NOTICE OF AVAILABILITY

SUNRISE DOUGLAS COMMUNITY PLAN/SUN RIDGE SPECIFIC PLAN
LONG TERM WATER SUPPLY PLAN
COURT-ORDERED PARTIALLY REVISED DRAFT ENVIRONMENTAL IMPACT REPORT
STATE CLEARINGHOUSE NO. 97022055

JANUARY 14, 2011

LEAD AGENCY: City of Rancho Cordova

PROJECT TITLE: Sunrise Douglas Community Plan/Sun Ridge Specific Plan (SDCP/SRSP) Long Term Water Supply Plan

PROJECT LOCATION: The approximately 6,042-acre SDCP project site is located within the City of Rancho Cordova, 5 miles south of U.S. Highway 50, south of Douglas Road, east of Sunrise Boulevard and the Folsom South Canal, north of Jackson Road (State Highway 16), and west of Grant Line Road. The approximately 2,632-acre SRSP is fully contained within the SDCP.

PROJECT DESCRIPTION/PURPOSE OF EIR: In March 1999, Sacramento County released a draft environmental impact report (1999 SDCP/SRSP DEIR) pursuant to the California Environmental Quality Act (CEQA) (State Clearinghouse Number 97022055) for the Sunrise Douglas Community Plan and SunRidge Specific Plan ("SDCP/SRSP" or "the project"). The project consists of an overall conceptual framework and policy direction for urbanization of the approximately 6,042-acre SDCP area with a multi-phased mixed-use development project with approximately 22,503 residential units, approximately 479 acres of commercial, approximately 177 acres of parks, and approximately 148 acres of school uses, a future population of approximately 60,000 people, and an approximately 20-year buildout horizon. Along with the SDCP for the entire area, the project includes the SRSP for the near-term development of approximately 2,632 acres with approximately 10,020 residential units, approximately 173 acres of commercial development, approximately 78 acres of parks, and approximately 44 acres of schools.

Based on the conclusions of the 1999 SDCP/SRSP DEIR and comments by Department of Toxic Substances Control, the Central Valley Regional Water Quality Control Board, and California Department of Health Resources, the applicant proposed an alternative water supply plan that would use groundwater from a new well field, the North Vineyard Well Field (NVWF), in another part of the Zone 40 area sufficiently down gradient from known contaminant plumes to reduce

or eliminate potential contamination of the well field. Sacramento County prepared a revised recirculated DEIR, which focused environmental analysis on this alternative water supply plan. The revised recirculated DEIR was published in May 2001. After responding to comments on the DEIR and revised recirculated DEIR in the November 2001 Final EIR (FEIR), the Sacramento County Board of Supervisors adopted CEQA findings of fact and a statement of overriding considerations, certified the SDCP/SRSP EIR, and adopted the SDCP/SRSP in July 2002 (Resolution Numbers 2002-0901 and 2002-0902, respectively). In July 2003, the City of Rancho Cordova (City) incorporated an area of Sacramento County that included the SDCP/SRSP area. Therefore, the City assumed jurisdiction over subsequent entitlements for SDCP/SRSP and became the CEQA lead agency for any further environmental review.

After a period of litigation and judicial review of the SDCP/SRSP EIR, in February 2007 the California Supreme Court ruled in *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (40 Cal.4th 412) that portions of the SDCP/SRSP EIR did not comply with CEQA. In May 2008, the Sacramento County Superior Court issued its Judgment After Appeal and Peremptory Writ of Mandate, commanding the City of Rancho Cordova to set aside the certification of those portions of the SDCP/SRSP that the California Supreme Court held to be procedurally and factually inadequate, namely the portions of the EIR concerning: (a) long-term water supplies for the SDCP/SRSP; and (b) the potential impact of groundwater pumping from the North Vineyard Well Field on Cosumnes River flows and fish migration.

The Peremptory Writ of Mandate further commanded the City of Rancho Cordova to rescind the approvals of the SDCP/SRSP project; however, the Peremptory Writ provided that any tentative subdivision maps that had been approved in the SDCP/SRSP areas were excluded from the court's order. In September 2008, the City of Rancho Cordova set aside certification of the portions of the SDCP/SRSP EIR concerning (a) long-term water supplies for the project and (b) the potential impact of groundwater pumping from the North Vineyard Well Field on Cosumnes River flows and fish migration; rescinded the SDCP/SRSP, excluding any tentative maps that had already been approved; and directed staff to prepare the revised DEIR (Resolution Number 117-2008).

The purpose of this court-ordered partially revised DEIR (Revised DEIR) is to address the California Supreme Court ruling and the Peremptory Writ of Mandate and complete a revised environmental analysis of the issues listed above in compliance with the requirements of CEQA.

This document also provides a reanalysis of the impacts and mitigation measures associated with the Excelsior Well Field (EWF) (also referred to as the North Vineyard Well Field [NVWF]) and Water Transmission Pipeline (WTP) Project (EWFWTPP) for wells 1–3 of the NVWF and the raw water transmission pipeline. The project (initially called the Sunridge Mather Water Supply Facilities Project) was proposed by the Sacramento County Water Agency (SCWA) in 2003 and consisted of the construction of major capital facilities for water production and conveyance initially to the SDCP/SRSP area, but to eventually be utilized for service for the overall SCWA Zone 40 area. The Sacramento County Department of Environmental Review and Assessment (DERA) prepared an initial study and mitigated negative declaration (IS/MND) (SCH #2003082095) for SCWA, the CEQA lead agency for the EWFWTPP, in 2003. The MND and Mitigation Monitoring and Reporting Program (MMRP) for the EWFWTPP were adopted on December 10, 2003, and the project was approved by SWCA under Resolution No. WA-2517.

The EWFWTPP IS/MND relied in part upon the analysis of the NVWF in the SDCP/SRSP EIR, which was prepared by the County and certified in 2001, but which was invalidated by the decision of the California Supreme Court in *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412. After the certification of the SDCP/SRSP EIR in 2001, but

before the Supreme Court's decision in 2007, DERA prepared, and SCWA approved, the IS/MND for the EWFWTPP, as noted above. The IS/MND for the EWFWTPP was the subject of a petition for writ of mandate filed by the same litigants in Sacramento County Superior Court (*Vineyard Area Citizens for Responsible Growth, et al., v. Sacramento County Water Agency, et al.* [Case No. 04CS00031]). The litigation challenging the MND was abated by stipulation of the parties while a final resolution in the SDCP/SRSP EIR litigation was pending. Because the SDCP/SRSP EIR was invalidated, the abated litigation over the EWFWTPP MND was revived, even though by that time the facilities analyzed in the latter document had been constructed and were fully operational. Because of this background as well as the fact that the two projects are closely related, an analysis of the EWFWTPP facilities is included in this Revised DEIR. If and when the Rancho Cordova City Council of the City of Rancho Cordova has certified this new EIR and has taken actions to reapprove the SDCP and SRSP, the Board of Directors of the SCWA, acting as a responsible agency under CEQA, may use the analysis in the Revised DEIR in a proceeding to reapprove the EWFWTPP.

SIGNIFICANT ENVIRONMENTAL EFFECTS: The 1999 SDCP/SRSP EIR evaluated the environmental issue areas where significant impacts were identified:

- Land Use
- Public Facilities Financing
- Public Services
- Water Supply
- Sewer Service
- Drainage and Hydrology
- Traffic and Circulation
- Air Quality
- Geology and Soils
- Biological Resources
- Cultural Resources
- Hazardous Materials

This document is a court-ordered partially Revised DEIR providing a revised analysis of the portions of the SDCP/SRSP EIR concerning an analysis of long-term water needs of the SDCP/SRSP project and how identified sources are likely to meet those water needs; an analysis of potential project impacts on Cosumnes River flows and fish migration; and an analysis of project impacts on public trust resources within the project area. These areas of analysis in the SDCP/SRSP EIR were set aside by the California Supreme Court ruling and the Peremptory Writ of Mandate (described above). The remainder of the 2002 SDCP/SRSP EIR remains a certified EIR (per Sacramento County Resolution Number 2002-0901) and is unchanged by this document. The Revised DEIR identifies significant impacts on certain regional fisheries and aquatic resources from providing long-term surface water to the Project on a project and cumulative level. This Revised Draft EIR also evaluates the environmental effects of the construction and operation of the EWFWTPP. As identified in the Revised Draft EIR, no significant impacts for the EWFWTPP were identified.

Where a lead agency, pursuant to a court order is revising only limited portions of an EIR found to be inadequate by the court, only those portions of the original EIR that have been modified need to be circulated for public comment. (See Pub. Resources Code, § 21168.9, subd. (b) (relief ordered by court in CEQA case "shall include only those specific mandates which are necessary to achieve compliance with" CEQA); Planning and Conservation League v. Castaic Lake Water Agency (2009) 180 Cal.App.4th 210, 225-229 (attacks on an EIR prepared on remand from an adverse court decision must be limited to aspects of new EIR that are "materially different" from the original EIR).) Therefore, reviewers should limit their comments to the information and analysis contained in the Revised DEIR. The City will only respond to comments received during the comment period that relate to the information and analysis contained in the Revised DEIR. The remainder of the SDCP/SRSP EIR remains certified and unchanged, and is not being circulated for public comment.

PUBLIC REVIEW PERIOD/STATUS: A **45-day public review period** will be provided to receive written comments on the adequacy of the Revised Draft EIR. The comment period will start on **January 14, 2011,** and end on **February 28, 2011**. Written comments should be sent to the following address:

Patrick Angell
City of Rancho Cordova
Planning Department
2729 Prospect Park Drive
Rancho Cordova, CA 95670

AVAILABILITY OF THE REVISED DRAFT EIR: Copies of the Revised Draft EIR are available for review at the following location:

City of Rancho Cordova
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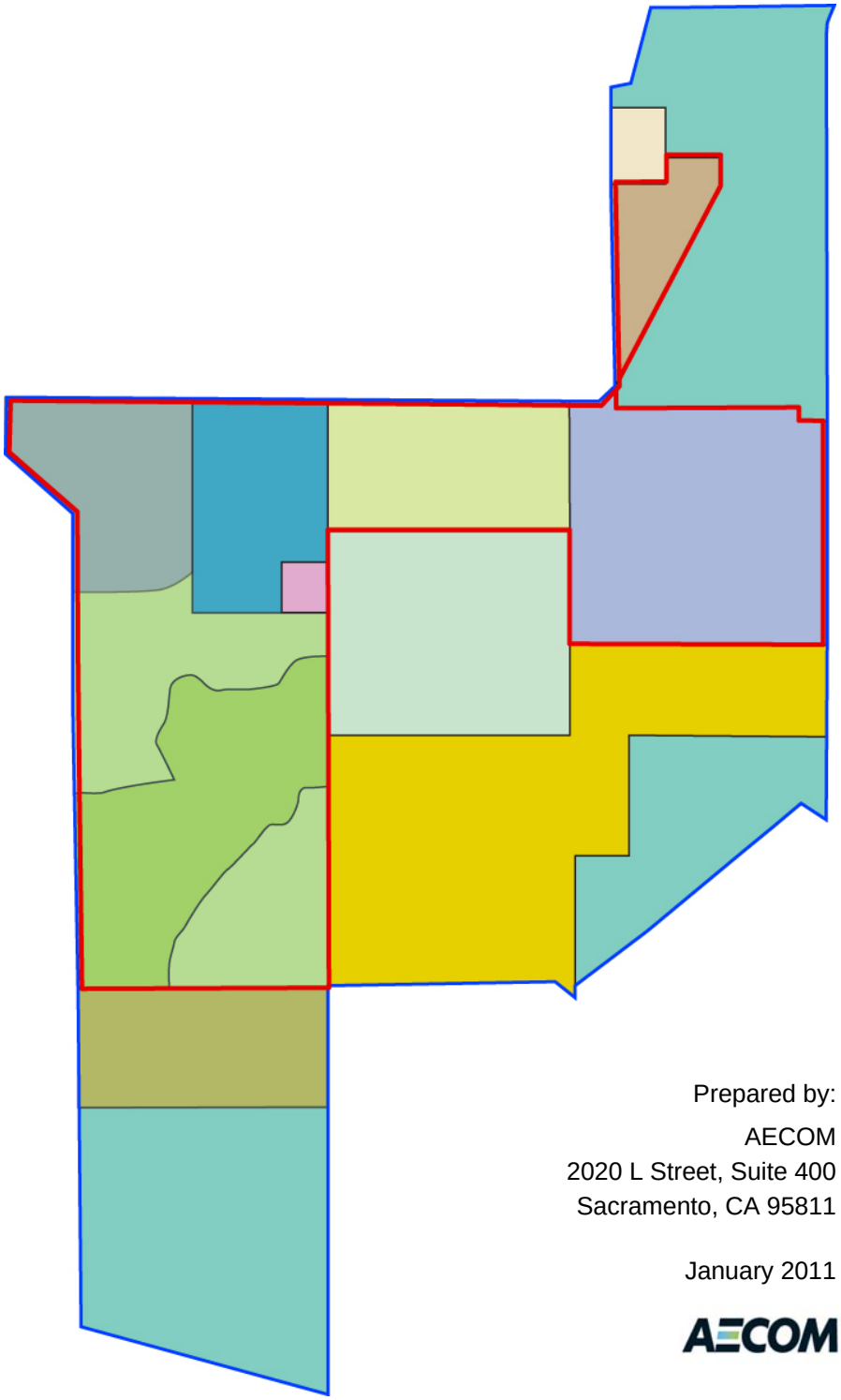
Revised Draft Environmental Impact Report

Sunrise Douglas Community Plan/SunRidge Specific Plan Long-Term Water Supply Plan



Prepared by:

AECOM
2020 L Street, Suite 400
Sacramento, CA 95811

January 2011

AECOM

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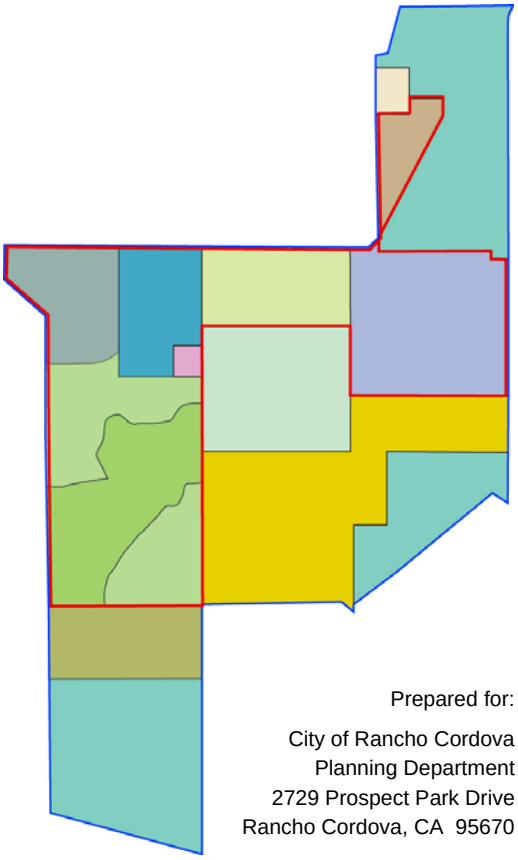

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January 2011

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1 INTRODUCTION

1.1 BACKGROUND AND STATEMENT OF PURPOSE AND NEED

In March 1999, Sacramento County released a draft environmental impact report (DEIR) pursuant to the California Environmental Quality Act (CEQA) (State Clearinghouse Number 97022055) for the Sunrise Douglas Community Plan and SunRidge Specific Plan ("SDCP/SRSP" or "the project"). The project consists of an overall conceptual framework and policy direction for urbanization of the approximately 6,042-acre SDCP area with a multi-phased mixed-use development project with approximately 22,503 residential units, approximately 479 acres of commercial, approximately 177 acres of parks, and approximately 148 acres of school uses, a future population of approximately 60,000 people, and an approximately 20-year buildout horizon. Along with the SDCP for the entire area, the project includes the SRSP for the near-term development of approximately 2,632 acres with approximately 10,020 residential units, approximately 173 acres of commercial development, approximately 78 acres of parks, and approximately 44 acres of schools.

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After a period of litigation and judicial review of the SDCP/SRSP EIR, in February 2007 the California Supreme Court ruled in *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (40 Cal.4th 412) that portions of the SDCP/SRSP EIR did not comply with CEQA. In May 2008, the Sacramento County Superior Court issued its Judgment After Appeal and Peremptory Writ of Mandate, commanding the City of Rancho Cordova to set aside the certification of those portions of the SDCP/SRSP that the California Supreme Court held to be procedurally and factually inadequate, namely the portions of the EIR concerning: (a) long-term water supplies for the SDCP/SRSP; and (b) the potential impact of groundwater pumping from the North Vineyard Well Field on Cosumnes River flows and fish migration. The Peremptory Writ of Mandate commanded the City, in accordance with the requirements of CEQA, to prepare the following analyses in a revised DEIR, circulate them for public comment, and take them into account in reconsidering project approval:

(a) An analysis of long-term water needs of the project, which identifies intended water sources, explains how the identified sources are likely to meet the project's water needs, evaluates the environmental impacts of exploiting the identified water sources, and discusses measures and alternatives to mitigate the impacts;

(b) An analysis of potential project impacts on Cosumnes River flows and fish migration; and

(c) An analysis of project impacts on public trust resources within the project area.

The Peremptory Writ of Mandate further commanded the City of Rancho Cordova to rescind the approvals of the SDCP/SRSP project; however, the Peremptory Writ provided that any tentative subdivision maps that had been approved in the SDCP/SRSP areas were excluded from the court's order.

In September 2008, the City of Rancho Cordova set aside certification of the portions of the SDCP/SRSP EIR concerning (a) long-term water supplies for the project and (b) the potential impact of groundwater pumping from the North Vineyard Well Field on Cosumnes River flows and fish migration; rescinded the SDCP/SRSP, excluding any tentative maps that had already been approved; and directed staff to prepare the revised DEIR (Resolution Number 117-2008).

The purpose of this court-ordered partially revised DEIR is to address the California Supreme Court ruling and the Peremptory Writ of Mandate and complete a revised environmental analysis of the issues listed above in compliance with the requirements of CEQA.

1.2 TYPE, FOCUS, AND INTENDED USES OF THIS ENVIRONMENTAL IMPACT REPORT

This document is a court-ordered partially revised DEIR (Revised DEIR) providing a revised analysis of the portions of the SDCP/SRSP EIR concerning an analysis of long-term water needs of the SDCP/SRSP project and how identified sources are likely to meet those water needs; an analysis of potential project impacts on Cosumnes River flows and fish migration; and an analysis of project impacts on public trust resources within the project area. These areas of analysis in the SDCP/SRSP EIR were set aside by the California Supreme Court ruling and the Peremptory Writ of Mandate (described above). The remainder of the 2002 SDCP/SRSP EIR remains a certified EIR (per Sacramento County Resolution Number 2002-0901) and is unchanged by this document. Notably, the unchanged – and thus still "certified" – portions of the original EIR enjoy a presumption of legal validity, and are no longer subject to legal challenge. (See Pub. Resources Code, Sections 21167.2, 21167.3; see also *Laurel Heights Improvement Assn. v. Regents of the University of California* (1993) 6 Cal.4th 1112, 1130 [even where an initial EIR may have been flawed, the presumption of validity serves "the interests of finality" in administrative decision-making].)

Under such circumstances, in which a lead agency, on remand, is "fixing" only limited portions of an EIR found to be inadequate by a reviewing court, the lead agency need only circulate those portions of the original EIR that have been modified in response to the court's directive. (See Pub. Resources Code, Section 21168.9, subd. (b) [relief ordered by court in CEQA case "shall include only those specific mandates which are necessary to achieve compliance with" CEQA]; *Planning and Conservation League v. Castaic Lake Water Agency* (2009) 180 Cal.App.4th 210, 225-229 [attacks on an EIR prepared on remand from an adverse court decision must be limited to aspects of new EIR that are "materially different" from the original EIR].) Therefore, reviewers should limit their comments to the information and analysis contained in the Revised DEIR. The City will only respond to comments received during the comment period that relate to the information and analysis contained in the Revised DEIR. The remainder of the SDCP/SRSP EIR remains certified and unchanged, and is not being circulated for public comment.

