramento River and treated at the Vineyard SWTP. Rio del Oro will also receive water supplies using remediated groundwater in a similar manner along with replacement supplies. Aerojet contract water with the City of Folsom could be used as a source of water for these projects but more than likely will be utilized for the Easton project which is not a part of this WSIP.

An initial NSA WSIP (a.k.a. Sunrise Douglas WSIP) was completed in April 2004 as part of an effort to address immediate concerns with development in the Sunrise Douglas Community Plan/Sunridge Specific Plan area. This document was a staff level study that examined facility requirements necessary to serve both the Sunrise Douglas Community Plan area and the Rio Del Oro Development. It also made certain assumptions regarding future growth in the Mather and Sunrise Corridor portions of the system and for replacement water supplies for both Cal-Am and Golden State as explained below. With further development of the Replacement Water Supply Project assumptions regarding the

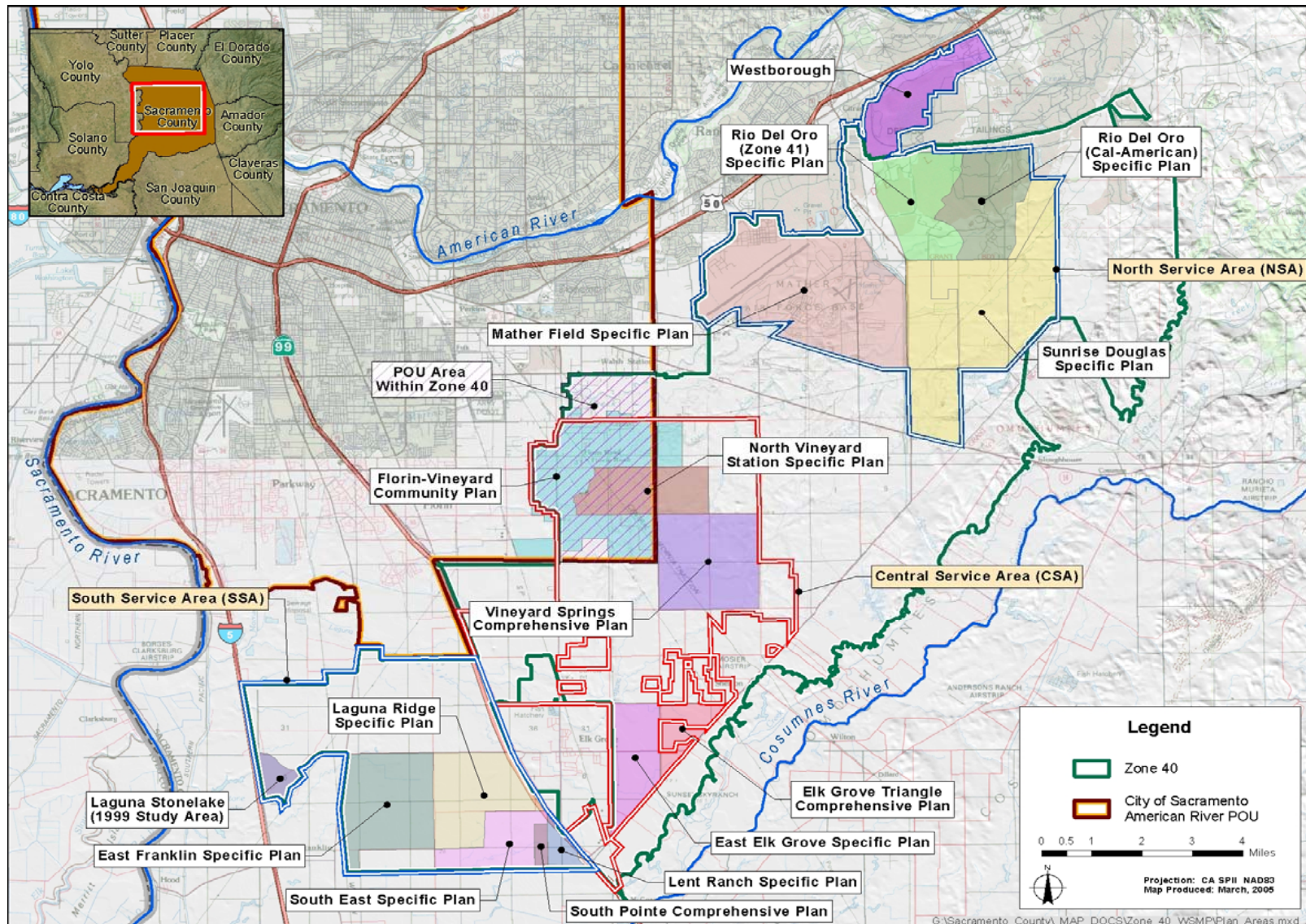
amount, use and location of diversion of replacement water has been modified, necessitating a re-evaluation of the needed infrastructure originally provided in the initial NSA WSIP.