This Revised DEIR is an informational document to inform public agency decision makers and the general public of the environmental effects of the provision of long-term water supplies to the SDCP/SRSP project; to identify possible ways to avoid, minimize, or reduce significant effects; and to describe any supply uncertainties and analyze reasonable alternative sources of water to address uncertainties. Public agencies are required to consider the information presented in this Revised DEIR along with the remainder of the certified EIR when determining whether to approve the SDCP/SRSP.

In light of all of the foregoing, the City of Rancho Cordova is circulating this Revised DEIR for a public review period of 45 days. This Revised DEIR, as well as the SDCP/SRSP EIR (including the 1999 DEIR, 2001 revised

recirculated DEIR, and 2001 FEIR), are available for review during normal business hours at Rancho Cordova City Hall, 2729 Prospect Park Drive, Rancho Cordova, CA 95670 or on-line at www.cityofranchocordova.org.

1.3 REANALYSIS OF THE EXCELSIOR WELL FIELD (NORTH VINEYARD WELL FIELD) AND WATER TRANSMISSION PIPELINE PROJECT ENVIRONMENTAL ANALYSIS

Chapter 6 of this document is a reanalysis of the impacts and mitigation measures associated with the Excelsior Well Field (EWF) (also referred to as the North Vineyard Well Field [NVWF]) and Water Transmission Pipeline (WTP) Project (EWFWTPP) for wells 1–3 of the NVWF and the raw water transmission pipeline. The project (initially called the Sunridge Mather Water Supply Facilities Project) was proposed by the Sacramento County Water Agency (SCWA) in 2003 and consisted of the construction of major capital facilities for water production and conveyance initially to the SDCP/SRSP area, but to eventually be utilized for service for the overall SCWA Zone 40 area.

The Sacramento County Department of Environmental Review and Assessment (DERA) prepared an initial study and mitigated negative declaration (IS/MND) (SCH #2003082095) for SCWA, the CEQA lead agency for the EWFWTPP, in 2003. According to that original IS/MND, project components initially included the NVWF wells 1–3, capable of producing water at a rate of approximately 3,600 acre-feet per year (afy), a 30-inch raw water transmission main that conveys raw water over a distance of approximately 5 miles, the proposed Sunridge Mather Water Treatment Plant, three alternatives for disposal of wastewater generated by the treatment process, and a water transmission main to the Sunridge development area. The MND and Mitigation Monitoring and Reporting Program (MMRP) for the EWFWTPP were adopted on December 10, 2003, and the project was approved by SWCA under Resolution No. WA-2517.

Prior to project approval, SCWA had removed the WTP portion of the project due to the environmental sensitivity of the proposed location (near a vernal pool complex on the old Mather Air Force Base property) and changed the project name from the Sunridge Mather Water Supply Facilities Project to the EWFWTPP. The Sunridge Mather Water Treatment Plant, a substitute water treatment plant located at a less sensitive location within SRSP area, was addressed separately in the 2004 Anatolia Water Treatment Plant IS/MND. Mitigation measures included in the original IS/MND involving the Sunridge Mather Water Treatment Plant were also deleted from the approved MND for the EWFWTPP.

NVWF wells 1-3 and the raw water transmission pipeline were constructed in 2004 and 2005 and are currently in operation. See Exhibit 2-5 in Chapter 2, “Project Description,” of this Revised EIR for well facilities and pipeline locations. DERA conducted the mitigation monitoring for SCWA to ensure compliance with the adopted MMRP for project construction activities that occurred between January 2004 and March 2005.

The EWFWTPP IS/MND relied in part upon the analysis of the NVWF in the SDCP/SRSP EIR, which was prepared by the County and certified in 2001, but which was invalidated by the decision of the California Supreme Court in *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412. After the certification of the SDCP/SRSP EIR in 2001, but before the Supreme Court’s decision in 2007, DERA prepared, and SCWA approved, the IS/MND for the EWFWTPP, as noted above. The IS/MND for the EWFWTPP was the subject of a petition for writ of mandate filed by the same litigants in Sacramento County Superior Court (*Vineyard Area Citizens for Responsible Growth, et al., v. Sacramento County Water Agency, et al.* [Case No. 04CS00031]). The litigation challenging the MND was abated by stipulation of the parties while a final resolution in the SDCP/SRSP EIR litigation was pending. Because the SDCP/SRSP EIR was invalidated, the abated litigation over the EWFWTPP MND was revived, even though by that time the facilities analyzed in the latter document had been constructed and were fully operational. Because of this background as well as the fact that the two projects are closely related, SCWA asked the City to include an analysis of the EWFWTPP facilities in this Revised DEIR for the SDCP/SRSP. If and when the Rancho Cordova City Council has certified this new EIR and has taken actions to reapprove the SDCP and SRSP, the Board of Directors of

SCWA, acting as a responsible agency under CEQA, may use the analysis in this document in a proceeding to reapprove the EWFWTPP.

1.4 AGENCY ROLES AND RESPONSIBILITIES

1.4.1 LEAD AGENCY

State CEQA Guidelines CCR Section 15367 defines the "lead agency" as the public agency with principal responsibility for carrying out or approving a project. The City of Rancho Cordova has the primary approval authority for the SDCP/SRSP project and is the CEQA lead agency for the SDCP/SRSP EIR.

Pursuant to State CEQA Guidelines CCR Sections 15089 and 15090, the City will be responsible for responding to public comments on this Revised DEIR, preparation of the Final Revised EIR, and certification of the Revised EIR prior to taking action on the SDCP/SRSP project. The City will make findings regarding significant impacts as required by CEQA (State CEQA Guidelines CCR Section 15091). Following certification of the Revised EIR, the City will consider project approval and will be responsible for any subsequent discretionary approvals in the SDCP/SRSP.

1.4.2 TRUSTEE AND RESPONSIBLE AGENCIES

A trustee agency is a state agency that has jurisdiction by law over natural resources that are held in trust for the people of the State of California. Trustee agencies that have jurisdiction over resources potentially affected by the SDCP/SRSP are the California Department of Fish and Game and the California State Lands Commission.

The term "responsible agency" includes all public agencies, other than the lead agency, that have discretionary authority over aspects of the project (California Public Resources Code Section 21069). Responsible agencies are encouraged to actively participate in the CEQA process of the lead agency, review the CEQA documents of the lead agency, and use the documents when making decisions on the project. Several agencies other than the City of Rancho Cordova have jurisdiction over implementation of elements of the project, as identified below.

FEDERAL AGENCIES

- U.S. Fish and Wildlife Service (USFWS)
- National Oceanic and Atmospheric Administration (NOAA Fisheries), National Marine Fisheries Service (NMFS)

STATE TRUSTEE AND RESPONSIBLE AGENCIES

- California Department of Fish and Game (DFG)
- California State Lands Commission (CSLC)
- State Water Board (SWB)

REGIONAL RESPONSIBLE AGENCIES

- Sacramento County Water Agency (SCWA)

SCWA, the CEQA lead agency for the EWFWTPP as described above, is a responsible agency for the SDCP/SRSP project (California Public Resources Code Section 21069). Therefore, SCWA has discretionary authority over aspects of the SDCP/SRSP project (involving water supplies and facilities) and SCWA will review this Revised DEIR, comment as necessary, and use this CEQA document when making decisions related to the SDCP/SRSP project as well as the EWFWTPP. After the City of Rancho Cordova responds to comments on this

Revised DEIR, finalizes the Revised EIR, makes findings, and certifies the Revised EIR, SCWA may utilize this CEQA document to reapprove the EWFWTPP.

1.5 ENVIRONMENTAL SETTING – BASELINE CONDITIONS

State CEQA Guidelines CCR Section 15125 states that an EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation (NOP) is published, or if no NOP is published, at the time environmental analysis is commenced, from both a local and regional perspective. The environmental setting constitutes the baseline physical conditions by which a lead agency determines whether a project impact is considered significant.

The NOP for the SDCP/SRSP EIR was published by Sacramento County in 1997. In response to comments received on the SDCP/SRSP DEIR (Sacramento County 1999), an alternative water supply plan for the SDCP/SRSP was prepared and evaluated in a revised recirculated DEIR (Sacramento County 2001). Although not required by State CEQA Guidelines CCR Section 15088.5, Sacramento County published a new NOP for the revised recirculated DEIR on December 14, 2000. The analysis used in preparation of the revised recirculated DEIR considered the environmental conditions present at the time that document was prepared and circulated (i.e., 2000–2001).

Because the Revised DEIR has been prepared pursuant to a court order that did not require the preparation of a new Notice of Preparation (NOP), the City has not prepared any new NOP for this Revised DEIR. Rather, the Writ of Mandate issued in response to the California Supreme Court's decision in *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (February 2007) (40 Cal.4th 412) commanded the City to prepare an analysis of long-term water needs of the SDCP/SRSP project and how identified sources are likely to meet those water needs; an analysis of potential project impacts on Cosumnes River flows and fish migration; and an analysis of project impacts on public trust resources within the project area. To have an accurate and up-to-date evaluation of long-term water supply to meet the SDCP/SRSP demands, as well as the environmental impacts of provision of that water, the water supply analysis must be based on current environmental, land use and development conditions, and regulatory conditions, rather than on environmental conditions, water supplies/plans, and regulations as of 1997 or 2000–2001. Water supplies available as of 1997 or 2000–2001 may no longer be available due to provision to other development; the water planning or regulatory setting may have changed; or new planning may have been completed by water purveyors. Therefore, this Revised DEIR uses existing environmental and regulatory conditions (2010) as the baseline for determination of the significance of potential water supply impacts. Chapter 3, "Water Supply," of this Revised DEIR documents the changes in local and regional water supply planning and regulations since certification of the SDCP/SRSP in 2002, and provides a detailed breakdown of the proposed water supply program to meet the SDCP/SRSP water demands.

1.6 ORGANIZATION OF THIS EIR

This Revised DEIR includes only those chapters or portions of chapters of the previously certified SDCP/SRSP EIR that are being revised as a result of the court order, namely the portions concerning: (a) long-term water supplies for the SDCP/SRSP; and (b) the potential impact of groundwater pumping from the North Vineyard Well Field on Cosumnes River flows and fish migration. The remainder of the SDCP/SRSP EIR (as certified in July 2002 by the County of Sacramento) remains certified and unchanged and is not being circulated for public comment. Therefore, this document is organized as follows:

- Chapter 1, "Introduction," describes the background, purpose, type, focus, organization, and terminology of this Revised DEIR.

- Chapter 2, "Project Description," summarizes the SDCP/SRSP objectives and approved entitlements (unaffected by litigation); provides an update on development subsequent to adoption of the SDCP/SRSP;

describes the current (2010) estimated long-term water demand for the SDCP/SRSP; and summarizes the proposed sources of water to meet that demand, which is the focus of analysis in this document.

- Chapter 3, "Water Supply," constitutes the bulk of the analysis in response to the court order regarding analysis of SDCP/SRSP long-term water supplies. This chapter describes in detail the proposed water supply purveyors and water supplies that would be used to meet SDCP/SRSP long-term water demands, including a description of the substantial changes in the regulatory and water supply planning environment since certification of the SDCP/SRSP EIR in 2002. The discussions of the environmental setting and regulatory framework focus on information relevant to the water supply analysis. This chapter describes the analysis methodology and thresholds of significance against which water supply impacts are assessed. The impacts associated with long-term water supplies are uniquely cumulative. Because the Zone 40 water supplies and conveyance facilities would need to be constructed to serve SDCP/SRSP and other development in the 2030 Study Area as a whole, the SDCP/SRSP project indirectly and incrementally contributes to the environmental impacts associated with the construction and operation of these facilities. However, the construction and operations impacts of the Zone 40 water supply system would also occur without development of the SDCP/SRSP because Zone 40 facilities are required to serve development in the 2030 Study Area and would be needed whether or not SDCP/SRSP is developed. Chapter 7, "Cumulative Impacts," analyzes the potential for the SDCP/SRSP and related projects in the 2030 Study Area to result in a cumulatively considerable incremental contribution to significant and unavoidable impacts related to increased demands for long-term water supplies and conveyance facilities. In addition, issues involving fisheries and aquatic resources, as well as climate change, are presented in Chapters 4 and 5 (respectively) due to the extensive amount of information in those resource analyses. Alternative water supplies to address uncertainties in the water supply program are identified and the environmental impacts due to the provision of those supplies are analyzed. For any significant or potentially significant impact that would result, feasible mitigation measures, where available, are presented along with the level of significance after mitigation implementation. Because SDCP/SRSP would be served by SCWA's Zone 40 conjunctive-use water supplies, impacts and mitigation measures from the Zone 40 WSMP EIR are summarized and incorporated by reference, as appropriate, throughout this section. In addition, as applicable, the impacts and mitigation measures from other project-level CEQA documents for Zone 40 infrastructure are also summarized and incorporated by reference.

- Chapter 4, "Fisheries and Aquatic Resources," provides the revised analysis of the potential project-related impacts to fisheries and aquatic resources and public trust resources due to the long-term supply of water to the SDCP/SRSP, as required by the California Supreme Court ruling in *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (40 Cal.4th 412) and the Peremptory Writ of Mandate. The analysis addresses both the potential effects to fisheries resources in the Cosumnes River due to groundwater withdrawal from the NVWF as well as potential effects to fisheries resources throughout the region, based on updated environmental conditions and regulations, due to meeting the long-term water demands for the SDCP/SRSP. This chapter includes a discussion of the affected environment, including a summary of changed environmental conditions that have occurred in regional and local fisheries resource conditions since the certification of the SDCP/SRSP FEIR (July 2002). This chapter also presents the regulatory background, thresholds of significance, and methodology used to analyze potential impacts. Project-level and cumulative impacts to fisheries and aquatic resources are evaluated based on the changes in river flow, reservoir storage, and water quality conditions anticipated to occur in relation to groundwater withdrawal from the NVWF as well as the increased diversion of surface water to serve the municipal and industrial water demand associated with the SDCP/SRSP. Where appropriate, mitigation measures are provided to avoid or minimize impacts to the extent feasible.

- Chapter 5, "Climate Change," addresses the amendments to the state CEQA Guidelines, including Appendix G, that require that an EIR address impacts of greenhouse gas (GHG) emissions, as directed by Senate Bill 97 (2007). These proposed amendments were approved by the California Natural Resources Agency (CRNA) on December 30, 2009 and became effective on March 18, 2010. Consistent with the amended CEQA Guidelines, for water supply impacts only, this chapter describes the physical scientific basis of climate

change (including climate change and water supply linkages), the regulatory framework for the analysis of climate change, thresholds for the analysis of climate change impacts, the methodology of the analysis, and impacts related to the effect of the long-term water supply program on climate change as well as how climate change may affect the reliability of long-term water supplies.

- Chapter 6, "Reanalysis of the Excelsior Well Field (North Vineyard Well Field) and Water Transmission Pipeline Project Environmental Analysis," is a reanalysis of the impacts and mitigation measures associated with the EWFWTPP for wells 1-3 of the NVWF and the raw water transmission pipeline. The EWFWTPP IS/MND relied in part upon the analysis of the NVWF in the SDCP/SRSP EIR (certified in 2001), which was invalidated by the decision of the California Supreme Court in *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412. The IS/MND for the EWFWTPP was also the subject of a petition for writ of mandate filed by the same litigants in Sacramento County Superior Court (*Vineyard Area Citizens for Responsible Growth, et al., v. Sacramento County Water Agency, et al.* [Case No. 04CS00031]). The litigation challenging the MND was abated by stipulation of the parties while a final resolution in the SDCP/SRSP EIR litigation was pending. Because the SDCP/SRSP EIR was invalidated, the abated litigation over the EWFWTPP MND was necessarily revived, even though by that time the facilities analyzed in that document had been constructed and were fully operational. Because of this background as well as the fact that the two projects are closely related, SCWA asked the City of Rancho Cordova to include a reanalysis of the EWFWTPP facilities in this Revised DEIR for the SDCP/SRSP. If and when the Rancho Cordova City Council has certified this new EIR and has taken actions to reapprove the SDCP and SRSP, the Board of Directors of SCWA, acting as a responsible agency under CEQA, may use the analysis in this document in a proceeding to reapprove the EWFWTPP.

- Chapter 7, "Cumulative Impacts," discusses the cumulative impacts that would result from the long-term water supply for the SDCP/SRSP project in combination with past, current, and probable future projects (i.e., related projects) and the specific contribution to cumulative impacts due to the supply of water to the SDCP/SRSP project. As in Chapter 3, because SDCP/SRSP would be served by SCWA's Zone 40 conjunctive-use water supplies, the cumulative impacts and mitigation measures identified in the Zone 40 WSMP EIR are summarized and incorporated by reference, as appropriate, throughout this chapter. In addition, as applicable, the impacts and mitigation measures from other project-level CEQA documents for Zone 40 infrastructure are also summarized and incorporated by reference.

- Chapter 8, "Report Preparation," identifies the preparers of this Revised DEIR.

- Chapter 9, "References," contains a comprehensive listing of the sources of information used in the preparation of this Revised DEIR, including agencies or individuals consulted.

- Appendix, contains technical supporting documentation relied on in this Revised DEIR.

1.7 STANDARD TERMINOLOGY

This Revised DEIR uses the following standard terminology:

- **"No impact"** means no change from existing conditions (no mitigation is needed).

- **"Less-than-significant impact"** means no substantial adverse change in the physical environment (no mitigation is needed).

- "**Potentially significant impact"** means an impact that, if it were to occur, would be considered a significant impact as described below; however, the occurrence of the impact cannot be immediately determined with certainty (mitigation is recommended because potentially significant impacts are treated the same as significant impacts).

- **"Significant impact"** means an impact that would cause a substantial adverse change in the physical environment (mitigation is recommended).

- **"Significant and unavoidable impact"** means an impact that would cause a substantial adverse change in the physical environment and that cannot be avoided, even with the implementation of recommended mitigation. Under CEQA, a project with significant and unavoidable impacts could proceed, but the lead agency would be required to prepare a "statement of overriding considerations" in accordance with State CEQA Guidelines Section 15093 explaining why the lead agency would proceed with the project in spite of the potential for significant impacts.

In addition, a complete list of acronyms and abbreviations is provided below in Section 1.9.

1.8 DOCUMENTS INCORPORATED BY REFERENCE

Incorporation by reference is encouraged by CEQA (CCR Section 15150). The State CEQA Guidelines allow an EIR to "incorporate by reference all or a portion of another document which is a matter of public record or is generally available to the public." CEQA requires citation to and a brief summary of the referenced material, as well as information about the public availability of the incorporated material. CEQA also requires citation of the state identification number of the EIRs cited. The authors of this Revised DEIR relied on several background documents in reaching many of their conclusions. These documents provide background information, are sources of technical information, or are part of the planning context for SDCP/SRSP and the proposed water supply program. Some of these documents form the foundation of the technical analysis conducted in this Revised DEIR. As described above, this Revised DEIR includes only the revised chapters, or portions of chapters, of the previously certified EIR, which includes the following documents:

- Sacramento County. 1999. *Draft Environmental Impact Report for the Sunrise Douglas Community Plan and Sun Ridge Specific Plan.* (State Clearinghouse Number 97022055)

- Sacramento County. 200. *Revised Recirculated Draft Environmental Impact Report for the Sunrise Douglas Community Plan and Sun Ridge Specific Plan.* (State Clearinghouse Number 97022055)

- Sacramento County. 2002. *Final Environmental Impact Report for the Sunrise Douglas Community Plan and Sun Ridge Specific Plan.* (State Clearinghouse Number 97022055)

In accordance with Section 15150 of the State CEQA Guidelines, the following documents are incorporated by reference in this Revised DEIR:

- Sacramento City-County Office of Metropolitan Water Planning. 1999. *Environmental Impact Report for the Water Forum Proposal*. (State Clearinghouse Number 1995082041)

- Water Forum. 2000. *Water Forum Agreement.*

- Freeport Regional Water Authority. 2003. *Environmental Impact Statement/Environmental Impact Report for the Freeport Regional Water Project.* (State Clearinghouse Number 2002032132)

- Freeport Regional Water Authority. 2006. *Initial Study and Draft Supplemental Mitigated Negative Declaration to the Freeport Regional Water Project Final Environmental Impact Report* (State Clearinghouse No. 2002032132).

- Sacramento County Water Agency. 2004. *Environmental Impact Report, 2002 Zone 40 Water Supply Master Plan.* (State Clearinghouse Number 2002122068)

- Sacramento County Water Agency. 2004. *Groundwater Management Plan.*

- Sacramento County Water Agency. 2005. *Zone 40 Water Supply Master Plan.*
- Sacramento County Water Agency. 2005. *Zone 41 Urban Water Management Plan*.
- Sacramento County Water Agency. 2006. *Zone 40 Water System Infrastructure Plan.*
- City of Rancho Cordova. 2006. *Water Supply Evaluation for the City of Rancho Cordova General Plan.*
- City of Rancho Cordova. 2006. *City of Rancho Cordova General Plan.*
- City of Rancho Cordova. 2006). *Environmental Impact Report, City of Rancho Cordova General Plan*. (State Clearinghouse Number 2005022137)
- Sacramento County. 2003. *Sunridge Mather – Water Supply Facilities Report Initial Study and Mitigated Negative Declaration.* (State Clearinghouse Number 2003082095) (EWFWTPP IS/MND)
    - The EWFWTPP IS/MND was the subject of a petition for writ of mandate (*Vineyard Area Citizens for Responsible Growth, et al., v. Sacramento County Water Agency, et al.* [Case No. 04CS00031]). See Chapter 6 of this document for the reanalysis of these water supply facilities.
- Sacramento County. 2004. *Zone 40 Central Surface Water Treatment Plant and Corporation Yard Project Initial Study/Negative Declaration*. (State Clearinghouse Number 2004092050)
- Sacramento County. 2004. *Anatolia Water Treatment Plant Initial Study/Mitigated Negative Declaration.* (Sacramento County Control Number 03-PWE-0811)
- Sacramento County. 2005. *Excelsior Road Well Field, Well No. 4 Initial Study/Mitigated Negative Declaration.* (State Clearinghouse Number 2005042042)
- Sacramento County. 2005. *Anatolia Off-Site Well Field No. 5 Initial Study/Negative Declaration.* (State Clearinghouse Number 2005062109)
- Sacramento County. 2005. *Anatolia Off-Site Well Field No. 6 Initial Study/Negative Declaration.* (State Clearinghouse Number 2005072003)
- Sacramento County. 2010. *North Service Area Pipeline, Tank, and Booster Pump Project* (State Clearinghouse Number 2010082044)
- Sacramento Regional County Sanitation District. 2007. *Water Recycling Opportunities Study*.
- Wood Rogers. 2007. *Non-Potable Water Master Plan for the Sunrise Douglas Community Plan Area.*
- City of Roseville. 2009. *Sierra Vista Specific Plan Draft EIR, Volume 1*.

CCR Section 15150 further states that "where an EIR uses incorporation by reference, the incorporated part of the referenced document shall be briefly summarized where possible or briefly described if the data or information cannot be summarized." Consistent with this requirement, the impact analyses in Chapters 3 through 7 summarize the information incorporated by reference from other relevant documents and provide the specific page number and location of text that is referenced. Most of the documents listed above are publically available on the Internet; website addresses are provided in Chapter 9, "References," of this Revised DEIR. Copies of documents are available for review during normal business hours at Rancho Cordova City Hall, 2729 Prospect Park Drive, Rancho Cordova, CA 95670 or on-line at www.cityofranchocordova.org.

1.9 PUBLIC PARTICIPATION AND THE EIR PROCESS

In accordance with CEQA review requirements, this Revised DEIR is being distributed for public and agency review and comment for a 45-day period, which ends on February 28, 2011. This distribution provides interested parties with an opportunity to express their views regarding the significant environmental effects described in this document, and to provide information to decision makers for the City and the CEQA responsible agencies that is pertinent to permits and approvals. This document is available for review by the public during normal business hours at Rancho Cordova City Hall, 2729 Prospect Park Drive, Rancho Cordova, CA 95670 or on-line at www.cityofranchocordova.org. Written comments postmarked no later than February 28, 2011, should be sent to the following address:

Patrick Angell
City of Rancho Cordova
Planning Department
2729 Prospect Park Drive
Rancho Cordova, CA 95670
Fax: (916) 851-8787
E-mail: PAngell@pacificmunicipal.com

If comments are provided via e-mail, please include the project title in the subject line, attach comments in MS Word format, and include the commenter's U.S. Postal Service mailing address.

Following consideration of public comments on this Revised DEIR, the City will prepare written responses to comments on substantive environmental issues and will prepare a Final Revised EIR that will describe the disposition of any significant environmental issues raised in the comments. Written responses must be provided to public agencies on comments made by those agencies at least 10 days before the EIR can be certified. After this 10-day period, the City of Rancho Cordova City Council will consider certification of the Revised EIR (which consists of the Draft and Final Revised EIR). If it is determined to be in compliance with CEQA, the City will make findings regarding significant impacts as required under CEQA (State CEQA Guidelines CCR Section 15091). Following certification of the EIR, the City will consider project approval and will be responsible for any subsequent discretionary approvals in the SDCP/SRSP. After this City process of certifying the EIR and reapproval of the SDCP and SRCP is complete, SCWA, as a responsible agency, may rely on the Revised EIR to reapprove the EWFWTPP.

1.10 ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
af	acre feet
AFRP	Anadromous Fish Restoration Program
afy	acre-feet per year
APS	Alternative Planning Strategy
ARB	California Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BDCP	Bay-Delta Conservation Plan
BMP	best management practice
CAA	Federal Clean Air Act
CALVIN	California Value Integrated Network
CCAA	California Clean Air Act
CCR	California Code of Regulations

CCWD	Contra Costa Water District
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
cfs	cubic feet per second
CH_4	methane
City	City of Rancho Cordova
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
Corps	U.S. Army Corps of Engineers
CRFAP	Cosumnes River Flow Augmentation Project
CRNA	California Natural Resources Agency
CSA	Central Service Area
CSCGMP	*Sacramento County Groundwater Management Plan*
CVP	Central Valley Project
CWA	Clean Water Act
dbh	diameter at breast height
DEIR	draft environmental impact report
DERA	Sacramento County Department of Environmental Review and Assessment
DPS	Southern Distinct Population Segment
DWR	California Department of Water Resources
EBMUD	East Bay Municipal Utility District
EDWPA	El Dorado Water and Power Authority
EFH	Essential Fish Habitat
EPA	U.S. Environmental Protection Agency
ESA	federal Endangered Species Act
ESU	Evolutionarily Significant Unit
EWF	Excelsior Well Field
EWFWTPP	Excelsior Well Field and Water Transmission Pipeline Project or North Vineyard Well Field and Water Transmission Pipeline Project
FEIR	final environmental impact report
FESA	Federal Endangered Species Act
FISH Plan	Fish and Instream Habitat Plan
FMS	Flow Management Standard
FRWA	Freeport Regional Water Authority
FRWP	Freeport Regional Water Project
GCID	Glenn-Colusa Irrigation District
GHG	green house gas
GWP	global warming potential
HCP	Habitat Conservation Plan
IGSM	Integrated Groundwater Surface Water Model
IS/MND	initial study/mitigated negative declaration

LCFS	Low Carbon Fuel Standard
mgd	million gallons per day
MMRP	Mitigation Monitoring and Reporting Program
MMT	million metric tons
MOA	Memorandum of Agreement
MPO	Metropolitan Planning Organization
msl	mean sea level
N_2O	nitrous oxide
NCC	Natomas Cross Canal
NCMWC	Natomas Central Mutual Water Company
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOP	notice of preparation
NO_X	oxides of nitrogen
NSA	North Service Area
NSAPP	North Service Area Pipeline Project
NVWF	North Vineyard Well Field
OCAP	Operations Criteria and Plan
OHWD	Omochumne-Hartnell Water District
OMR	Old and Middle River
OPR	Office of Planning and Research
PFMC	Pacific Fisheries Management Council
PM_{10}	respirable particulate matter with a diameter smaller than 10 microns
POD	Pelagic Organism Decline
PUC	California Public Utilities Commission
Reclamation	U.S. Bureau of Reclamation
ROG	reactive organic gases
Roseville	City of Roseville
RPA	reasonable and prudent alternative
RTP	Regional Transportation Plan
SacIGSM	Sacramento County Integrated Groundwater Simulation Model
SB	Senate Bill
SCS	Sustainable Communities Strategy
SCWA	Sacramento County Water Agency
SDCP/SRSP	Sunrise Douglas Community Plan and SunRidge Specific Plan
SF_6	sulfur hexafluoride
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMUD	Sacramento Municipal Utility District
SRCSD	Sacramento Regional County Sanitation District
SRWRS	Sacramento River Water Reliability Study
SSA	South Service Area
SSCAWA	Southeast Sacramento County Agricultural Water Authority

SSHCP	South Sacramento County Habitat Conservation Plan
SWP	State Water Project
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
the project	Sunrise Douglas Community Plan and SunRidge Specific Plan
UPA	Urban Policy Area
USACOE	U.S. Army Corps of Engineers
USB	Urban Services Boundary
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WFA	Water Forum Agreement
WOMT	Water Operations Management Team
WSMP	Water Supply Master Plan
WTP	water treatment plant

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2 PROJECT DESCRIPTION

This chapter provides a summarized description of the location, objectives, and characteristics of the Sunrise Douglas Community Plan and SunRidge Specific Plan ("SDCP/SRSP" or "the project"), which is described in detail in the SDCP/SRSP final EIR (FEIR) (certified in July 2002). As described in Chapter 1, the focus of this court-ordered partially revised DEIR (Revised DEIR) is the long-term water supply for the SDCP/SRSP, the potential environmental impacts of the provision of that water to SDCP/SRSP, the potential impacts on Cosumnes River flows and fisheries, and potential impacts on public trust resources. Therefore, this chapter also provides an account of the SDCP/SRSP long-term water needs (demand) and a summary of the proposed sources of water to meet that demand. Chapter 3, "Water Supply," provides the details of the long-term SDCP/SRSP water supply program as well as the analysis of whether the supply is sufficient to meet the documented SDCP/SRSP long-term water demands and the analysis of associated environmental impacts.

2.1 SUMMARY OF THE SUNRISE DOUGLAS COMMUNITY PLAN/ SUNRIDGE SPECIFIC PLAN PROJECT

2.1.1 SDCP/SRSP PROJECT LOCATION

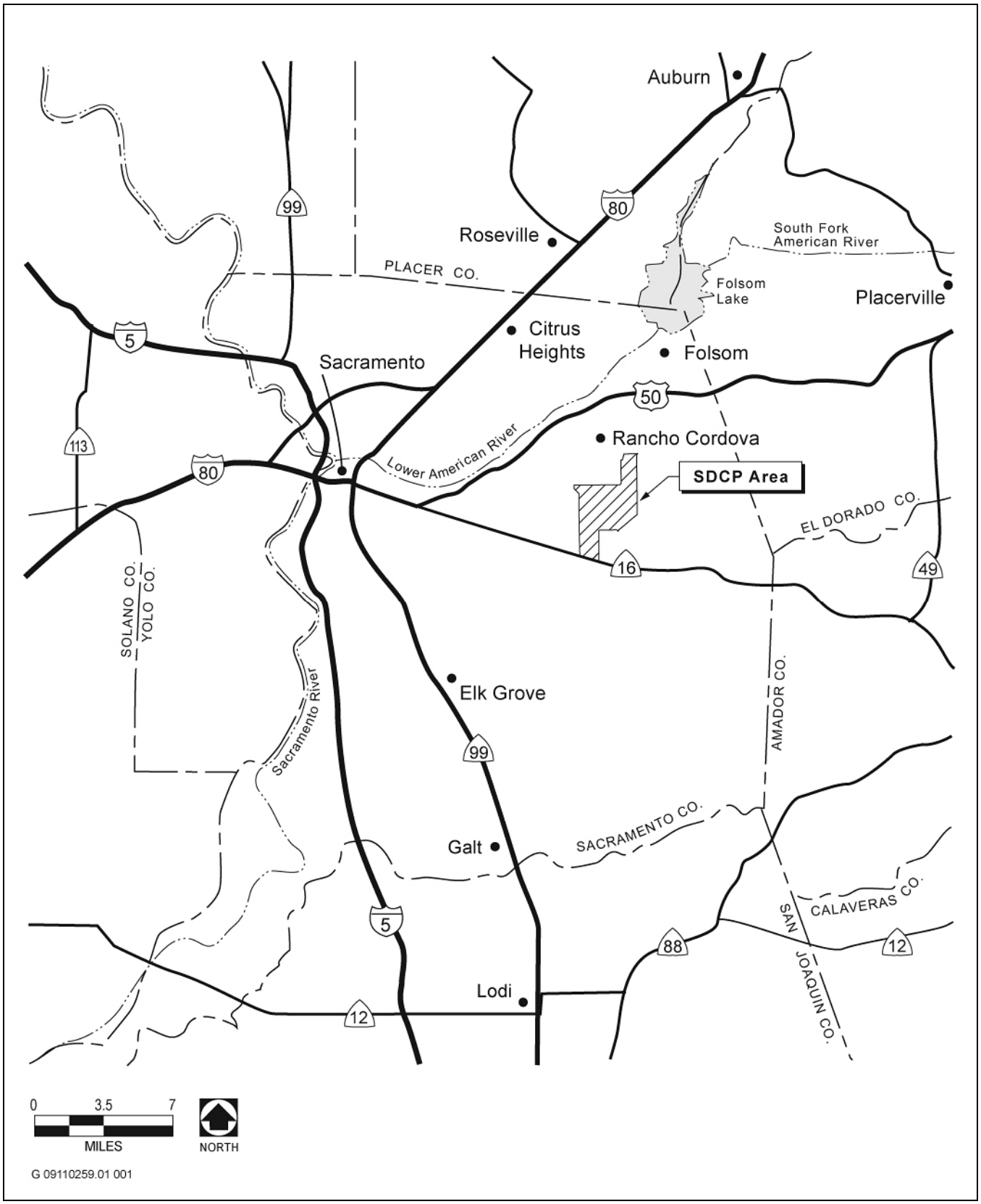
The approximately 6,042-acre SDCP project site is located within the City of Rancho Cordova, 5 miles south of U.S. Highway 50, south of Douglas Road, east of Sunrise Boulevard and the Folsom South Canal, north of Jackson Road (State Highway 16), and west of Grant Line Road (Exhibit 2-1). The approximately 2,632-acre SRSP is fully contained within the SDCP (Exhibit 2-2). The SDCP is surrounded by the Security Industrial Park and Aerojet lands to the north, industrial uses along Sunrise Boulevard to the northwest, Mather Field and agricultural uses to the west, an aggregate processing facility to the northeast, and agricultural land uses to the south and east. The Kiefer Landfill is located to the southeast across Grant Line Road. The SDCP consists of gently rolling terrain with slopes generally downward to the south and west. Undeveloped areas are dominated by annual grassland, and several intermittent drainages cross the SDCP including Morrison and Laguna Creeks. As described below, subsequent to the 2002 adoption of the SDCP/SRSP, mixed-use development has occurred within the SRSP.

2.1.2 SDCP/SRSP PROJECT OBJECTIVES

The objectives of the SDCP/SRSP project are fully described in the SDCP/SRSP FEIR (certified in July 2002), but essentially consist of providing a viable master planned residential community to complement the existing and planned employment uses along the U.S. Highway 50 corridor. The SDCP/SRSP FEIR states, in part:

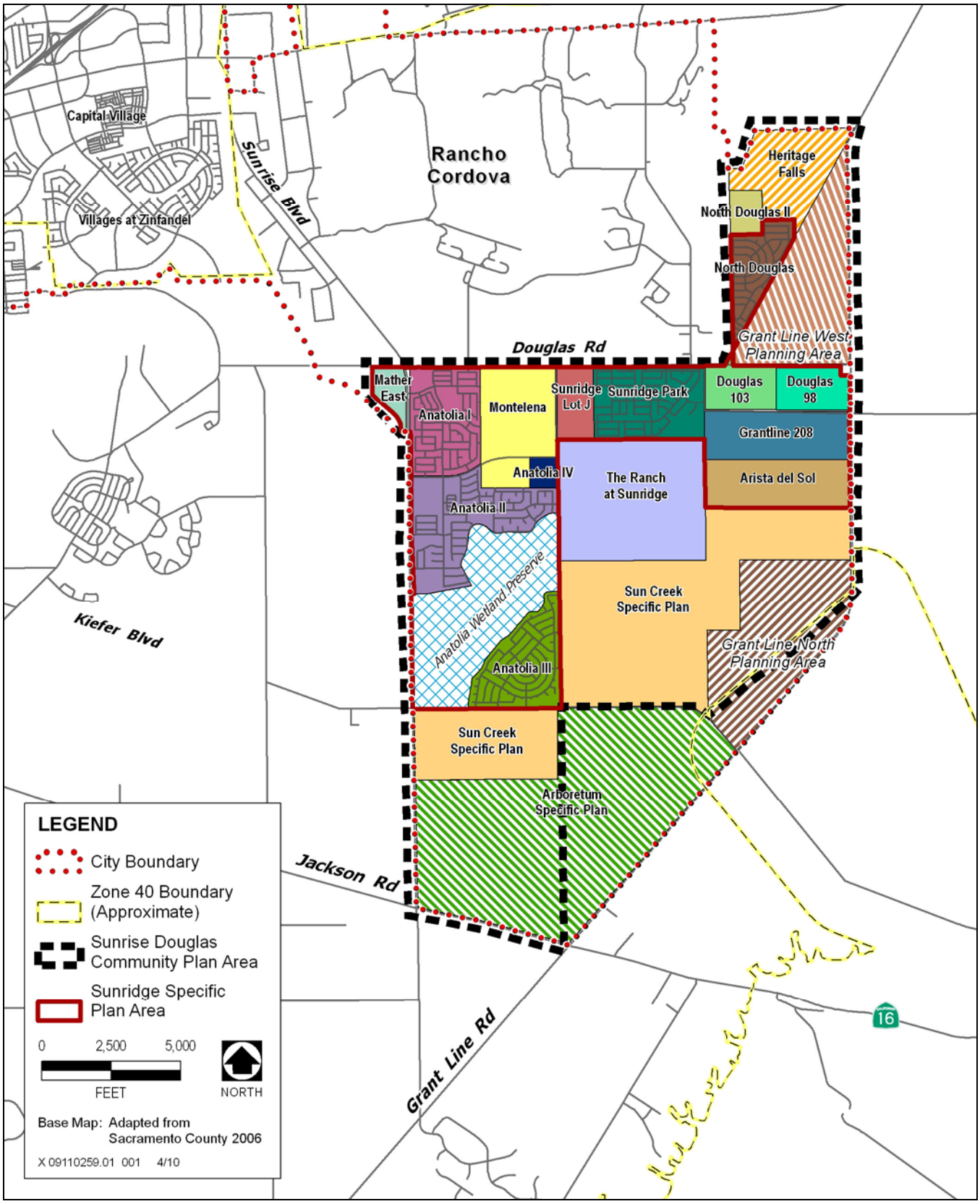
- The overall project purpose for the Sunrise Douglas Community Plan is to develop a viable master planned community.
- The Community Plan will be implemented through a series of specific plans that address subareas of the community plan area.
- Entitlements to develop subareas within the Community Plan area will be granted through the adoption of specific plans, use permits, subdivision maps, and related entitlements.

The SunRidge Specific Plan encompasses 2,632 acres, approximately 42.6% of the Sunrise Douglas Community Plan. The SRSP would implement the guiding principles and policies established in the SDCP by providing a detailed framework for development of the plan area. The SRSP incorporates the land use, circulation, resource management, and public facilities and infrastructure master plans. The SRSP provides direction for the financing



Source: AECOM 2010, Sacramento County 2001

Regional Project Location **Exhibit 2-1**



Source: City of Rancho Cordova 2006a, data compiled by AECOM 2010

Current and Proposed Development within SDCP/SRSP **Exhibit 2-2**

and phasing of the infrastructure, roads, and other improvements. The SRSP is expected to play a substantial role in providing a location for new housing to meet the demand generated by job development in existing, approved, or planned nearby in the U.S. Highway 50 corridor.