2.2.1.1 Aerojet and Boeing Replacement Water Supply Agreements

During preparation of the WFA planning documents it was assumed that remediated groundwater would be re-injected into the aquifer, resulting in no net loss to the basin. As a result of community concerns related to re-injection, NPDES permits required that remediated groundwater be discharged to surface water bodies; namely, the American River and Morrison Creek stream groups. However, if this remediated groundwater were allowed to leave the basin as part of surface water flow, Zone 40 would lack a sufficient volume of groundwater to meet their conjunctive use objectives outlined in the WSMP and in the WFA PSA. Unaddressed, this “changed condition” to the WFA would threaten the long-term average sustainable yield of the basin of 273,000 AF/yr and the WSMP.

In August 2003, the County and SCWA entered into agreements with Aerojet and Boeing to promote better management of groundwater resources impacted by contamination. These agreements are premised on the ability to reuse remediated groundwater to provide replacement water supply for well capacity lost due to groundwater contamination, provide water for a certain amount of new development in the effected area, and to provide some water for environmental purposes if available. It is essential that groundwater extracted and treated as part of the remedy be kept within the Central Basin. Keeping this water within the Central Basin ensures that groundwater extractions required by the remedy do not result in a loss to the long-term average sustainable yield of the basin of 273,000 AF/year as agreed upon by the Water Forum.

Figure 2-2. Zone 40 Major Service Areas and Plan Areas



A fundamental assumption in the development of the original NSA WSIP was that all remediated groundwater made available through the agreements would be diverted from the Folsom South Canal (FSC). This assumption also included a construction of a surface WTP off of the FSC to treat this diverted water. Comments on the Notice of Preparation (NOP) to develop an EIR for the Replacement Water Supply Project indicated significant opposition to this proposal.

To address these concerns the project description was modified so that 10,000 AF/year will be diverted down the FSC, 5,000 AF/year to Golden State to meet their replacement water supply needs and 5,000 AF/year for environmental needs on the Cosumnes River. The environmental water is under a Memorandum of Agreement titled between SCWA and The Nature Conservancy (TNC) titled, Memorandum of agreement (MOA) for Management of Water and Environmental Resources Associated with the Lower Cosumnes River, and includes the Cosumnes River Flow Augmentation Project which is a 5 year pilot program to investigate the benefits of pre-wetting the Cosumnes River prior to the wet months to re-establish the fishery habitat in the river. At the end of the 5 year period, another contract will be likely be executed that may or may not use the replacement water supply as a source of supply. The balance of the remediated groundwater flows down the American River where 5,000 AF/year may be diverted at the City's Fairbairn WTP for Cal-Am (no contract or agreement with Cal-Am or the City exists at this time and not included as part of this WSIP) with the remaining portion (15,000 AF/year) being diverted at FRWA's intake on the Sacramento River. The remediated groundwater will then be conveyed to and treated at the Vineyard SWTP. Treated water will then be boosted out of the Vineyard SWTP's clear well and piped to a dedicated storage tank and booster pump facilities located proximate to Sunrise Boulevard and Douglas Road as well as other tanks and booster facilities in the NSA system.

New development (other than projects on Aerojet Lands i.e., Rio Del Oro and Westborough) will be met through Zone 40's overall conjunctive use program as described in the WSMP. This includes development of groundwater both on-site, in the

southerly portions of the Sunrise Douglas Community Plan area, and from groundwater facilities located near Excelsior Road and Florin Road (Excelsior Well Field a.k.a. North Vineyard Well Field). Surface water supplies will come from the proposed Vineyard SWTP.

Providing reliable service to NSA is perhaps the most challenging of the three SCWA service areas. These challenges include: 1) groundwater contamination, 2) agreements for replacement water supplies, 3) service for new development within Aerojet Lands, 4) service for new development in the Sunrise Douglas Community Plan area, 5) large changes in ground surface elevation creating a need for pressure zones, and 6) the relatively low yield of groundwater in the upper elevations where new development is taking place. The eastern portions of the Zone 40 service area overlie the areas where the water bearing aquifers pinch out.