2.1.3 APPROVED ENTITLEMENTS UNDER THE ADOPTED SDCP AND SRSP

The Sacramento County Board of Supervisors adopted both the SDCP and the SRSP on July 17, 2002 after adoption of CEQA findings of fact and statement of overriding considerations and certification of the SDCP/SRSP FEIR. The adopted SDCP/SRSP project consists of an overall conceptual framework and policy direction for ultimate urbanization of the 6,042-acre SDCP and detailed land use and facility plans for near-term development of a 2,632-acre portion of the community known as the SRSP. The project could ultimately result in the development of approximately 22,503 dwelling units and supporting 479-acres of commercial, 177-acres of park, and 148-acres of school uses within the entire 6,042-acre SDCP. Within just the SRSP portion of the site, approximately 10,020 dwelling units, 173-acres of commercial uses, 78-acres of park uses and 44-acres of school uses are anticipated.

The SDCP plan did not designate specific land uses but provided a policy framework to guide future development within the area. The SRSP, which did designate land uses, included the following County entitlements:

- general plan amendment for those properties within the SRSP area from urban development area to low-density residential, medium-density residential, commercial and office, and natural preserve land use designations;
- community plan amendment for the SRSP area from light industrial, permanent agricultural extensive (Cordova), and undesignated to "Sunrise Douglas Specific Plan No. ___," and for the community plan area from permanent agricultural extensive (Cordova), industrial reserve (Cordova), and undesignated (Cosumnes) to "Sunrise Douglas Community Planning Area";
- adoption of a specific plan for the SRSP area, which included a land use plan describing permitted uses and residential densities, text describing development standards and design guidelines, guiding principles and policies, and an infrastructure facilities and financing plan;
- rezone for the SRSP area from AG-20, AG-80, and M-1 to AG-20, RD-4, RD-5, RD-7, RD-10, RD-20, SC, LC, and O;
- zoning ordinance amendment to codify proposed alternative development standards;
- amendments to the general plan's transportation diagram;
- large-lot tentative subdivision map to divide those properties within the SRSP area into 129 lots that conform to proposed zoning boundaries and property ownership;
- amendment to an Existing Williamson Act Contract (Resolution No. 72-AP-008), which covers a 244-acre portion of the SRSP area, to permit the rezoning of the property to AG-20, consistent with the minimum parcel size permitted by state law;
- change the designation for Douglas Road between Sunrise Boulevard and Americanos Road from post-2010 thoroughfare to pre-2010 thoroughfare;
- add a pre-2010 arterial designation for the following roadway segments:
  - Americanos Road between Kiefer Boulevard and north of Douglas Road;
  - Kiefer Boulevard between Sunrise Boulevard and Grant Line Road;

- Pyramid Road between Sunrise Boulevard and Grant Line Road;
- Jaeger Road between Kiefer Boulevard and Douglas Road; and

- amendments to the Sacramento City/County 2010 Bikeway Master Plan to add a proposed on-street bikeway designation for the following roadway segments:

  - Douglas Road between Sunrise Boulevard and Grant Line Road;
  - Americanos Road between Kiefer Boulevard and north of Douglas Road;
  - Kiefer Boulevard between Sunrise Boulevard and Grant Line Road;
  - Jaeger Road between Kiefer Boulevard and Douglas Road; and
  - Pyramid Road between Sunrise Boulevard and Grant Line Road.

2.1.4 SUBSEQUENT DEVELOPMENT WITHIN SDCP/SRSP

Since the adoption of the SDCP/SRSP in July 2002, the incorporation of the City of Rancho Cordova in 2003, and the adoption of the City's General Plan in 2006 that sets forth a new vision for development in Rancho Cordova, several specific plans and a variety of subdivision tract maps and large-lot subdivision maps have been approved by the City within the SRSP. These projects are listed in Table 2-1, below, and their locations are shown on Exhibit 2-2.

Table 2-1
Approved Projects within the SRSP

Project	Description	Project Status[1]
Anatolia I	Located in the northwest corner of the SRSP, this project includes a mix of low and medium-density residential, commercial, a school, parks, and other open space. This project has approximately 230 acres of land uses that generate water demand.	90% Built[2]
Anatolia II	Located south of Anatolia I, this project includes a mix of low-, medium-, and high-density residential, commercial, parks, and other open space. This project has approximately 227 acres of land uses that generate water demand.	90% Built[2]
Anatolia III	Located southeast of the Anatolia Wetland Preserve, this project includes low-density residential and a park. This project has approximately 209 acres of land uses that generate water demand.	25% Built[2]
Anatolia IV	Located north of Anatolia II, this project includes low density residential and a park. This project has approximately 26 acres of land uses that generate water demand.	Approved, Not Built[3]
Anatolia Wetland Preserve	A 482-acre wetland preserve located south of Anatolia II.	Established
Arista del Sol	Located in the east portion of the SRSP, south of Grantline 208, this project includes a mix of single- and multi-family residential, parks, and commercial. This project has approximately 159 acres of land uses that generate water demand.	Approved, Not Built[3]
Cresleigh SunRidge (Lot J)	Located east of Montelena and west of SunRidge Park, in the northern portion of the SRSP, this project includes a mix of single- and multi-family residential and parks. This project has approximately 73 acres of land uses that generate water demand.	Approved, Not Built[3]
Douglas 103	Located in the east portion of the SRSP, north of Grantline 208, this project includes a mix of single- and multi-family residential, parks, and commercial. This project has approximately 57 acres of land uses that generate water demand.	Approved, Not Built[3]

Table 2-1
Approved Projects within the SRSP

Project	Description	Project Status[1]
Douglas 98	Located in the east portion of the SRSP, north of Grantline 208, this project includes a mix of single- and multi-family residential and parks. This project has approximately 100 acres of land uses that generate water demand.	Approved, Not Built[3]
Grantline 208	Located in the east portion of the SRSP, south of Douglas 103 and Douglas 98, this project includes a mix of single- and multi-family residential, a school, and parks. This project has approximately 136 acres of land uses that generate water demand.	Approved, Not Built[3]
Mather East (Sundance)	Located west of Anatolia I, this project includes a mix of medium-density residential and commercial. This project has approximately 19 acres of land uses that generate water demand.	Approved, Not Built[3]
Montelena	Located east of Anatolia I, this project includes a mix of low- and medium-density residential development, parks, and other open space. This project has approximately 165 acres of land uses that generate water demand.	Approved, Not Built[3]
North Douglas	Located north of Douglas Road in the northeast corner of the SRSP, this project includes a mix of low- and medium-density residential and a park. This project has approximately 129 acres of land uses that generate water demand.	Approved, Streets Built[3]
SunRidge Park	Located south of Douglas Road in the SRSP, this project includes a mix of low and medium-density residential, commercial, a school, parks, and other open space. This project has approximately 204 acres of land uses that generate water demand.	55% Built[2]

Notes:
[1] Project status as of March 2010.
[2] Based on final approved maps with building permits issued.
[3] Based on tentative map approved, rezone, development agreement.
Source: City of Rancho Cordova 2010a

In addition, there are five projects located within the SDCP boundaries (but outside of SRSP boundaries) that have been proposed, but are not yet approved:

- The proposed North Douglas II project is located on approximately 41.5 acres north of the northernmost extent of the SRSP (and north of the North Douglas project), within the Grant Line West Planning Area within the SDCP (Exhibit 2-2). The project includes a rezone from AG-80 (Agricultural) to include 15.8 acres of RD-10 (low density residential) and 25.7 acres of O (open space). The project includes 17.7 acres of single family residential with 153 single family detached homes as well as 0.7 acre of pedestrian paseos. The open space portion of the site includes a wetland preserve in the north, a neighborhood park adjacent to the residential zone in the south, and a detention basin between the preserve and the park. (City of Rancho Cordova 2006b.)

- The proposed Heritage Falls project site is approximately 237.8 acres located west of Grant Line Road, south of White Rock Road and north of Douglas Road, directly north of the North Douglas and North Douglas II projects (Exhibit 2-2). Heritage Falls would include a rezone to change the project site's zoning designation from AG-80 (Agricultural) and IR (Industrial Reserve) to Residential and Public/Open Space designations. The proposed rezone would result in 177.9 acres of residential zoning and 52.9 acres of public/open space. The residential portion of the project would include 206 conventional single-family dwellings, 622 active adult (age restricted) single-family dwellings, 132 active adult (age restricted) multi-family units, a 5.5-acre elementary school site, and pedestrian paseos. The public/open space portion of the site would include five private parks, a recreation center for the residents of the active adult area, a public park, a detention basin, and

a creek parkway crossing the project site from the northeast to the southwest. (City of Rancho Cordova 2008a.)

- The proposed Ranch at SunRidge (previously called "The Preserve" and "SunRidge 530") would include single-family residential, multi-family residential, commercial and office, parks, an elementary school, detention/water quality basins, an open space/wetland preserve, pedestrian facilities, bikeways, and parkways/drainage corridors on the 530.1-acre site in the center of the SRSP (Exhibit 2-2). The residential portion of the project would include 576 single-family units and 1,406 multi-family units (low and high density). An approximately 13-acre regional commercial Town Center would be located in the northwestern portion of the project site at the intersection of Chrysanthy Boulevard and Rancho Cordova Parkway (formerly Jaeger Road), both four-lane arterial roads that would serve as major roadways for the area in the future. The project would preserve the existing alignment of Morrison Creek and include an approximately 174-acre preserve area surrounding the creek. Two parks would be located adjacent to the wetland preserve area directly northeast of Chrysanthy Boulevard and a large central park would be located adjacent to and under the existing utility easement that crosses from the northeast to the southwest through the site. South of Chrysanthy Boulevard, a small town-square park would be located adjacent to the Town Center uses and an additional park would be located directly north of a proposed 11-acre elementary school site. A pedestrian bikeway is proposed to parallel both sides of the preserve area with pedestrian crossings located directly northeast and southwest of Chrysanthy Boulevard. In addition, five small detention basins would be located on the perimeter of the preserve area with one large 12.5-acre detention basin located along the site's western perimeter directly south of the western end of the Morrison Creek drainage. (City of Rancho Cordova 2010b).

- The proposed SunCreek Specific Plan is located east of Sunrise Boulevard, west of Grantline Road, and south Chrysanthy Boulevard within the SDCP boundaries (Exhibit 2-2). The proposed specific plan is a master planned community of 1,253 acres that includes single-family and multi-family residential, open space, parks, schools, and commercial opportunities. The project provides a total of approximately 4,700 dwelling units, with approximately 111 acres dedicated to 3 elementary schools and a combined joint middle school/high school, 203 acres of wetland preserves and approximately 100 acres of park and trail system. The project also includes 32 acres of commercial mixed use and an approximately 60-acre Local Town Center. The project also includes approximately 52 acres of detention basins/stormwater canals and approximately 13 acres of public/quasi public uses (including a fire station).

- The proposed Arboretum Specific Plan is located on 1,349 acres within the Grant Line North Planning Area, approximately 650 acres of which are located within the southern portion of SDCP (Exhibit 2-2). The project is bounded by State Route 16 to the south, Grant Line Road to the east, Kiefer Boulevard to the north, and Sunrise Boulevard to the west. The Arboretum Specific Plan would result in the development of a master-planned village community to fulfill a portion of the City's future housing needs. The project includes approximately 5,000 new residential units, 80 acres of public and private use parks and related facilities, two 10-acre elementary school sites, one 75-acre joint use middle/high school site, and 465,000 square feet of commercial development. Proposed housing densities are greater than average for the Sacramento area because residential uses would primarily consist of non-traditional housing types including small-lot alley loaded housing, cluster housing, and attached six- and eight-"plex" cluster homes. Approximately 30% of the project would be devoted to open space uses including preservation and enhancement of the Laguna Creek stream corridor and associated jurisdictional features, conservation, recreation, and stormwater treatment and conveyance. (City of Rancho Cordova 2009.) The portion of the Arboretum Specific Plan that is within the SDCP boundaries includes approximately 270 acres of residential, approximately 65 acres of commercial, approximately 11 acres of civic, and approximately 300 acres of parks and greenspace.

2.1.5 OTHER POTENTIAL DEVELOPMENT WITHIN THE SDCP

The SDCP includes two additional undeveloped planning areas that are identified in the *Rancho Cordova General Plan* (2006a) as Grant Line North and Grant Line West. Grant Line North is located southeast of the SunCreek

Specific Plan area, and Grant Line West is located in the northeast corner of the SDCP (Exhibit 2-2). No formal development proposals have been submitted to the City for these areas. Figures LU-16 and LU-20 of the Land Use Element of the *Rancho Cordova General Plan* (2006a) illustrate conceptual land uses for the Grant Line North and Grant Line West planning areas, respectively. For both Grant Line North and West, the General Plan identifies a mix of open space, mixed- and high-density residential, and a village center. Based on the *Rancho Cordova General Plan* (2006a), the development potential for Grant Line North within the SDCP boundaries is estimated to include approximately 193 acres of land uses that generate water demand and the development potential for Grant Line West within the SDCP boundaries is estimated to include approximately 534 acres of land uses that generate water demand.

2.2 PROPOSED SDCP/SRSP LONG-TERM WATER SUPPLY PLAN

The SDCP/SRSP would be served by the Sacramento County Water Agency (SCWA) Zone 40 through its conjunctive-use water supply system. SCWA is a water purveyor with the ability to purchase, sell, transfer, and acquire water, and that can construct, operate, and maintain public water facilities within its service area. Zone 40 was created in 1985 as a special benefit zone to supplement available groundwater supplies to support new and projected development within the urbanizing areas of Laguna, Elk Grove, Rancho Cordova, and unincorporated areas of Sacramento County and to establish the framework for a conjunctive use program that would utilize surface water and underlying groundwater within the central groundwater basin (SCWA 2005: 1-2).

SCWA undertook a comprehensive update of its water supply planning process in response to the requirements of the Water Forum Agreement through the Zone 40 Water Supply Master Plan (WSMP), which was adopted in February 2005 (SCWA 2005). The purpose of the Zone 40 WSMP was to identify available water and the infrastructure necessary to deliver water to a subarea within Zone 40 known as the 2030 Study Area (Exhibit 2-3). The SDCP/SRSP is located within the Zone 40 WSMP 2030 Study Area.

The goal of the Zone 40 WSMP is to carry out a conjunctive-use program, which is defined by the Water Forum as "the planned joint use of surface and groundwater to improve overall water supply reliability." As such, the areas inside Zone 40 are served conjunctively with groundwater (pumped from the Central Basin), surface water (from the American and Sacramento Rivers), and recycled water. Available surface-water supplies would be maximized in wet years; groundwater supplies would be maximized in dry years through increased pumping at SCWA's groundwater facilities. In all consecutive dry years, water-demand management programs would be implemented to a higher degree (e.g., greater conservation, reduced outdoor use) to reduce the potential impacts from increased extraction of groundwater. The SDCP/SRSP water supply plan would solely rely on groundwater to serve near-term development within the SRSP, and would rely on a conjunctive use supply over the long term through SCWA's Zone 40 system.

Table 2-2 summarizes SCWA's Zone 40 current and planned water supplies for normal water years (i.e., years when rainfall and water supply represent the long-term average).

Table 2-2
Water Supplies for SCWA Zone 40[1]

Component of Water Supply	Average Annual Supply (afy)
Surface Water[2]	75,751[3]
Groundwater	40,900
Recycled Water	4,400
Total Supplies	**113,937**

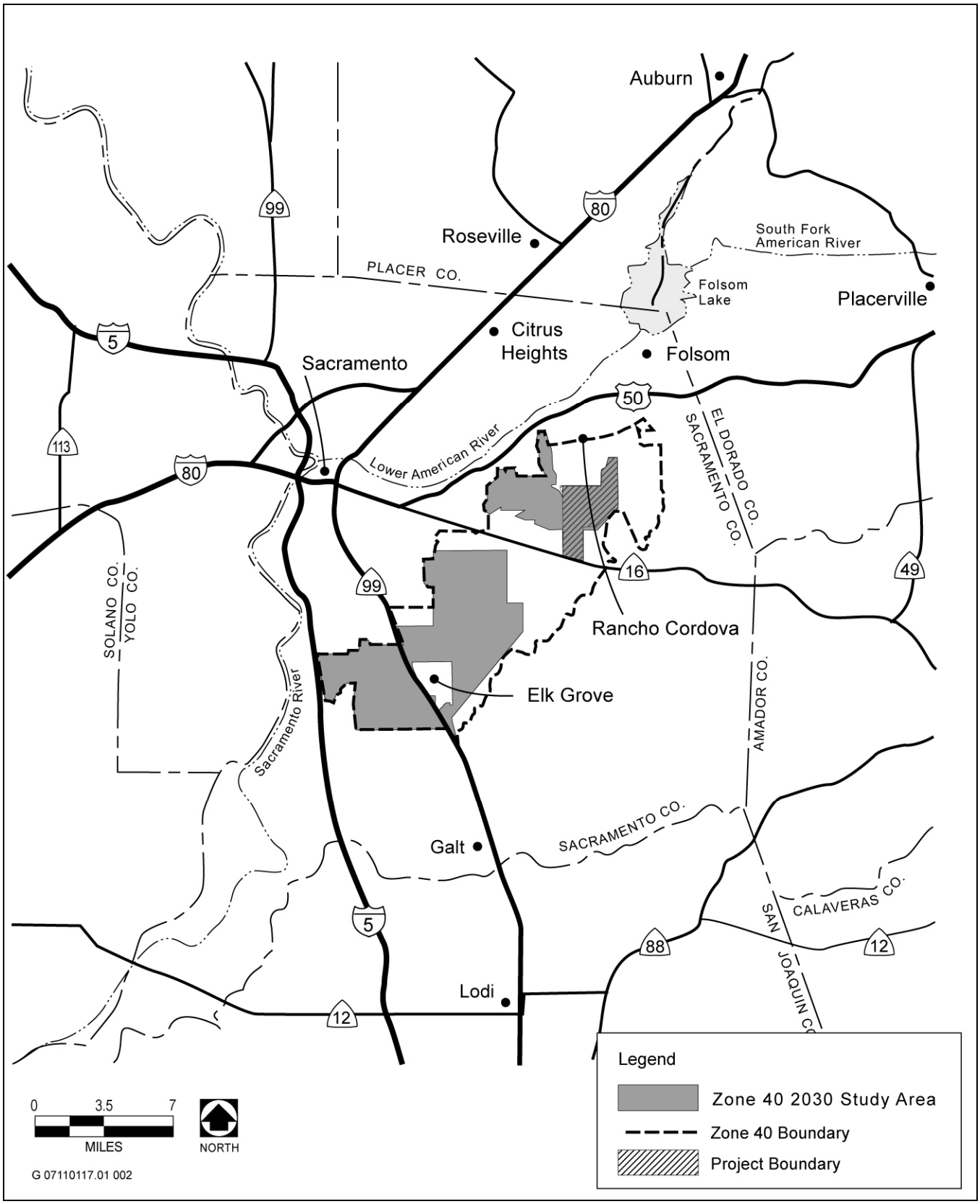
Notes: afy = acre-feet per year; SCWA = Sacramento County Water Agency

[1] This table presents Zone 40 water supply sources only. It does not account for any available groundwater extraction and treatment (GET)–Remediated Water supply.

[2] The total estimated average annual supply of surface water is the sum of existing entitlements and proposed future entitlements.

[3] Updated average annual surface water supply per SCWA memo dated 7/28/10 with updated information on appropriative water supplies.