Lastly, there is a need to consider the use of recycled water in the NSA, a white paper has been included as **Appendix A** of this document that discusses the opportunities. This and other important issues are described in **Table 2-1** and will be addressed as part of this WSIP.

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Sacramento County Water Agency Zone 40
Zone 40 Water System Infrastructure Plan

Table 2-1. NSA Summary of Water System Infrastructure and Supply Issues

Issue:	Description:	How Issue is Addressed in WSIP:
Water Supply Phasing to NSA	Service to NSA is dependent on the development of both on-site (near Kiefer Road) and off-site water supplies (i.e., groundwater, surface water, and possibly recycled water) due to on-site groundwater contamination in the northern region.	<ul style="list-style-type: none"> ▪ Construction phasing of on-site and off-site water supplies. ▪ A full description of how the system will be operated during interim phases. ▪ Describe the conditions under which the proposed Aquifer Storage and Recovery (ASR)/Vineyard SWTP groundwater wells would operate.
Agreements on Use of the Excelsior Well Field	The Excelsior Well Field offers only a partial solution to the water requirements for NSA and for replacement supplies. There needs to be a clear understanding of how the Excelsior Well Field is to be used over time.	<ul style="list-style-type: none"> ▪ Provide what is known from adopted project conditions, EIR's and SCWA staff on the terms and conditions under which the Excelsior Well Field capacity is to be used. ▪ Describe where the water can or cannot be served. ▪ Describe the monitoring program and continued long term operation of the well field. ▪ Describe the Well Protection Program as a required developer condition (i.e., developer funds and SCWA Zone 40 administers the program) of using the well field.
Replacement Water Supply Agreement and Service to Adjacent Water Purveyors and Aerojet Lands	Replacement Water Supply Agreements with Aerojet and Boeing obligate SCWA to provide replacement water supplies to Golden State and Cal-Am in the event they lose a well to contamination in their service area.	<ul style="list-style-type: none"> ▪ Define the set of assumptions that the WSIP is working under on the amount of replacement water that will be necessary for SCWA, Golden State (in the case of Golden State this will be based on SCWA's agreement with them for replacement water supplies), and Cal-Am (this should include some discussion on the proposal by the City to provide surface water to the POU area and how this might effect the provision of surface water). ▪ Describe infrastructure requirements outlining how replacement water will be delivered to each of the retail providers.
Disposition of Existing 30-inch Raw Water Main	The existing 30-inch raw water t-main that connects the Excelsior Well Field to the Anatolia Groundwater Water Treatment Plant (GWTP) can be converted to a treated water transmission pipeline to afford more flexibility in delivering water from the Vineyard SWTP.	<ul style="list-style-type: none"> ▪ Describe the possible use of the 30-inch raw water transmission pipeline before (as a raw water line) and after (as a treated water line) construction of the Vineyard SWTP. Also discuss the possible relocation of the Anatolia WTP to the Vineyard SWTP site. ▪ Determine the alignment and timing of a second treated water pipeline from the Vineyard SWTP to serve NSA. ▪ Consider the alternative of not relocating the Anatolia WTP and converting the pipeline for conveyance of treated water.

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Sacramento County Water Agency Zone 40
Zone 40 Water System Infrastructure Plan**