Sources: SCWA 2005a: 5-6, 2005b; Roybal, Pers. Comm., 2010



Source: SCWA 2005; Data Compiled by AECOM 2010

Zone 40 Regional Location **Exhibit 2-3**

2.2.1 ESTIMATED LONG-TERM WATER DEMANDS AT SDCP/SRSP BUILDOUT

To estimate total future water demand for buildout of the SDCP/SRSP, the SCWA unit water demand factors (from the Zone 40 WSMP) (Table 2-3) were applied to the acreage for each land use designation that generates water use within the SDCP/SRSP (Table 2-4). SCWA's water demand factors reflect a 25.6 % level of water conservation (compared with an unrestrained condition) pursuant to the guidelines set forth in the Water Forum Agreement, and are normalized to account for hydrologic year differences. Land uses that do not require water service, such as detention basins, wetland reserves (e.g., vernal pool complexes), and other preserved natural resources, are assigned to the "Vacant" category (Table 2-3) and are not included in the total acreages in Table 2-4. The water demand for each proposed or approved project within the SDCP/SRSP boundaries, as well as for the General Plan land use designations for Grant Line North and Grant Line West planning areas, is provided in Table 2-4.

Table 2-3
Estimated Water Demand by Land Use Type

Sacramento County Water Agency Land Use Category	Unit Water Demand Factors[1] (af/ac/yr)	City of Rancho Cordova Land Use Designations within the SDCP[2]
Single family	2.89	Low density residential (2.1–6.0 du/ac)
Multifamily, low density	3.70	Medium residential density (6.1–18.0 du/ac)
Multifamily, high density	4.12	High density residential (18.1–40.0 du/ac)
Commercial	2.75	Commercial
Right of way	0.21	Roadways, bike corridors
Vacant	0.00	Wetland reserves, detention basins, preserved natural resources
Public	1.04	Public/quasi-public facilities
Public recreation	3.46	Schools, parks, landscape corridors/paseos, parkways/drainages, open space
Mixed land use	2.51	

Note: af/ac/yr = acre feet per acre per year; du/ac = dwelling units per acre; SDCP = Sunrise Douglas Community Plan
[1] Source: SCWA 2005
[2] Source: City of Rancho Cordova 2006a

The estimates of water demand (Table 2-4) for projects under construction (Anatolia I-III and SunRidge Park) were based on final approved maps and building permits. The estimates of water demand for approved projects that are not under construction (Anatolia IV, Arista del Sol, Cresleigh SunRidge, Douglas 103, Douglas 98, Grantline 208, Mather East, Montelena, and North Douglas) were based on tentative maps, rezone, or development agreements. The estimates of water demand for proposed projects (North Douglas II, Heritage Falls, The Ranch at SunRidge, SunCreek Specific Plan, and the portion of the Arboretum Specific Plan within the SDCP) are based on acreages and unit counts as proposed by the applicants or in the associated environmental documents prepared by the City. The estimates for the Grant Line North and Grant Line West planning areas, which have no specific development proposals as of May 2010, are based on the conceptual land uses shown in the Land Use Element of the *Rancho Cordova General Plan* (2006a) (Figures LU-16 and LU-20). Total estimated water demand for buildout of the SDCP/SRSP is approximately 15,844 acre-feet per year (afy).

Table 2-4
Estimated Water Demand for the Sunrise Douglas Community Plan/SunRidge Specific Plan

Project or City of Rancho Cordova Planning Area	Total Acreage of Water- Consuming Land Uses[1]	Water Demand (afy)[2]
SunRidge Specific Plan		
Anatolia I [3]	230	642
Anatolia II [3]	227	672
Anatolia III [3]	209	770
Anatolia IV [4]	26	94
Arista Del Sol [2]	159	1,156
Crestleigh (SunRidge Lot J) [4]	73	238
Douglas 103 [4]	57	186
Douglas 98 [4]	100	352
Grantline 208 [4]	136	452
Mather East (Sundance) [4]	19	68
Montelena [4]	165	589
North Douglas [4]	129	413
SunRidge Park [3]	204	584
Subtotal	**1,734**	**6,216**
System Losses (7.5%)	--	466
Total		**6,682**
Sunrise Douglas Community Plan		
Arboretum Specific Plan [5]	390	1,338
Grant Line North Planning Area [6]	193	793
Grant Line West Planning Area [6]	534	1,974
Heritage Falls	198	578
North Douglas II	22	60
Ranch at SunRidge (SunRidge 530)	318	1,047
SunCreek Specific Plan	882	2,733
Subtotal	**2,186**	**8,523**
System Losses (7.5%)	--	639
Total	**2,186**	**9,162**
Total Demand	**3,920**	**15,844**

Notes: afy = acre feet per year

[1] Total acres of land uses that generate water demand only. Land uses, such as wetland reserves or detention basins, that do not require water are not included in these totals.

[2] Total water demand for build-out of each project, based on project's proposed (as of April 2010) or approved land uses and SCWA water demand factors shown in Table 2-3.

[3] Based on approved final maps. These projects are currently under construction.

[4] Based on approved tentative maps, rezoning, and development agreements. These projects are not under construction (as of April 2010).

[5] The total water demand for the Arboretum Specific Plan includes only that portion of the specific plan that is inside the Sunrise Douglas Community Plan boundaries.

[6] Includes only acreage within Sunrise Douglas Community Plan boundaries and is based on development potential set forth in the City General Plan.

Source: Rancho Cordova 2010c, SCWA 2005, Data compiled by AECOM in 2010

2.2.2 PROPOSED SDCP/SRSP WATER SUPPLY PLAN

The SDCP/SRSP water supply plan would solely rely on groundwater to serve near-term development within the SRSP, and would rely on a conjunctive use supply over the long term through SCWA's Zone 40 system. The following discussion provides the objectives of the SDCP/SRSP water supply plan and summarizes the proposed groundwater and surface water supplies needed to meet the demands of the SDCP/SRSP. A more detailed discussion of the water supply plan is provided in Chapter 3, "Water Supply" of this Revised DEIR.

PROPOSED WATER SUPPLY PLAN OBJECTIVES

As stated in the SDCP/SRSP Final EIR, the objectives of the proposed SDCP/SRSP Water Supply Plan are:

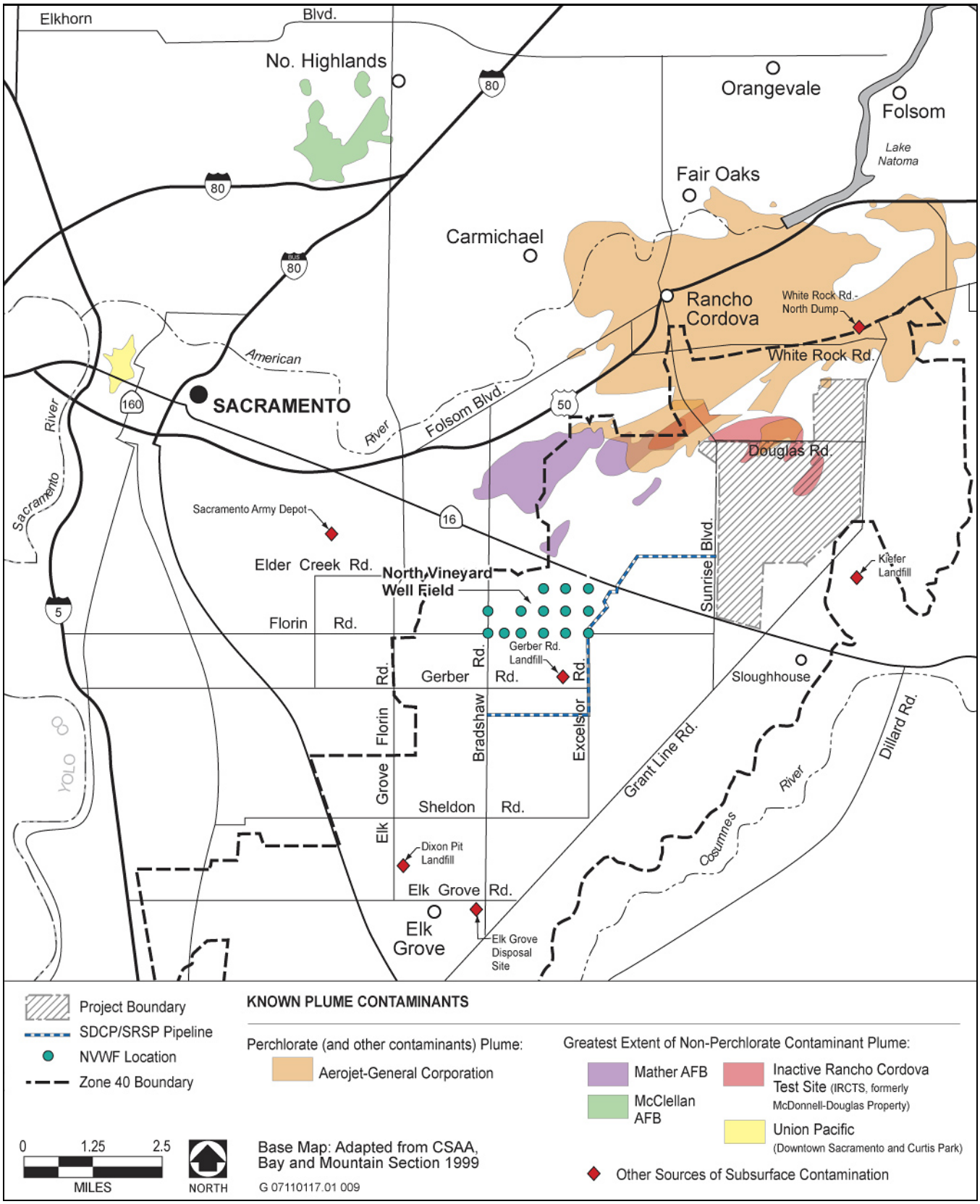
- Provide a safe and reliable alternative potable water supply to meet the "near-term" water demands of projected development for portions of the SunRidge Specific Plan area,
- Provide a safe and reliable alternative potable water supply to meet the "long-term" water demands of projected development for the SDCP,
- Provide a water supply that reduces or avoids potential for contamination by known contaminant plumes, and
- Provide a water supply that reduces or avoids potential impacts relative to the migration or remediation of known contaminant plumes.

GROUNDWATER SUPPLIES

SCWA extracts groundwater from the Central Basin pursuant to the Zone 40 WSMP from multiple wells. The overall groundwater resources for Zone 40 are discussed in Chapter 3. Extraction of groundwater for the SDCP/SRSP project comes from an off-site well field, known as the North Vineyard Well Field (NVWF) or Excelsior Road Well Field, located approximately 5 miles southwest of the project site between Florin Road and Elder Creek Road (Exhibit 2-4). The description and analysis of the NVWF groundwater to serve near-term SDCP/SRSP development was found to be legally adequate in the California Supreme Court ruling in *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (40 Cal.4th 412) and is therefore not re-evaluated in this Revised DEIR. However, the extraction of groundwater is discussed as it relates to the long-term conjunctive water supply for the SDCP/SRSP.

North Vineyard Well Field

The NVWF was analyzed as part of the SDCP/SRSP EIR, specifically in the May 2001 revised recirculated SDCP/SRSP DEIR. The SDCP/SRSP had originally proposed installation of groundwater wells at the project site to meet a portion of the project's potable water demand. However, due to known contaminated groundwater plumes in the project vicinity (as shown on Exhibit 2-4) and concerns that groundwater wells at the project site could affect groundwater remediation efforts, an additional water supply investigation was completed and a new location for groundwater wells was established at the NVWF. The new location was intended to be "sufficiently down-gradient to significantly reduce or eliminate the possibility of contamination of the well field by known contaminant plumes." The NVWF was also found to be sufficiently down-gradient to prevent groundwater extraction from having a significant impact on the migration of known contaminant plumes (2001 SDCP/SRSP revised recirculated DEIR, Appendix B, page ES-1). The NVWF was subsequently included in the Zone 40 WSMP as a water-supply component necessary to implement the Zone 40 conjunctive use program.



Source: SCWA 2006, Data Compiled by AECOM (formerly EDAW) 2007

Proposed Interim Water Supply Facilities **Exhibit 2-4**

The NVWF is the only near-term source of potable water for the SDCP/SRSP. This well field would provide for the extraction of up to 10,000 afy of groundwater to serve existing or proposed development within the SDCP/SRSP. SCWA has completed the first phase of the NVWF, consisting of three wells and three filters, which are capable of producing up to 3,600 afy. The total volume pumped from the NVWF and delivered to the North Service Area in 2009 was 2,404 afy. SCWA has designated one of the three wells as an emergency backup well to increase water supply availability and reliability. Wells 4 through 7 will be constructed as new water supplies are required in the SDCP/SRSP (SCWA 2010).

North Vineyard Well Field Allocation to SCDP/SRSP

SCWA has allocated 5,717 afy from the NVWF to SRSP projects as listed in Table 2-5. This total allocation represents approximately 57% of the NVWF approved average annual production capacity of 10,000 afy. Wells 1 through 3 are capable of producing up to 3,600 afy; the total volume pumped from these constructed NVWF wells and delivered to the North Service Area in 2009 was 2,404 afy.

Table 2-5
North Vineyard Well Field Allocations

SunRidge Specific Plan Projects	North Vineyard Well Field Allocation Date
Anatolia I, Anatolia II, and Anatolia III	January 7, 2003
SunRidge Park and Mather East	June 17, 2003
Anatolia I and II commercial and high density residential development	June 8, 2004
North Douglas I and II	June 8, 2004
Anatolia IV, Grantline 208, and SunRidge Park Phase II	July 26, 2005
Douglas 98, Cresleigh SunRidge/Lot J, Douglas 103, and Arista Del Sol	September 6, 2005
Montelena	October 18, 2005

Source: SCWA 2010

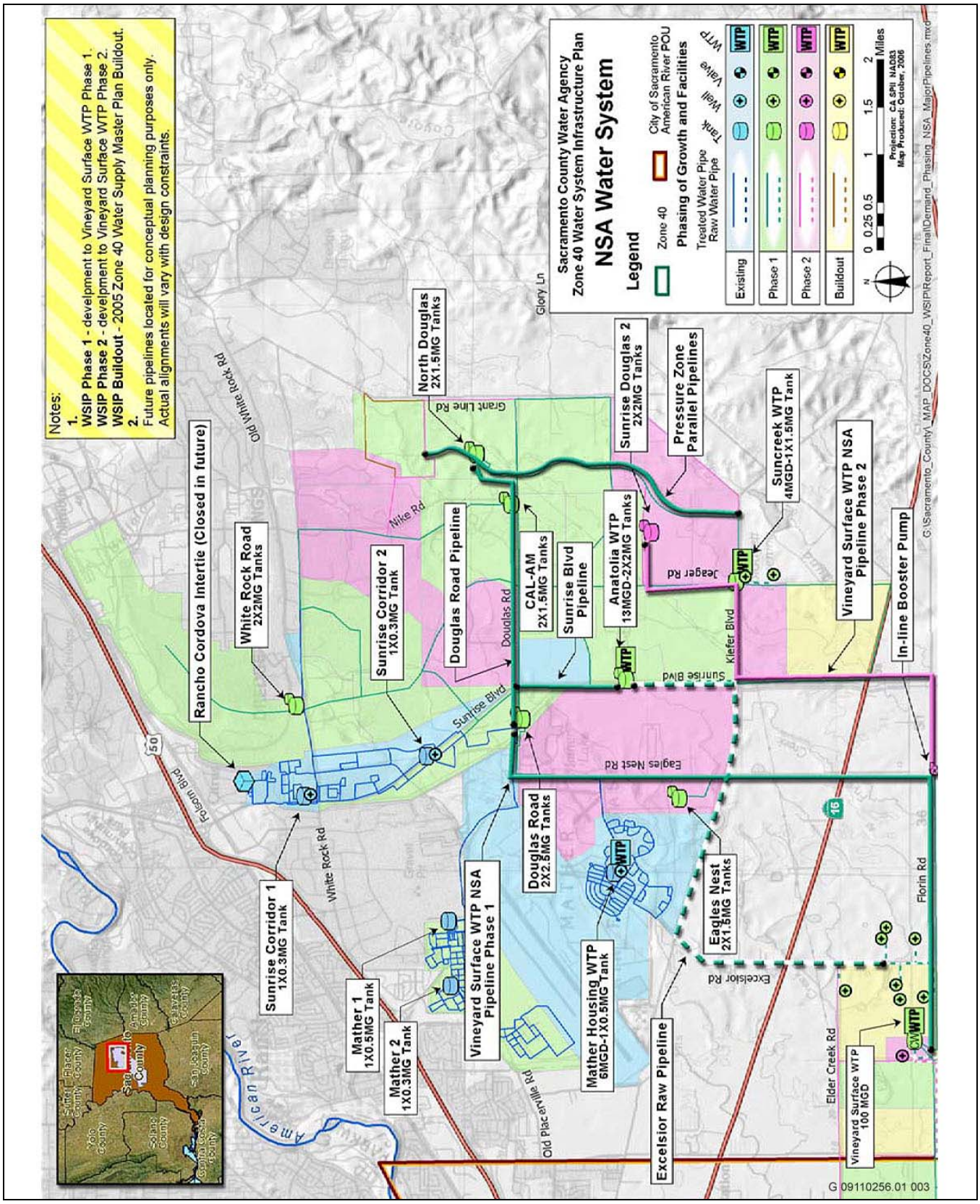
Allocation of the remaining capacity at the NVWF, when it becomes available, would be provided to projects within the Zone 40 service area on a first-come, first-served basis; therefore, it is not assured that other SDCP/SRSP projects would be guaranteed access to the NVWF. In the long term, the NVWF would be integrated with the planned conjunctive use Zone 40 water facilities for the region, making both surface and groundwater supplies available.

SURFACE-WATER SUPPLIES

Surface water would be supplied to the SDCP/SRSP by SCWA Zone 40. SCWA surface-water supplies come from the American and Sacramento Rivers. SCWA has existing secured surface-water supplies through SMUD and Fazio CVP contracts, appropriative water supplies, the City of Sacramento's American River POU, and other transfer supplies. SCWA's total estimated long-term average annual supply of surface water (existing entitlements and proposed future entitlements) is 68,637 afy. See Chapter 3, "Water Supply" of this DEIR for additional details.

2.2.3 WATER CONVEYANCE AND TREATMENT FACILITIES

The SDCP/SRCP is located in an area defined by SCWA as the North Service Area (NSA). Exhibit 2-5 shows the proposed Zone 40 water system infrastructure plan for the NSA and illustrates the existing and the proposed pipelines, tanks, wells, and water treatment plants that would serve the NSA, including the SDCP/SRSP.



Source: SCWA 2006

Zone 40 Surface Water and Groundwater Facilities **Exhibit 2-5**

Groundwater from the NVWF is conveyed through a 30-inch raw water pipeline to the Anatolia WTP located in the Anatolia II subdivision within the SRSP. The current design capacity of this facility is approximately 6.5 million gallons per day (mgd). As of 2009, the average day demand was approximately 2.1 mgd and the maximum day demand was 4.3 mgd. The Anatolia WTP utilizes two, 2-mgd storage tanks that provide operational, emergency, and fire requirements for the SDCP/SRSP. Treated groundwater is conveyed from the Anatolia WTP and storage tanks to the SDCP/SRSP through a 12-inch-diameter pipeline (SCWA 2006: Appendix D).

Surface water would be diverted from the Sacramento River via the FRWP facilities and conveyed to the Vineyard Surface WTP for treatment and delivery to SCWA Zone 40. The Vineyard Surface WTP is located west of the intersection of Florin and Excelsior Roads, at the northeast corner of Florin and Knox Roads. The Vineyard Surface WTP is currently under construction and the plant is anticipated to be operational in November 2011. Treated surface water would be conveyed from the Vineyard Surface WTP to the NSA via the North Service Area Pipeline (NSAP).

The NSAP would begin at Florin Road and continue east to the intersection of Florin Road and Sunrise Boulevard. The pipeline would head north along Sunrise Boulevard to the intersection of Sunrise Boulevard and Kiefer Boulevard then travel east to the intersection of Kiefer Boulevard and Rancho Cordova Parkway (formerly Jaeger Road). From this point, the pipeline would turn north on Rancho Cordova Parkway and travel north approximately 30,500 feet to connect to two proposed 2.0-mgd Sunrise Douglas 2 storage tanks east of Rancho Cordova Parkway (SCWA 2006: 6-8 and 6-17). From the Sunrise Douglas 2 storage tanks, treated surface water would be conveyed to the SDCP/SRSP through a 30-inch-diameter pipeline (SCWA 2006: Appendix D).

2.3 INTENDED USES OF THIS ENVIRONMENTAL IMPACT REPORT

As described in Chapter 1, the purpose of this Revised DEIR is to address the California Supreme Court ruling and the Peremptory Writ of Mandate and complete a revised environmental analysis of the long-term water needs of the project, the potential project impacts on Cosumnes River flows and fish migration, and project impacts on public trust resources in compliance with the requirements of CEQA. Following consideration of public comments on this Revised DEIR, the City will prepare written responses to comments on substantive environmental issues and will prepare a Final Revised EIR that will describe the disposition of any significant environmental issues raised in the comments. Written responses will be provided to public agencies on comments made by those agencies at least 10 days before the Revised EIR is considered for certification. After this 10-day period, the City of Rancho Cordova City Council will consider certification of the Revised EIR (which consists of the draft and final Revised EIR). If it is determined to be in compliance with CEQA, the City will make findings regarding significant impacts as required by CEQA (State CEQA Guidelines CCR Section 15091). Following certification of the Revised EIR, the City will consider project approval and will be responsible for any subsequent discretionary approvals in the SDCP/SRSP.

Chapter 6 of this Revised DEIR provides a reanalysis of the impacts and mitigation measures associated with the Excelsior Well Field (North Vineyard Well Field) and Water Transmission Pipeline Project (EWFWTPP) for wells 1-3 of the NVWF and the raw water transmission pipeline, which serve the SDCP/SRSP. As explained in Chapter 1 of this Revised DEIR, the original EWFWTPP IS/MND relied in part upon the analysis of the NVWF in the SDCP/SRSP EIR (certified in 2001), which was invalidated by the decision of the California Supreme Court in *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412. The IS/MND for the EWFWTPP was also the subject of a petition for writ of mandate filed by the same litigants in Sacramento County Superior Court (*Vineyard Area Citizens for Responsible Growth, et al., v. Sacramento County Water Agency, et al.* [Case No. 04CS00031]). The litigation challenging the MND was abated by stipulation of the parties while a final resolution in the SDCP/SRSP EIR litigation was pending. Because the SDCP/SRSP EIR was invalidated, the abated litigation over the EWFWTPP MND was necessarily revived, even though by that time the facilities analyzed in that document had been constructed and were fully operational. Because of this background as well as the fact that the two projects are closely related, SCWA asked the City of

Rancho Cordova to include a reanalysis of the EWFWTPP facilities in this Revised DEIR for the SDCP/SRSP. If and when the Rancho Cordova City Council has certified this new EIR and has taken actions to reapprove the SDCP and SRSP, the Board of Directors of SCWA, acting as a responsible agency under CEQA, may use the analysis in this document in a proceeding to reapprove the EWFWTPP.

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3 WATER SUPPLY

This chapter provides the revised analysis of the long-term water supply for the Sunrise Douglas Community Plan and SunRidge Specific Plan (SDCP/SRSP) as required by the California Supreme Court ruling in *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (40 Cal.4th 412) and the Peremptory Writ of Mandate, as described in Chapter 1. This chapter summarizes the SDCP/SRSP long-term water demand and the proposed long-term water supply plan intended to meet that demand. To provide additional clarification for the reader, the discussion of the affected environment is presented first and includes a brief summary of regional and local water supply planning. The regulatory background is presented next; followed by the thresholds of significance, which includes a description of the relationship of the project to recent decisions in applicable California case law along with the applicable thresholds based on Appendix G of the California Environmental Quality Act Guidelines (State CEQA Guidelines). A description of the methodology used to analyze potential project impacts related to water supply is presented. Impacts are evaluated in relation to the increased demand for potable water due to the SDCP/SRSP and actions/infrastructure needed to provide the service that could potentially lead to physical environmental effects. Where appropriate, mitigation measures are provided to avoid or minimize impacts to the extent feasible.

Because SDCP/SRSP would be served by Sacramento County Water Agency's (SCWA) conjunctive use water supply program and related facilities within Zone 40, the impact analyses and mitigation measures in the 2002 Zone 40 Water Supply Master Plan Environmental Impact Report (EIR) and other applicable environmental documents are summarized and incorporated by reference throughout this chapter.

3.1 AFFECTED ENVIRONMENT

3.1.1 HISTORIC WATER PLANNING EFFORTS IN SACRAMENTO COUNTY

The Water Forum process brought together a diverse group of stakeholders that included water managers, business and agricultural leaders, environmentalists, citizen groups, and representatives of local governments to evaluate available water resources and the future water needs of the Sacramento metropolitan area. The coequal objectives of the Water Forum are (1) to provide a reliable and safe water supply for the region's economic health and planned development through the year 2030; and (2) to preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River. The first objective will be met by additional diversions of surface water for the conjunctive use of surface water and groundwater, expanded water demand management programs, and use of recycled water. The second objective will be met by regulating American River flow patterns (or "modifying" American River flow) to improve instream fish habitat (spawning/hatching/rearing), as well as implementation of the Habitat Management Element of the Water Forum Agreement (WFA). (Water Forum 2000).

Demand management/water conservation is essential to meeting the coequal objectives of the WFA. Conservation will reduce the amount of groundwater and surface water (including water from the American River) required for future growth. As a signatory to the WFA and as a water contractor under the U.S. Bureau of Reclamation's (Reclamation) Central Valley Project (CVP), the SCWA is committed to implementing the water conservation best management practices (BMPs) defined in the Water Conservation Element of the WFA. Technical studies prepared in support of the WFA indicate that implementation of the BMPs (most notably the provision for water meter retrofits and demand pricing) will result in a demand factor reduction of 25.6% relative to the 1990 baseline by the year 2030.

The Water Forum EIR (Sacramento City-County Office of Metropolitan Water Planning 1999) evaluated additional surface water deliveries in the American River basin ranging from 128,000 to 234,000 acre-feet per year (afy) (relative to 1995 deliveries), depending on water year type, to meet projected additional demands in 2030 (i.e., ranging from 198,000 to 324,000 afy), including a projected firm yield to SCWA of 45,000 afy from

the Sacramento River up to 78,000 afy on an intermittent basis (i.e., 33,000 afy may be subject to cutbacks during drought conditions). SCWA agreed to a series of actions and commitments related to diversions of surface water, dry-year supplies, fishery flows, habitat management, water conservation, and groundwater management. The 2030 demand and water supplies identified in the Water Forum EIR were used by Sacramento County (County) (in its role as a land use agency) to describe an area of development that could be served by these supplies. The Water Forum EIR evaluated the provision of water for a 30-year planning period based on land use projections. The 2005 Zone 40 Water Supply Master Plan (WSMP) relied on the *County of Sacramento General Plan* (1993) to identify where urban development would occur within the County, consistent with WFA purveyor-specific agreements for water service to those areas. At the time the 2005 Zone 40 WSMP was being prepared, the City of Rancho Cordova had not yet completed the final EIR for its own General Plan, and therefore had not yet adopted its General Plan, which occurred in 2006 (City of Rancho Cordova 2006a; 2006d).

In Sacramento County, three groundwater subbasins have been identified: the North Area (the area north of the American River), Central Area (roughly the area between the American and Cosumnes Rivers), and South Area (generally the area south of the Cosumnes River). Zone 40 lies entirely within the Central Area. Technical studies conducted in support of the WFA provided a basis for defining the negotiated sustainable yield for each of the three Sacramento County groundwater subbasins. Based on negotiated levels of acceptable impacts associated with operating the basins at specified extraction volumes, the WFA negotiated a sustainable long-term average annual yield for the Central Area of 273,000 afy, including groundwater pumping in the Central Basin.

3.1.2 SACRAMENTO COUNTY WATER AGENCY

SCWA was created in 1952 for the purpose of controlling and conserving storm, flood, and other surface waters for any beneficial use for lands and inhabitants and producing, storing, transmitting, and distributing groundwater (SCWA 2005a:1-2). The SCWA Board of Directors created zones within the agency to finance, construct, acquire, reconstruct, maintain, operate, extend, repair, or otherwise improve any work for common benefit to each zone. There are currently eight zones of the SCWA: 11A, 11B, 11C, 12, 13, 40, 41, and 50.

The City of Rancho Cordova and a portion of the City's planning area are located within SCWA's Zone 40. Zone 40 was created in 1985 as a special benefit zone to supplement available groundwater supplies to support new and projected development within the zone and established the framework for a conjunctive use program that utilized surface water from the City and underlying groundwater. (SCWA 2005a:1-2). Zone 40 consists of approximately 86,000 acres of agricultural, residential, and industrial land in central Sacramento County (see Exhibit 2-3 in the Project Description). Zone 40 is bordered by the County's Urban Services Boundary on the northeast, east, and southeast. The northern edge of the 100-year floodplain of Deer Creek is also located to the east and southeast. Interstate 5 forms the western boundary and the Douglas Road and Grant Line Road areas form the southern boundary. (SCWA 2004a:3-1).

SCWA WATER SUPPLY MASTER PLAN

SCWA undertook a comprehensive update of its water supply planning process in response to the requirements of the WFA through the WSMP, which was adopted in February 2005 (SCWA 2005a). The purpose of the Zone 40 WSMP was to identify available water and the infrastructure necessary to deliver water to a subarea within Zone 40 known as the 2030 Study Area. The 2030 Study Area encompasses approximately 46,600 acres (including portions of the cities of Elk Grove and Rancho Cordova, including the SDCP/SRSP) where development of industrial, commercial, office, and residential land uses is expected to occur and where demand for water is expected to be concentrated during the planning horizon of the WSMP (i.e., 2030) (see Exhibit 2-3 in the Project Description). (City of Rancho Cordova 2006c:17).

As a signatory to the WFA, SCWA has agreed to ensure that water conservation and demand management—necessary steps to achieve WFA objectives—are integrated into future growth and water planning activities in its service area. The Zone 40 WSMP provides a flexible plan of water management options that can be implemented

and modified if conditions that affect the availability and feasibility of water supply sources change in the future. The goal of the Zone 40 WSMP is to carry out a conjunctive-use program, which is defined as the coordinated management of surface water and groundwater supplies to maximize the yield of available water resources. The conjunctive-use program for Zone 40 includes the use of groundwater, surface water, remediated water, and recycled water supplies. It also includes a financing program for the construction of a new surface-water diversion structure; a surface-water treatment plant; water conveyance pipelines; and groundwater extraction, treatment, and distribution facilities. The Zone 40 WSMP evaluates several options for facilities to deliver surface water and groundwater to development within Zone 40, as well as the financing mechanisms to provide water to the 2030 Study Area. (City of Rancho Cordova 2006c:18).

During development of the Zone 40 WSMP, the general plans for the newly incorporated Cities of Elk Grove and Rancho Cordova were not available; therefore, the *County of Sacramento General Plan* (Sacramento County 1993) was the planning document used to project growth and development anticipated to occur within an area defined as the Urban Policy Area (UPA). The County's UPA is defined as the area anticipated to build out with urban development within the planning horizon of the general plan (year 2024). This area is known as the 2030 Study Area. The southern boundary of the 2030 Study Area generally coincides with the County's UPA. The 2030 Study Area was delineated based on the County's identified growth areas and the area of land that was planned to be served by the negotiated firm water supply identified in the WFA. Because of the time frame of the Zone 40 WSMP and the likelihood that the UPA would be expanded during the next general plan update (currently under way), SCWA identified four likely areas outside the UPA where urban expansion was logical and could occur; however, SCWA acknowledges that it is not a land use agency and is not responsible for approving growth and development within its service area, and it identified Sacramento County, the City of Rancho Cordova, and the City of Elk Grove as the lead agencies responsible for such decisions. The areas included in the Zone 40 2030 Study Area were selected based on their adjacency to the UPA. The 2030 Study Area also captured active projects and included the newly incorporated City of Rancho Cordova. (City of Rancho Cordova 2006c:18).

SCWA prepared a programmatic DEIR to analyze the impacts of implementing the Zone 40 WSMP. The environmental analysis was tiered from the Water Forum EIR and included an evaluation of how environmental conditions would be expected to change as a result of the Zone 40 WSMP, which includes implementation of a conjunctive-use program of groundwater, surface-water, and recycled-water supplies, as well as a financing program for the construction of a new surface-water diversion structure; surface-water treatment plant; water conveyance pipelines; groundwater extraction, treatment, storage, and distribution facilities; and recycled-water storage and distribution facilities. The DEIR was prepared and circulated for public review in November 2003 (SCH #95082041) (SCWA 2003), and the final environmental impact report (FEIR) was certified and the master plan was approved in 2005 (SCWA 2005a). Because there was no legal challenge to the WSMP and its EIR, the EIR is deemed as a matter of law to be adequate under CEQA for its intended purposes. (Public Resources Code, Section 21167.2.)

RELATED WATER SUPPLY PROJECTS

Since approval of the Zone 40 WSMP (SCWA 2005a), SCWA has pursued and is in various stages of planning several projects that would implement specific elements of the WSMP. These projects are briefly summarized below.

Freeport Regional Water Project

The Freeport Regional Water Authority (FRWA) was created by exercise of a joint-powers agreement between SCWA and the East Bay Municipal Utility District (EBMUD). FRWA's basic purpose is to increase the reliability of water service for customers, reduce rationing during droughts, and facilitate conjunctive use of surface-water and groundwater supplies in central Sacramento County. The FRWA developed the Freeport Regional Water Project (FRWP) to meet the objectives of SCWA and EBMUD.

The FRWP involves construction of a 185-million-gallon-per-day (mgd) intake facility and pumping plant located on the Sacramento River, a reservoir and water treatment plant (WTP), a terminal facility located at the point of delivery to the Folsom South Canal, a canal pumping plant located at the terminus of the Folsom South Canal, an aqueduct pumping plant and pretreatment facility near the Mokelumne Aqueducts/Camanche Reservoir area, and pipelines to deliver water from the intake facility to the Zone 40 Vineyard Surface WTP and to the Mokelumne Aqueduct. (Freeport Regional Water Authority 2003).

A DEIR/DEIS was prepared and circulated for public review in July 2003 (SCH #2002032132), and the FEIR was certified in April 2004 (Freeport Regional Water Authority 2003). No legal challenge was filed under CEQA or NEPA. Thus, as with the FEIR for the Zone 40 WSMP, the FRWA EIR is deemed as a matter of law to be adequate under CEQA for its intended purposes. (Public Resources Code, Section 21167.2.) FRWA subsequently completed federal Endangered Species Act (ESA) compliance in fall 2004, leading to Reclamation's issuance of the record of decision in January 2005. Minor adjustments to the project were made after certification of the FEIR, and a supplemental initial study/mitigated negative declaration (IS/MND) was prepared and circulated for public review in February 2006. The supplemental IS/MND was adopted in March 2006 (Freeport Regional Water Authority 2006).

Construction of the Freeport diversion facility, conveyance pipelines, and Vineyard Surface Water Treatment Plant to serve the Zone 40 area began in 2007 and the facility is projected to be operational in 2011. Once operational, the FRWP will provide SCWA with up to 85 mgd of surface water from the Sacramento River that would be conveyed by FRWA to SCWA's Vineyard Surface WTP. The remaining 100 mgd of the 185 mgd diverted from the Sacramento River would be conveyed past the Vineyard Surface WTP by EBMUD to the Folsom South Canal, which would convey the water to the Mokelumne Aqueduct for use within EBMUD's service area during dry years. Pursuant to State Water Resources Control Board (SWRCB) Permit No. 21209, SCWA's total diversions at Freeport are permitted for up to 132 cubic feet per second (cfs), but not to exceed 71,000 afy. On average, however, SCWA's diversions are initially estimated to be 21,700 afy in 2010. (Freeport Regional Water Authority 2009).

Vineyard Surface Water Treatment Plant

SCWA is constructing the Vineyard Surface WTP (previously referred to as the Central Surface WTP) and associated water supply facilities to provide potable water to existing and approved future development within the SCWA Zone 40 area. The Vineyard Surface WTP is located west of the intersection of Florin and Excelsior Roads, at the northeast corner of Florin and Knox Roads in Sacramento County.

The objective of constructing the Vineyard Surface WTP is to provide capacity for treating 100 mgd of raw surface water and remediated groundwater, and to serve approved land uses in the Zone 40 service area. The Vineyard Surface WTP would be constructed in three phases and expanded incrementally to meet water treatment demands in the Zone 40 service area (Sacramento County 2004c). Water would be diverted from the Sacramento River via the FRWP facilities and conveyed to the Vineyard Surface WTP for treatment and delivery to SCWA Zone 40. After the water is treated at the Vineyard Surface WTP, it would be delivered to the project site through the North Service Area Pipeline Project (NSAPP).

The environmental impacts of the construction and operation of the Vineyard Surface WTP were analyzed at a programmatic level in the Zone 40 WSMP EIR, and at a project-level in an IS/MND (SCH #20047092050), which was circulated for public review in September 2004 (Sacramento County 2004c). The IS/MND was adopted by the County on October 10, 2004. SCWA awarded a contract for construction of the Vineyard Surface WTP in January 2008. The first phase of construction began in March 2008 and will provide 30 mgd of surface water treatment capacity. The plant is anticipated to be operational in November 2011, with full buildout by 2029 (SCWA 2009). The Vineyard Surface WTP IS/MND is hereby incorporated by reference into this Revised DEIR.

North Service Area Pipeline Project

The NSAPP would include construction of a transmission main and booster tank station to serve the Mather Specific Plan area and SCWA's NSA, which includes the SDCP/SRSP. The NSAP would begin at the Vineyard Surface WTP and convey surface water through one of four alternative alignments to an existing 42-inch transmission main at the intersection of Douglas Road and Sunrise Boulevard. The NSAP would begin at the Vineyard Surface WTP and would travel east to the intersection of Florin Road and Eagles Nest Road and then turn north to the intersection of Kiefer Boulevard. From this point, the following four alternative alignments are proposed (Sacramento County 2010:IS-7 and IS-8):

- Alternative 1: The transmission main would continue north along the proposed Eagles Nest Road alignment then turn east along Douglas Road to the Douglas Road booster tank station. The transmission main would then continue east to the existing 42-inch transmission main at the intersection of Douglas Road and Sunrise Boulevard.

- Alternative 2: The transmission main would continue north along the proposed Eagles Nest Road alignment then travel east for 3,900 feet to the Mather Field booster tank station. The transmission main would turn north and continue parallel to the Folsom South Canal and then cross over the canal and connect with the Douglas Road booster tank station. The transmission main would then continue east to the existing 42-inch transmission main at the intersection of Douglas Road and Sunrise Boulevard.

- Alternative 3: The transmission main would continue east along Kiefer Boulevard then travel north parallel to the Folsom South Canal to the Mather Field booster tank station. The transmission main would turn north and continue parallel to the Folsom South Canal and then cross over the canal and connect with the Douglas Road booster tank station. The transmission main would then continue east to the existing 42-inch transmission main at the intersection of Douglas Road and Sunrise Boulevard.

- Alternative 3A: This alternative would be a deviation in alignment between the two tank sites that could be used with any of the previous three alternatives. The transmission main would cross the Folsom South Canal then would either continue to the Douglas Road tank site or Mather Field Tank. The transmission main would then continue to the existing 42-inch transmission main at the intersection of Douglas Road and Sunrise Boulevard.

The following two alternative booster tank station sites are proposed:

- The Douglas Road booster tank station site is proposed to serve the SDCP/SRSP with up to two 3.5-mgd storage tanks, booster pumps, generators, and a control building on Douglas Road near the southwest corner of Douglas Road and Sunrise Boulevard.

- The Mather Field booster tank station site would serve the Mather Field Specific Plan with two 1.5-mgd storage tanks, booster pumps, generators, and a control building on the Mather property located near the west bank of the Folsom South Canal and approximately one mile north of Kiefer Boulevard.