Issue:	Description:	How Issue is Addressed in WSIP:
Wholesale Delivery to Cal-Am in modified Security Park Service Area	The Cal-Am Security Park franchise area boundaries are proposed for adjustment to allow for improved wholesale delivery from Zone 40 to Cal-Am.	<ul style="list-style-type: none"> ▪ Document the rationale and change in potential revenue that the modified boundaries will have on Cal-Am. ▪ Describe a process of initiating discussions and changing the franchise area boundaries through the City of Rancho Cordova and the Public Utilities Commission.
Replacement Water Agreement with Golden State and Wholesale Delivery to the Westborough Development	Replacement water needs as defined in the Replacement Water Agreement with Golden State may delay or inhibit full water service to the Westborough project. Westborough is a proposed development north of the current Zone 40 boundary. According to an existing agreement with Aerojet, SCWA is required to serve this project (based on the availability of remediated water) as it is part of what is called "Aerojet Lands".	<ul style="list-style-type: none"> ▪ Describe existing agreement with Golden State to provide replacement water if additional wells within their service area become contaminated including issues that directly impact SCWA operations or control of their capital facilities. ▪ Determine if full service to Westborough becomes problematic in the event Golden State requires the contractually requested entitlement. ▪ Describe potential alternatives, and additional time and resources to secure, treat, and convey new water to Westborough in the event Golden State needs all or part of the replacement water supplies made available through the agreements with Aerojet and Boeing.
Pressure Zone Phasing and Operations	Use of pressure zones is a relatively new operational element to SCWA that requires an understanding of system design and operations.	<ul style="list-style-type: none"> ▪ Define the NSA pressure zones and the necessary infrastructure to operate the pressure zones to provide reliable water service. ▪ Provide operational requirements to insure adequate water supplies to the upper pressure zone.
Recycled Water Implementation	SCWA and SRCSD are coordinating efforts in existing planned areas for recycled water (i.e., SSA). New areas in the NSA are being contemplated for recycled water service in the future.	<ul style="list-style-type: none"> ▪ Include "white" papers completed for potential recycled water service to the Sunrise Douglas Community Plan area as part of the WSIP.
Use of Fluoride		<ul style="list-style-type: none"> ▪ On a gross scale, determine how system wide fluoridation could be accomplished.

2.2.2 Central Service Area (CSA)

The CSA is located in the central portion of Zone 40 and includes the areas identified as North Vineyard Station, Florin Vineyard, Vineyard Springs, East Elk Grove, and the Elk Grove Triangle. The CSA also includes the Vineyard SWTP which is a key component in Zone 40's conjunctive use program and provides a means for delivering surface water to all three service areas.

A part of the City's POU is located within the CSA, this will provide access to an additional source of surface water pending a contract agreement with the City. Interim deliveries of groundwater to the POU area will be necessary as development will begin prior to construction of the POU pipeline. The phasing of facilities and the allowable number of housing units with each phase is described in the **Appendix B** titled, Florin Vineyard Community Plan Water Study that was completed as part of the technical studies for the Environmental Impact Report (EIR).

A portion of the CSA is also covered by a wholesale agreement with the FRCD/EGWS for delivery of water in their Tariff Area 2 which requires FRCD/EGWS to purchase wholesale conjunctive use water from SCWA to retail to their customers. Service to Tariff Area 2 is provided at various points of connection along larger diameter SCWA owned, operated, and maintained T-mains. A copy of the First Amended and Restated Master Water Agreement with FRCD/EGWS is included in the WSMP as **Appendix B**.

Lastly, there is a need to consider the use of recycled water in the CSA, a white paper has been included in **Appendix A** of this document that discusses the opportunities. This and other important issues are described in **Table 2-2** and will be addressed as part of this WSIP.

SECTION 2. SERVICE AREA DESCRIPTION
Sacramento County Water Agency Zone 40
Zone 40 Water System Infrastructure Plan

Table 2-2. CSA Summary of Water Supply Infrastructure and Supply Issues

Issue:	Description:	How Issue is Addressed in WSIP:
Construction and Operation of the Vineyard SWTP	The size and location of the Vineyard SWTP significantly affects how the overall water system is designed and operated. Large diameter pipes that were constructed based on the 1987 Master Plan to carry surface water need to be optimized.	<ul style="list-style-type: none"> ▪ Illustrate changes in groundwater use as the Vineyard SWTP is brought on-line. ▪ Design/optimize a large diameter transmission grid to move treated surface water throughout the Zone 40 system. ▪ Provide operational requirements for the Vineyard SWTP that will optimize the use of surface water. ▪ List the constraints (e.g., reverse flows on the Sacramento River) under which the Vineyard SWTP is designed to operate and, conversely, show how the Zone 40 system operates under these conditions. ▪ Identify potential problems if significant amounts of groundwater are introduced at the headworks.
Phasing of Supplies in the POU Service Area	The portion of Zone 40 located within the POU area is unique and requires a different set of design constraints, phasing, and operational rules.	<ul style="list-style-type: none"> ▪ Provide a detailed phasing discussion of how the POU area will initially be served by groundwater and then ultimately by POU water. ▪ If required in the wheeling agreement with the City, design a water distribution system that isolates the POU area from the rest of the system to insure that POU water is constrained to the defined boundaries of the POU.
Vineyard SWTP Service to NSA and SSA	The transfer of surface water between the CSA and the NSA and SSA will change as water demands increase over time.	<ul style="list-style-type: none"> ▪ Show the connection points and intended rate of flow of surface water from the CSA to the NSA and SSA. ▪ Provide an understanding of how much water will be conveyed across Highway 99 to the SSA and the design elements that permit this operational element.
Operation of Groundwater WTPs	Being a conjunctive use water system, the design and operational elements of groundwater facilities are critical to the operation of the system during different hydrologic and river conditions.	<ul style="list-style-type: none"> ▪ Illustrate how the system is designed to operate under different hydrologic and surface water conditions. ▪ Identify where there is system redundancy and potential opportunities for better adsorption of surface water. ▪ Describe the groundwater WTP operations model that is developed in the WSIP to assist in planning how to best optimize groundwater facilities.