The environmental impacts of the construction and operation of the NSAP were analyzed at a programmatic level in the Zone 40 WSMP EIR, and at a project-level in an IS/MND (SCH #2010082044), which was circulated for public review in August 2010 (Sacramento County 2010). The IS/MND was adopted by the County on October 17, 2010, and the statute of limitations has run for challenging the adequacy of that document pursuant to CEQA. Therefore, like the FEIRs prepared for the Zone 40 WSMP and FRWP, the County's IS/MND for the NSAP is deemed as a matter of law to be adequate under CEQA for its intended purposes. (Public Resources Code, Section 21167.2.) The NSAPP IS/MND is hereby incorporated by reference into this Revised DEIR.

North Vineyard Well Field

Extraction of groundwater for the SDCP/SRSP would come from the North Vineyard Well Field (NVWF), located along both sides of Excelsior Road, between Florin Road and Elder Creek Road approximately 5 miles southwest of the SDCP/SRSP. This well field would provide for the extraction of up to 10,000 afy of groundwater to serve existing or proposed development within the Zone 40 service area on a first come, first served basis, including the SDCP/SRSP. Ultimately the well field would consist of up to seven wells with a 30-inch raw-water pipeline to convey water to the Anatolia Water Treatment Plant described below.

SCWA has constructed the first phase of the NVWF, consisting of three wells and three filters. These first three NVWF wells are operational and are capable of producing approximately 3,600 afy. SCWA has designated one of the three wells as an emergency backup well to increase water supply availability and reliability.

The environmental impacts of the construction and operation of the NVWF were analyzed at a programmatic level in the SDCP/SRSP EIR (specifically the Revised SDCP/SRSP EIR). Because the NVWF was identified as a facility necessary to supply groundwater to Zone 40, the well field was also analyzed at a programmatic level in the Zone 40 WSMP EIR. Project-level CEQA review has been completed for construction and operation of wells 1 through 6:

- Wells 1 through 3 were analyzed at the project level in an IS/MND (SCH #2003082095). The IS/MND was circulated for public review in April 2003 and the IS/MND as well as a Mitigation Monitoring and Reporting Program (MMRP) was adopted by the County in December 2003 (Sacramento County 2004a). The Sacramento County Department of Environmental Review and Assessment conducted the mitigation monitoring for SCWA to ensure compliance with adopted MMRP for project construction between January 2004 and March 2005. The NVWF Wells 1-3 and are currently in operation.

  As explained in Chapter 1, "Introduction," after the SDCP/SRSP EIR was invalidated by the decision of the California Supreme Court in *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, the abated litigation over the IS/MND for Wells 1-3 (the EWFWTPP) was revived. Because of this background as well as the fact that the two projects are closely related, SCWA asked the City to include an analysis of the EWFWTPP facilities in this Revised DEIR for the SDCP/SRSP. If and when the Rancho Cordova City Council has certified this new EIR and has taken actions to reapprove the SDCP and SRSP, the Board of Directors of SCWA, acting as a responsible agency under CEQA, may use the analysis in this document in a proceeding to reapprove the EWFWTPP. (See Chapter 6, "Excelsior Well Field [North Vineyard Well Field] and Water Transmission Pipeline Project Environmental Analysis".)

- Well 4 was analyzed at the project-level in an IS/MND (SCH #2005042042), which was circulated for public review in April 2005 and the IS/MND was adopted by Sacramento County in April 2005 (Sacramento County 2005a). There was no legal challenge with respect to this IS/MND. The IS/MND for Well 4 is hereby incorporated by reference into this Revised DEIR.

- Well 5 was analyzed at the project-level in an IS/MND (SCH #2005062109), which was circulated for public review in June 2005 and the IS/MND was adopted by Sacramento County in June 2005 (Sacramento County 2005b). There was no legal challenge with respect to this IS/MND. The IS/MND for Well 5 is hereby incorporated by reference into this Revised DEIR.

- Well 6 was analyzed at the project-level in an IS/MND (SCH #2005072003), which was circulated for public review in July 2005 and the IS/MND was adopted by Sacramento County in September 2005 (Sacramento County 2005c). There was no legal challenge with respect to this IS/MND. The IS/MND for Well 6 is hereby incorporated by reference into this Revised DEIR.

Wells 4 through 7 will be constructed as new water supplies are required in the SDCP/SRSP. Although the project-level CEQA review is complete, there is currently no time frame for construction of Wells 4 through 6

(Roybal, pers. comm., 2010). Well 7 has not undergone project-level CEQA review and there is currently no time frame for construction of Well 7.

Anatolia Water Treatment Plant

The Anatolia WTP is located east of Sunrise Boulevard, west of Anatolia Drive, and south of Chrysanthy Boulevard in the Anatolia II subdivision. The Anatolia WTP, which was conceived after the proposed Sunridge Mather Water Treatment Plant was abandoned for reasons described above, became operational in July 2005 and currently treats raw water from the NVWF for use in the SDCP/SRSP. The current design capacity of this facility is approximately 6.5 mgd (4,500 gallons per minute). As of 2009, the average day demand was approximately 2.1 mgd and the maximum day demand was 4.3 mgd. Expansion of the Anatolia WTP to its ultimate capacity of 13.0 mgd is required to provide water treatment for build-out of the SDCP/SRSP. SCWA currently has no set timeframe to upgrade the Anatolia WTP.

The Anatolia WTP utilizes two 2-mgd storage tanks, which have adequate capacity to provide operational, emergency, and fire requirements for the SDCP/SRSP. The Anatolia storage tank capacity varies between 40% during peak hours to 100% at off-peak hours. This variability could be modified in the future by enabling the tanks to receive some surface water during the off-peak hours.

The environmental impacts of the construction and operation of the Anatolia WTP were analyzed at a programmatic level in the Zone 40 WSMP EIR. The Anatolia WTP was analyzed at the project-level in an IS/MND (Sacramento County Control Number 03-PWE-0811), which was circulated for public review in March 2004 (Sacramento County 2004a). The IS/MND was adopted by the County in August 2004, and was not challenged in court. The Anatolia WTP IS/MND is hereby incorporated by reference into this Revised DEIR.

Related Water Supply Planning Documents

In addition to the Zone 40 WSMP, SCWA has adopted other comprehensive water supply planning documents intended to work together to form the planning basis for the Zone 40 service area. These documents are briefly summarized below.

Central Sacramento County Groundwater Management Plan

The Central Sacramento County Groundwater Forum was initiated in 2002 by the Water Forum Successor Effort to carry out a portion of the Water Forum's mission to develop a groundwater management program to protect the health and viability of the central Sacramento County groundwater basin for both current users and future generations.

The Central Sacramento County Groundwater Forum developed the *Central Sacramento County Groundwater Management Plan* (CSCGMP) (Central Sacramento County Groundwater Authority 2006) which sets forth objectives for managing the groundwater basin underlying Zone 40 and establishes parameters for monitoring the performance of the management strategies. The CSGGMP is intended to adapt to changing conditions within the groundwater basin and to be updated and refined to reflect progress made in achieving the CSCGMP objectives.

Zone 40 Groundwater Management Plan

SCWA prepared a groundwater management plan (SCWA 2004b) for Zone 40. Although groundwater management plans are typically prepared for entire groundwater basins (in this case the Central Basin), SCWA's groundwater management plan addresses only the boundaries of Zone 40, which encompasses most but not all of the Central Basin. The goal of the plan is to ensure a viable groundwater resource for beneficial uses, including water for adjacent purveyors; and agricultural, residential, industrial, and municipal supplies that support the WFA's coequal objectives of providing a reliable and safe water supply and preserving the fishery, wildlife, recreational, and aesthetic values of the lower American River. In addition, the plan promotes the enhancement of

maintaining ecological flows in the Cosumnes River. The Zone 40 groundwater management plan is now superseded by the CSCGMP. However, before the CSCGMP, groundwater management within Zone 40 by SCWA was based on the Zone 40 groundwater management plan.

2005 Zone 41 Urban Water Management Plan

The *2005 Zone 41 Urban Water Management Plan* (Zone 41 UWMP) (SCWA 2005b) was prepared by SCWA and adopted by the SCWA Board of Directors on December 6, 2005. The plan addresses water supply and demand issues, water supply reliability, water conservation, water shortage contingencies, and recycled-water usage for the areas within Sacramento County where Zone 41 provides retail water services, including the Zone 40 service area and other areas outside of Zone 40 where Zone 41 has contracts to provide water (e.g., Zone 50, Sacramento Suburban Water District) (see Exhibit 3-1). Zone 41 is responsible for the operations and maintenance of all the water supply facilities within the defined service area and retails and wholesales water to its defined service area and to agencies where agreements are in place to purchase water from SCWA. The water demands for the SDCP/SRSP project, which were identified in the Zone 40 WSMP, are included in the Zone 41 UWMP.

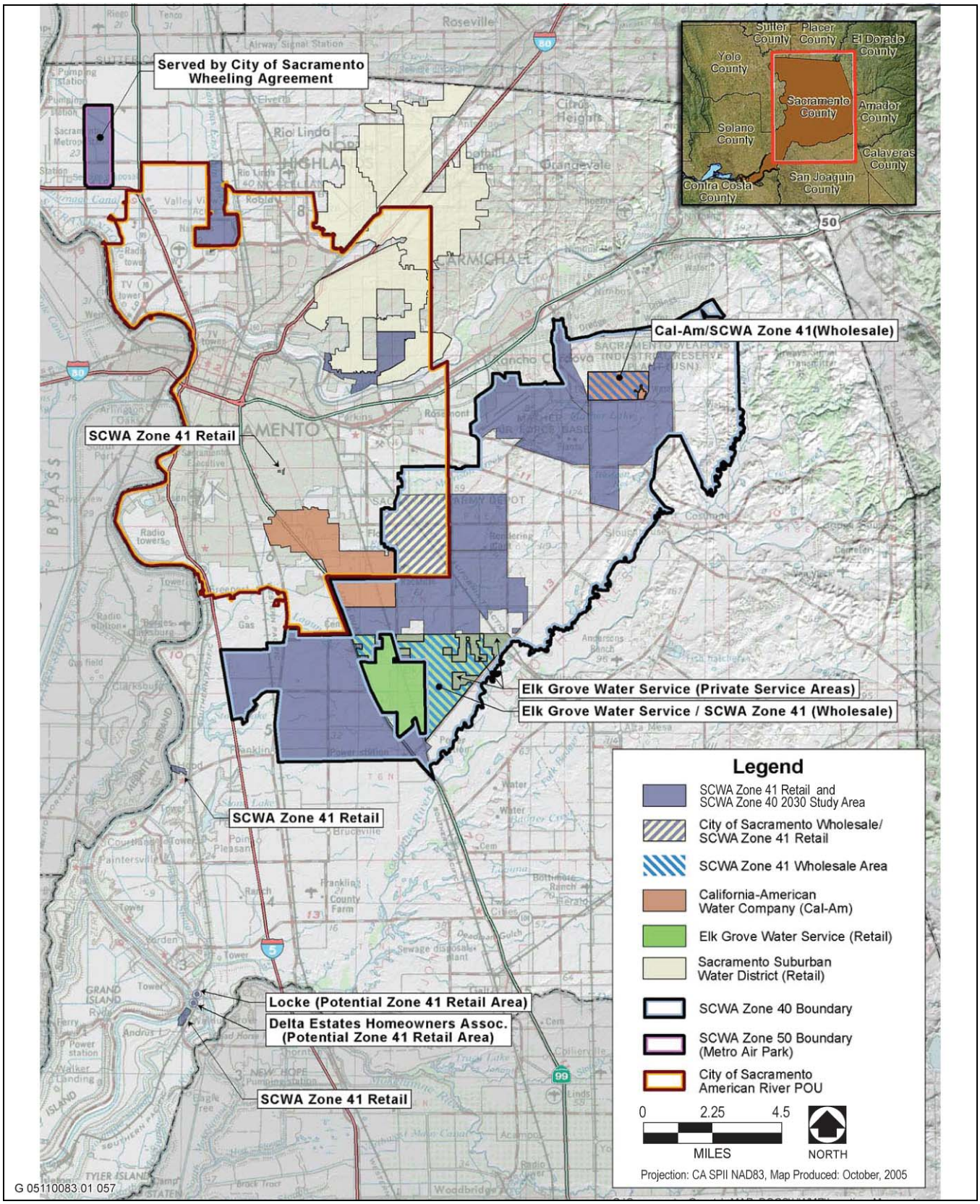
Because SCWA's conjunctive-use groundwater program would be implemented only within Zone 40, the Zone 41 UWMP presents information about projected water supply and demand separately for areas within Zone 40 and areas outside of Zone 40. However, the Zone 41 UWMP does not specifically describe how projected future water supplies would be allocated within the Zone 40 region (e.g., how water would be allocated to the City of Rancho Cordova).

SCWA is currently preparing its 2010 Zone 41 UWMP, which will include new requirements for water conservation as set forth in the Water Conservation Act of 2009 (Senate Billx7-7). It is anticipated that the 2010 Zone 41 UWMP will be an updated and enhanced version of SCWA's 2005 Zone 41 UWMP. SCWA anticipates the 2010 Zone 41 UWMP will be submitted to the California Department of Water Resources (DWR) by July 2011.

Zone 40 Water System Infrastructure Plan

To build on the 2005 Zone 40 WSMP, SCWA prepared the *Zone 40 Water System Infrastructure Plan* (2006) (Zone 40 WSIP), which addresses how identified 2030 water supplies addressed in both the Zone 41 Urban Water Management Plan (UWMP) and the Zone 40 WSMP would be allocated among users within its service area. The purposes of this WSIP are to describe and quantify the facilities necessary to extract, treat, and convey groundwater to the Zone 40 service area; to provide water purchased from the City of Sacramento to the portion of Zone 40 within the City of Sacramento American River Place of Use (POU); to convey surface water for treatment at the Vineyard Surface WTP; and to deliver wholesale treated groundwater and surface water to retail water purveyors outside of the Zone 40 service area. (SCWA 2006:1-3.)

The WSIP provides the most up-to-date information on Zone 40's water supplies, demands, and infrastructure; provides project-level detail that is necessary for implementation of the preferred pipeline alignment alternatives; and it fills in the gaps of associated smaller infrastructure requirements, including a description of facility construction and phasing as well as operational requirements from existing conditions through ultimate buildout of the water system. As such, it is not a document that is formally adopted, and the plan is not required to go through environmental review pursuant to CEQA.



Source: SCWA 2006; Adapted by AECOM 2010

Zone 40 and 41 Service Areas, and 2030 Study Area **Exhibit 3-1**

EXISTING AND PROJECTED WATER DEMANDS FOR SCWA ZONE 40

As part of the Zone 40 WSMP, water demand was calculated for various land uses within the 2030 Study Area. As discussed above, the 2030 Study Area includes areas where development of industrial, commercial, office, and residential land uses is expected to occur and where demand for water is expected to be concentrated during the planning horizon of the Zone 40 WSMP (i.e., 2030). (City of Rancho Cordova 2006c:17).

Land use information for the Zone 40 2030 Study Area included tentative maps, specific plans, community plans, and general plans. The unit water demand factors are derived from the unit water demands developed for the 1995 Zone 40 Master Plan Update and the build-out water demands used in the Water Forum (SCWA 2006:3-2). Table 3-1 identifies existing and projected land uses and water demands for 2000 and 2030 within SCWA's Zone 40 2030 Study Area and includes demand for the SDCP/SRSP.

Table 3-1
Current and Projected Water Demands for SCWA Zone 40

Land Use Category	Year 2000 Land Use and Water Demand			Year 2030 Water Demand		
	Unit Water Demand Factors (af/ac/yr)	Land Use (acres)	Water Demand (afy)	Unit Water Demand Factors (af/ac/yr)	Land Use (acres)	Water Demand (afy)
Rural Estates	1.57	304	477	1.33	718	955
Single-Family	3.40	3,387	11,516	2.89	14,867	42,966
Multifamily—Low Density	4.36	285	1,243	3.70	1,173	4,340
Multifamily—High Density	4.85	0	0	4.12	0	0
Commercial	3.24	254	823	2.75	1,042	2,866
Industrial	3.19	1,257	4,010	2.71	2,395	6,490
Industrial—Unutilized	0.00	0	0	0.00	1,463	0
Public	1.22	692	844	1.04	4,349	4,523
Public Recreation	4.08	400	1,632	3.46	2,865	9,913
Mixed Land Use	2.95	840	2,478	2.51	12,985	32,592
Developed Land Use		**7,419**	**23,023**		**41,857**	**104,645**
Right-of-Way	0.25	726	182	0.21	2,526	530
Water Use Subtotal			**23,205**			**105,175**
Water System Losses (7.5%)			1,740			7,888
Zone 40 Water Production			**24,945**			**113,063**
Urban and rural areas not currently being served by Zone 40		5,127	NA		0	NA
Vacant		27,583	NA		2,225	NA
Agriculture		5,766	NA		12	NA
Total Land and Water Use		**46,621**	**24,945**		**46,620**	**113,063**

Notes: af/ac/yr = acre-feet per acre per year; afy = acre-feet per year; NA = not applicable; SCWA = Sacramento County Water Agency.
SCWA Zone 40 does not supply water to meet agricultural demand within its Zone 40 service area. Agricultural water demand within Zone 40 would be in addition to urban water demand.
Minor discrepancies in acreage totals are a result of rounding in land use data.
Source: SCWA 2005a:2-5

The Zone 40 WSIP was prepared in 2006 to provide the most up-to-date information on Zone 40's water supplies, demands, and infrastructure. The Zone 40 WSIP divides the Zone 40 2030 Study Area into three major subareas for planning purposes. From east to west, these areas are identified as: the North Service Area (NSA), the Central Service Area (CSA), and the South Service Area (SSA), respectively. The discussion that follows summarizes information contained within the WSIP.

The NSA is located in the northern portion of Zone 40 and consists of a portion of the City of Rancho Cordova's planning area and the areas identified as Mather Field, Sunrise Corridor, Sunrise Douglas Community Plan (which includes the SDCP/SRSP), and Rio del Oro (including the Cal-Am portion of the planning area where wholesale Zone 40 water supplies would be delivered) (SCWA 2006:2-5).

The CSA is located in the central portion of Zone 40 and consists of 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 Surface WTP. (SCWA 2006:2-12.)

The SSA is located in the southern portion of Zone 40 and consists of 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 (SCWA 2006:2-15).

As shown in Table 3-2, the 2030 water demands are estimated in the Zone 40 WSIP to be 103,710 afy within SCWA's Zone 40 2030 Study Area. This decrease in water demands from the previously-prepared Zone 40 WSMP can be attributed to refined land use information for each service area. (SCWA 2006:3-5).

Table 3-2
Current and Projected Water Demand by Zone 40 2030 Study Area Service Area[1]

Demand Region	Existing Demand		Build-Out Demand	
	Annual Average Demand (afy)	Maximum Day Demand (mgd)	Annual Average Demand (afy)	Maximum Day Demand (mgd)
North Service Area	2,404	4	32,982	59
South Service Area	8,115	14	39,095	70
Central Service Area	14,288	26	31,633	56
Total Demand	**24,807**	**44**	**103,710**	**185**

Note: afy = acre-feet per year; mgd = million gallons per day

[1] The total current and projected water demands exclude 4,400 afy of recycled water demand.

Source: SCWA 2006:3-3

North Service Area

The SDCP/SRSP is identified as a subarea within Zone 40 known as the NSA. The NSA includes areas identified as the Sunrise Corridor, Sunrise Douglas Community Plan, Mather Field, Rio del Oro within Zone 40, and Rio del Oro within Cal-Am where wholesale of Zone 40 water supplies would be delivered (City of Rancho Cordova 2006c:32; SCWA 2006:2-5). As shown on Table 3-3, the current estimated water demand in the NSA is 2,404 afy and the total estimated water demand for build-out of the NSA is anticipated to be 33,382 afy.

Surface water would be diverted to the NSA from the Sacramento River via the FRWP facilities and conveyed to the Vineyard Surface WTP for treatment. Treated water would then be conveyed to the NSA through the NSAP. In the long term, SCWA anticipates the majority of water demands in the NSA would be met with surface water. However, the year-to-year mix of surface and groundwater varies depending on a large number of variables and

SCWA would adjust the amount of groundwater and surface water as necessary to meet the demands of the NSA as part of its conjunctive use program (described further below) (SCWA 2006:4-31).