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Zone 40 Water System Infrastructure Plan**

Issue:	Description:	How Issue is Addressed in WSIP:
Reverse Flow Conditions	Reverse flow conditions in the Sacramento River are known to occur at the point of diversion for the Vineyard SWTP. The consequences of this condition on the operations of the overall system are unclear at the time of developing this WSIP.	<ul style="list-style-type: none"> ▪ Provide the set of constraints and assumptions used in the WSIP for operating under a reverse flow event including mixing untreated groundwater with raw surface water to avoid a complete shutdown of the Vineyard SWTP during a reverse flow event. ▪ Describe the modeling of the raw water system from the point of diversion to the proposed raw water reservoir to be located at the Vineyard SWTP to show the mass balance over time in the event of a shut down of the diversion. ▪ Show how long the water system can maintain full build out capacity with a complete shut down of the Vineyard SWTP.
Groundwater Injection (Aquifer Storage and Recovery)	Aquifer storage and recovery (ASR) is a relatively new concept to the Sacramento region and to SCWA. There is a vision beyond the Water Forum planning horizon that believes ASR may be the next available increment of firm reliable water supply.	<ul style="list-style-type: none"> ▪ Briefly describe what ASR is and how it has been used by other purveyors to successfully meet water demands. ▪ Identify where and when ASR is most feasible. ▪ Touch on some of what has been learned from the pilot program in the City of Roseville. This includes regulatory concerns from the State Regional Water Quality Control Board and the direction that they are headed to permit ASR in the Sacramento Area.
Recycled Water Implementation	SCWA and SRCSD are coordinating efforts on existing recycled water programs (i.e., SSA). New areas in the CSA are being contemplated for recycled water service in the future.	<ul style="list-style-type: none"> ▪ Include “white” papers completed for potential recycled water service to the North Vineyard Station and Florin Vineyard planning areas.
Wholesale Agreement with the Elk Grove Water Service	A portion of Zone 40’s CSA contains Tariff Area 2 of the FRCD/EGWS. A wholesale agreement requires that Zone 40 provide groundwater and surface water to this area.	<ul style="list-style-type: none"> ▪ Identify the FRCD/EGWS area and a means of calculating the total volume of water wholesaled to FRCD/EGWS over time. ▪ Show the location of larger metering stations for future calculation of water use (some of this work will be coordinated with an on-going metering study being conducted by Kennedy Jenks for SCWA).
Use of Fluoride		<ul style="list-style-type: none"> ▪ Using the water distribution model, consider the area that will be affected by the connection with the City. ▪ On a gross scale, determine how system wide fluoridation could be accomplished.

2.2.3 South Service Area (SSA)

The SSA is located in the southern portion of Zone 40 and includes the areas identified as Laguna, Laguna West, Lakeside, Laguna Stonelake, East Franklin, Laguna Ridge, the Elk Grove Promenade, Sterling Meadows, and the Southeast Study Area. Water supply for this area consists of a small surface water source from an existing connection with the City that can ultimately wheel up to 11 Million Gallons per Day (MGD) of SCWA's "Fazio" contract water (assumed 10,000 AF/year) with the balance provided by groundwater wells that either tie directly into the distribution system or are treated at a groundwater treatment facility prior to entering the distribution system. The current non-dedicated wheeling capacity from the City at the Franklin connection is approximately 6 MGD and is subject to curtailment in the event City pressures cannot sustain the flow without jeopardizing their customers.

Per an existing agreement with SRCSD, recycled water is available and used for irrigation purposes in a large portion of the Laguna West/Lakeside/Laguna Stonelake area (the portion of the SSA west of Franklin Boulevard). It is expected that recycled water service will be expanded to include the East Franklin and Laguna Ridge areas.

A number of wells in the Laguna area of the SSA have concentrations of arsenic that will exceed state and federal regulation scheduled to become effective in January 2006 (a reduction from 50 ug/l to 10 ug/l). As these wells will need to be removed from service to comply with this change, additional capacity and storage will need to be developed to make up for this loss. This and other important issues are described in **Table 2-3** and will be addressed as part of this WSIP.

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Table 2-3. SSA Summary of Water Supply Infrastructure and Supply Issues

Issue:	Description:	How Issue is Addressed in WSIP:
Phasing out of service wells that are above the Maximum Contaminant Limit (MCL) for arsenic	Regulations effective in January 2006 require water purveyors to reduce arsenic levels in source wells by 2007.	<ul style="list-style-type: none"> ■ Show the affected wells and the phasing for shutting them down and indicate where new groundwater supplies and storage will be located to replace these wells.
Phasing of New Groundwater WTP's	The SSA is primarily reliant on groundwater supplies, more so than the CSA and NSA. The proper identification and phasing of groundwater facilities is very important.	<ul style="list-style-type: none"> ■ Provide a clear presentation of the phasing and capacity of groundwater facilities in the SSA, CSA, and NSA. ■ Describe conjunctive use operations in the SSA and how they differ from the CSA and NSA.
Wheeling Agreement with the City – Franklin Connection	The SSA has an existing connection with the City where a portion of SCWA's CVP surface water contract is delivered to the Zone 40 system.	<ul style="list-style-type: none"> ■ Provide a brief explanation of the terms of the current Agreement and how these may change as a result of recent analysis conducted by the City. ■ Present the design and operational considerations of this connection used in the WSIP based on the Agreement and discussions between SCWA and City staff.
Recycled Water	SCWA and SRCSD are conducting ongoing discussions related to the use of recycled water in the SSA that are based on what is known as the Phase 1 and Phase 2 plan.	<ul style="list-style-type: none"> ■ Include the Phase 1 and Phase 2 system analysis and design report that supersedes HydroScience's Zone 40 Recycled Water Supply Master Plan as an appendix to the WSIP. ■ Provide a summary of the Phase 1 and Phase 2 distribution system and how new facility costs are allocated. ■ Discuss how the reduction in availability of recycled water could effect capital facility requirements in East Franklin and Laguna Ridge.
Fluoride in Water Provided by the City	Fluoride has been added to potable water supplies in some areas for many years as a means to prevent tooth decay. SCWA does not currently provide fluoridation at any of their treatment/production facilities. However, water wheeled for SCWA by the City is fluoridated. Because water from the City mixes with unfluoridated water in SCWA's system there is concern that concentrations of fluoride in the system in those areas that receive water from the City do not provide any health benefits.	<ul style="list-style-type: none"> ■ Using the water distribution model, consider the area that will be affected by the connections with the City both in the SSA and CSA. ■ Identify customers that may receive fluoride, and at what concentrations. ■ On a gross scale, determine how system wide fluoridation could be accomplished.
Service to Rio Cosumnes Correctional Facility (RCCC)	Arsenic at wells currently providing water to RCCC are high in arsenic and require an alternative water supply.	<ul style="list-style-type: none"> ■ Investigate the feasibility and available capacity in SSA to serve RCCC.
Responding to Planned Growth from the City of Elk Grove General Plan	The City of Elk Grove is looking beyond the Zone 40 2030 study area for growth within their Sphere of Influence (SOI).	<ul style="list-style-type: none"> ■ Provide a methodology of how the City might show sufficient water entitlements beyond the Water Forum's 2030 study boundary.

2.2.4 All Service Areas

Significant issues that are not reflected in the above tables are those that are common to all three service areas. These include:

How surface water, groundwater, and recycled water are acquired and ultimately used over time.

Water quality (i.e., taste, color, and odor) concerns involving the mixing of surface water and groundwater in varying concentrations. Water received from the City will also have a different water chemistry (including fluoride) than surface water treated at the Vineyard SWTP, what impacts will this have on overall water quality?

A capital facilities program that describes the proposed infrastructure plan and determines the necessary fees to pay for these facilities under current funding mechanisms. Evaluating the possibility of a special tariff zone within Zone 40 to off-set the higher cost of getting water to the east rather than placing the burden on all Zone 40 customers.

While most of these elements have been addressed throughout the WSIP, it is not possible to fully address some of the water quality issues until more is known about the chemistry of the water that will ultimately be produced by the Vineyard SWTP.

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