Table 3-3
Existing and Projected Future Water Supply and Demand in the North Service Area

Demand Region	Existing Demand		Build-Out Demand	
	Annual Average Demand (afy)	Maximum Day Demand (mgd)	Annual Average Demand (afy)	Maximum Day Demand (mgd)
Mather Field	1,327	2.37	7,624	13.61
Rio del Oro – Cal-Am [1]	-	-	3,917	6.99
Rio del Oro – Zone 40 [1]	-	-	4,920	8.79
Sunrise Corridor	1,077	1.92	1,077	1.92
Sunrise Douglas Community Plan	-	-	15,492	27.66
Total Demand	**2,404**	**4.29**	**33,382**	**58.979**

Note: afy = acre-feet per year; mgd = million gallons per day

[1] Water supplies for Rio del Oro would be met with 8,900afy of groundwater extraction and treatment (GET)–Remediated Water.

Source: City of Rancho Cordova 2006c: 35; Roybal, pers. comm., 2010

WATER SUPPLY SOURCES FOR SCWA ZONE 40

The Water Forum has defined conjunctive use as "the planned joint use of surface and groundwater to improve overall water supply reliability." Since its formation, Zone 40 has had as its goal the development of a conjunctive-use water supply system. As such, the areas inside Zone 40 are served conjunctively with groundwater (pumped from the Central Basin), surface water, and recycled water. Available surface-water supplies would be maximized in wet years; groundwater supplies would be maximized in dry years through increased pumping at SCWA's groundwater facilities. In all consecutive dry years, water-demand management programs would be implemented to a higher degree (e.g., greater conservation, reduced outdoor use) to reduce the potential impacts from increased extraction of groundwater.

Table 3-4 summarizes SCWA's Zone 40 current and planned water supplies for normal water years (i.e., years when rainfall and water supply represent the long-term average). The following discussion identifies and characterizes the water supply sources that will be used to meet projected demands within Zone 40.

Table 3-4
Water Supplies for SCWA Zone 40[1]

Component of Water Supply	Average Annual Supply (afy)
Surface Water[2]	75,751
Groundwater	40,900
Recycled Water	4,400
Total Supplies	**121,051**

Notes: afy = acre-feet per year; SCWA = Sacramento County Water Agency

[1] This table presents Zone 40 water supply sources that are available to existing development or would be available to future development within the Zone 40 service area. It does not account for any available groundwater extraction and treatment (GET)–Remediated Water supply that would be provided to the Rio del Oro Specific Plan area.

[2] The total estimated average annual supply of surface water is the sum of existing entitlements and proposed future entitlements.

Sources: SCWA 2005a:5-6, 2005b; Roybal, pers. comm., 2010

SURFACE-WATER SUPPLIES FOR SCWA ZONE 40

SCWA surface-water supplies come from the American River. The components of the surface-water supply in Zone 40 are shown in Table 3-5 and described below. SCWA's total estimated long-term average annual supply of surface water (existing entitlements and proposed future entitlements) is 75,751 afy.

Table 3-5
Existing and Proposed Supplies of Surface Water for SCWA Zone 40

Component	Water Source	Existing or Proposed Future Supply	Entitlement Amount (afy)	Estimated Long-Term Average Supply (afy)[1]
SMUD Assignment	American River	Existing	30,000	26,000
"Fazio" Water (PL 101-514)	American River	Existing	15,000	13,551
Appropriative Water Supplies (Permit 21209)	American River	Existing	44,800	21,700
Other Transfer-Water Supplies	American River	Planned [2]	Undetermined	5,200
City of Sacramento Wholesale Water Agreement to Supply that Portion of Zone 40 within the City's American River POU	American River	Existing	9,300	9,300
Total Surface Water				**75,751**

Notes: afy = acre-feet per year; PL = Public Law; POU = Place of Use; SCWA = Sacramento County Water Agency; SMUD = Sacramento Municipal Utility District.

[1] The estimated average long-term supply is the projected water supply available based on an average of wet, normal, and dry water years.

[2] Per SCWA, these agreements are currently being negotiated.

Sources: SCWA 2005a:5-3, 5-6, 2005b; Roybal, pers. comm., 2010

EXISTING CENTRAL VALLEY PROJECT WATER SUPPLY ENTITLEMENTS FOR SCWA ZONE 40

SMUD Assignment

Under the terms of a three-party agreement (SCWA, Sacramento Municipal Utility District [SMUD], and the City of Sacramento), the City of Sacramento provides surface water to SMUD for use at two of SMUD's cogeneration facilities. SMUD provides15,000 afy of its CVP contract water to SCWA for municipal and industrial use. This water is currently diverted at the City of Sacramento's intake facilities at the confluence of the American and Sacramento Rivers and treated at the Sacramento River Water Treatment Plant.

Based on SMUD's WFA purveyor-specific agreements, a second 15,000 afy of surface water is provided to SCWA for municipal and industrial uses, and to enable SCWA to construct groundwater facilities to provide water needed to meet SMUD's demand of up to 10,000 afy at its Rancho Seco cogeneration facility during water shortages in dry years. The amount of water required by SMUD is based on hydrologic year type and the amount of cut back SMUD may experience on their remaining CVP contract. Delivery of this water occurs through the Folsom South Canal (SCWA 2006:3-7).

SMUD's dry year demands are determined based on the frequency of dry years when additional water supplies are required to meet demands. Modeling studies conducted for the FRWP indicated that the frequency of SMUD demand is low, occurring in only 20% of years, with the need for the full 10,000 afy occurring in only 3% of years. It is expected that SMUD's dry year demands can be met through the unused portions of the SMUD CVP assignment (through 2030). (SCWA 2006:3-7, 3-8).

Central Valley Project Water (Public Law 101-514 ["Fazio Water"])

In April 1999, SCWA executed a CVP water-service contract pursuant to Public Law 101-514 (referred to as "Fazio water") that provides a permanent water supply of 22,000 afy, with 15,000 afy allocated to SCWA and 7,000 afy allocated to the City of Folsom. The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) issued biological opinions (BOs) on the contract in accordance with the federal ESA. Reclamation issued a record of decision on the water service contracts on April 7, 1999. The BO issued by NMFS limited the water diversion amount to 7,200 afy until new fish screens were installed at the City of Sacramento's Sacramento River water treatment plant. Construction of a fish screen was completed in 2004 for the City of Sacramento's municipal intake facility along the Sacramento River, and now the full contract amount of 15,000 afy is available and authorized through the contract. This screen protects outmigrating spring-, fall-, and winter-run Chinook salmon; Central Valley steelhead; Delta smelt; Sacramento splittail; and resident game and nongame fish from entrainment. SCWA began taking delivery of the Fazio water in 1999 at the City of Sacramento's Franklin connection through a long-term wheeling agreement with the City of Sacramento. This contract remains in effect until it expires in 2024.

Appropriative Water Supplies

The SWRCB appropriates water from the American River to SCWA under Permit 21029. (This water is considered "intermittent water" that typically would be available during normal years or wet years (i.e., years when rainfall, and hence water supply, are greater than average.) This water is used to meet system demand, and it could possibly be used for future groundwater recharge through recharge-percolating groundwater basins or direct injection of surface water into the aquifer. The maximum, minimum, and average annual use of appropriative water is 44,800 af, 0 af, and 21,700 af, respectively. In close to 30% of the years, 12,000 af or less of appropriative water is used. The FRWP and Vineyard Surface WTP would be used to deliver the surface water.

City of Sacramento's American River Place of Use Agreement

SCWA is pursuing an agreement under which the City of Sacramento would wholesale American River water to SCWA for use in a portion of the SCWA 2030 Study Area that lies within the City of Sacramento's American River POU. The estimated long-term average volume of water that would be used by SCWA within this POU would be approximately 9,300 afy.

Other Transfer Supplies

SCWA is pursuing purchase and transfer agreements with other entities north of its service area in the Sacramento River basin. SCWA's estimated long-term average use of these water supplies would be approximately 5,200 afy. This water would be purchased only in dry and critically dry years, for one-year periods. None of these water transfer agreements have been executed at this time, as none are needed for the foreseeable future; they are therefore still in the preliminary negotiation stage. One-year water transfers are exempt from CEQA (Water Code Section 1729; CEQA Guidelines Section 15282(u)), and thus can be implemented quickly by willing parties.

RECYCLED-WATER COMPONENT

"Recycled water" refers to wastewater treated to a tertiary level—filtration and disinfection (Title 22, unrestricted use)—and is used for nonpotable uses such as landscape irrigation at parks, schools, and rights-of-way. Approximately 4,400 afy of recycled water is currently provided to SCWA by the Sacramento Regional County Sanitation District (SRCSD). This water is used within the Zone 40 service area to offset demand by parks and for other nonpotable uses. (See "City of Rancho Cordova's Recycled-Water Supplies," below for further discussion.)

GROUNDWATER WITHIN SCWA ZONE 40

The Central Area groundwater subbasin (i.e., the Central Basin) corresponds to the South American Sub-Basin (California Department of Water Resources [DWR] Basin Number 5-21.65) and is located between the American River and the Cosumnes River. Zone 40 is located within the Central Basin.

Groundwater in the Central Basin is classified as occurring in a shallow aquifer zone (Laguna or Modesto Formation) or in an underlying deeper aquifer zone (Mehrten Formation). Within Zone 40, the shallow aquifer extends to approximately 200–300 feet below the ground surface; in general, the water quality in this zone is considered good, except for the occurrence of low levels of arsenic in some locations. The shallow aquifer is typically used for private domestic wells and requires no treatment unless naturally occurring arsenic is encountered. (SCWA 2005a:3-1).

The deep aquifer is semiconfined by and separated from the shallow aquifer by a discontinuous clay layer. The base of the deep aquifer averages approximately 1,400 feet below the ground surface. Water at the base of the deep aquifer has higher concentrations of total dissolved solids. Iron and manganese typically found in the deep aquifer are at levels requiring treatment. Groundwater used in Zone 40 is supplied from both the shallow and deeper aquifer systems. (SCWA 2005a:3-1).

Groundwater in central Sacramento County moves from sources of recharge to areas of discharge. Recharge to the aquifer system occurs along river and stream channels where extensive sand and gravel deposits exist, particularly along the American, Cosumnes, and Sacramento River channels. Additional recharge occurs along the eastern boundary of Sacramento County at the transition point from the consolidated rocks of the Sierra Nevada to the alluvial deposited basin sediments. This typically occurs through fractured granitic rock that makes up the Sierra Nevada foothills. Other sources of recharge within the areas include deep percolation from applied surface water, precipitation, and small streams. (SCWA 2005a:3-1).

Groundwater elevations through much of the Central Basin generally declined from the 1950s to about 1980 by about 20–30 feet. From 1980 to 1983, water levels recovered by about 10 feet and remained stable until 1987, which was the beginning of the 1987–1992 droughts. From 1987 to 1995, water levels declined by about 15 feet. From 1995 to 2003, most water levels recovered to higher levels than before the 1987–1992 drought. Much of this recovery can be attributed to increased use of surface water in the Central Basin and the fallowing of previously irrigated agricultural lands for development of urban uses.

Groundwater Supplies in SCWA Zone 40

SCWA currently exercises, and will continue to exercise, its rights as a groundwater appropriator and will extract water from the Central Basin for the beneficial use of its customers. As a signatory to the WFA, SCWA is committed to adhering to the long-term average sustainable yield of the Central Basin (i.e., 273,000 afy) recommended in the WFA. Total groundwater pumping (i.e., urban and agricultural pumping) within the Central Basin is approximately 248,500 afy, of which approximately 59,700 afy is pumped within Zone 40 (agricultural demand, 21,900 afy; urban demand, 37,800 afy) (SCWA 2005a). The remaining groundwater is pumped by the City of Sacramento, Elk Grove Water Service, Cal-Am, Golden State Water Company (GSWC), and private and agricultural pumpers. Projected groundwater pumping volumes from the Central Basin in 2030 would range from 235,000 afy to 253,000 afy for urban and agricultural demands (SCWA 2005a). Of that amount, it is projected that SCWA Zone 40 would pump an average of 40,900 afy to meet urban water demand within Zone 40 through 2030 (Table 3-6).

Table 3-6
Existing and Projected Average Groundwater Supply in Zone 40

Water Source	Estimated Maximum Use (afy)	Estimated Long-Term Average Use (afy)	Reliability
Groundwater extracted from the Central Basin pursuant to the Zone 40 WSMP	69,900	40,900	High[1]

Notes: afy = acre-feet per year; Central Basin = Central Area groundwater subbasin; SCWA = Sacramento County Water Agency; WSMP = *Water Supply Master Plan*.

[1] The reliability of this water source is considered "high" because SCWA is a groundwater appropriator and existing and projected future pumping scenarios would not exceed the sustainable yield of the Central Basin.

Source: SCWA 2005a:5-3

GET-Remediated Water Groundwater

Aerojet General Corporation (Aerojet) currently extracts and treats contaminated groundwater at various GET facilities at or near its property in eastern Sacramento County. The GET facilities are operated under one or more directives from the U.S. Environmental Protection Agency (EPA), the Central Valley Regional Water Quality Control Board (RWQCB), and the California Department of Toxic Substances Control (DTSC). The directives require extraction of contaminated groundwater, treatment of the groundwater, and appropriate discharge of treated groundwater, principally to the American River. The GET facilities currently extract, treat, and discharge to the American River approximately 15,000 afy of GET-Remediated Water, and these facilities are being expanded under government oversight over the next several years to extract, treat, and discharge more than 26,000 afy. Additionally, there are two other GET facilities (also under environmental agency oversight) that presently discharge to Morrison Creek, but can, through construction of new pipelines, discharge to the American River. One of the GET facilities discharging to Morrison Creek is operated by McDonnell Douglas Corporation (MDC)/Boeing, which, along with Aerojet, is obligated to remediate groundwater migrating from portions of property formerly owned by MDC/Boeing and currently owned by Aerojet. Upon completion of all planned GET facilities, and if the water currently discharging to Morrison Creek is redirected to the American River through pipelines, more than 35,000 afy of treated groundwater would be discharged to the American River.

GET-Remediated Water is currently discharged to the American River and is available for diversion at the FRWP on the Sacramento River under agreement between Aerojet and SCWA authorizing that diversion (*GET Remediated Water and the Agreement between Sacramento County, the Sacramento County Water Agency, and Aerojet General Corporation*). The agreement, which was entered on May 12, 2010, grants to SCWA 8,900 afy of the GET-Remediated Water discharged to the American River to meet water demands of the Rio del Oro Specific Plan.

Potential Future Groundwater Supplies in SCWA Zone 40

Additional Groundwater Pumping

The Zone 40 WSMP evaluated a suite of options for the conjunctive-use water supply system, including surface-water entitlements, groundwater, and recycled water. Within the suite of groundwater and surface-water supplies contemplated in the EIR for the Zone 40 WSMP, SCWA evaluated the impacts of groundwater extraction that would occur as a result of remediation activities by Aerojet and MDC/Boeing. At the time the EIR for the Zone 40 WSMP was being prepared (2003–2004), groundwater extraction volumes at the Aerojet and MDC/Boeing properties totaled an estimated 18,664 afy. Based on existing agreements at that time, the WSMP EIR projected that groundwater extraction rates would increase to an estimated 35,890 afy by 2030 (see Table 6.3 of Appendix F of the EIR for the Zone 40 WSMP). These projected future groundwater-extraction volumes for the Aerojet and MDC/Boeing properties were evaluated to determine whether these volumes, when combined with other

groundwater pumping in Zone 40 and other groundwater pumping in the Central Basin, would exceed the negotiated sustainable yield of the Central Basin (i.e., 273,000 afy) as determined through the WFA stakeholder process. (See Alternatives 2a, 2b, 2c, and 3 in Appendix F of the EIR for the Zone 40 WSMP.) The EIR for the Zone 40 WSMP concluded that under various scenarios contemplating different levels of reuse of the estimated 35,890 afy of remediated groundwater, groundwater extraction volumes within the Central Basin would be slightly less than the negotiated sustainable yield, and groundwater levels would be higher than the minimum levels determined by the WFA. At the time the EIR for the Zone 40 WSMP was prepared, remaining groundwater-pumping capacity within the Central Basin varied from 20,000 afy to 40,000 afy. In the future, groundwater extraction rates at the Aerojet and MDC/Boeing facilities may exceed the estimated 2030 extraction rate (i.e., 35,890 afy) because of the need to better contain plumes. Going forward, the parties will determine whether this additional remediated groundwater would be available to serve new development within the SCWA service area. In addressing this question, the parties will make inquiries regarding whether the additional pumping volumes would be within remaining sustainable-yield pumping capacity, whether these volumes would cause total groundwater pumping volumes within the Central Basin to exceed the negotiated sustainable yield, and whether these extraction rates would have greater impacts on groundwater hydrology (e.g., elevations, cone of depression) within Zone 40. Additional pumping to supply new development would occur only if it was within the sustainable yield.

Improved Sustainability of Groundwater

An opportunity may exist to investigate the sensitivity of the Central Basin's negotiated sustainable yield and determine whether any additional pumping capacity may exist without causing the basin to become overdrafted. The sustainable yield for the Central Basin was negotiated by a variety of stakeholders through the Water Forum process. The City of Rancho Cordova would need to coordinate with the Water Forum successor effort—the Central Sacramento County Groundwater Forum—and other groundwater appropriators to scientifically and comprehensively evaluate whether the Central Basin could support a higher yield (more than 273,000 afy) while still maintaining the objectives of the WFA.

If it is determined that a higher yield could be supported, there may be additional long-term water supplies that could serve new development within the Central Basin. A portion of these supplies may be available to serve the SDCP/SRSP. However, the feasibility of this water supply source and the volume of available water supply are currently unknown and cannot be determined with any certainty based on the analysis provided in existing environmental documents (e.g., the EIRs for the WFA and the Zone 40 WSMP). The impacts of additional pumping would need to be evaluated through a separate environmental review process. This option would be utilized only if the additional pumping necessary to supply the project is within the sustainable yield. The SDCP/SRSP does not depend on this supply and is not intending to rely on this supply as others are more certain and readily available.

REASONABLE LIKELIHOOD OF ZONE 40 WATER SUPPLIES

In wet and normal water years, SCWA would divert surface water from the American River at the Folsom South Canal consistent with the entitlement contracts described above. The underlying groundwater basin would be replenished in wet years as a result of this reliance on surface water. In dry water years, SCWA's surface water could be reduced based on recommended dry-year cutback volumes outlined in the WFA—those volumes that purveyors have agreed to not divert from the American River during dry years. During dry years, SCWA would increase groundwater pumping so that it could continue to meet customers' water demand, and it would implement a water-shortage contingency plan that would result in a 28% reduction in water demand (SCWA 2005b). In addition, the City will implement conservation measures, which are currently being developed by SCWA as part of its Zone 41 UWMP update, to reduce water consumption by 20% by 2020 per SBx7-7.

The sufficiency of the "firm" Zone 40 WSMP groundwater supplies to supply all users in the Zone 40 area is illustrated by the hydrologic modeling in the 2005 Zone 40 WSMP. The hydrologic effects of implementing the

2005 Zone 40 WSMP were analyzed using the Sacramento County Integrated Groundwater Surface Water Model (IGSM) (WRIME 2003). The IGSM was originally developed in the early 1990s to analyze the impacts of different water supply planning scenarios on the groundwater resources of Sacramento County. Based on its theoretical foundation, past applications, and sensitivity testing, the IGSM model was determined by SCWA to be the appropriate tool for assessing the impacts of the Zone 40 WSMP. The IGSM model runs performed to analyze the effects of the Zone 40 WSMP evaluated the 2030 Study Area, as well as surrounding areas, to assess the overall impacts on the groundwater basin under existing conditions as well as 2030 conditions for different combinations of surface water and groundwater use. The IGSM model evaluated two basic scenarios: the 2000 Baseline Condition and the 2030 Condition.

The 2000 Baseline Condition represents the long-term effect of water demand and supply conditions at the year 2000 level of development, held constant over a 74-year period of historical hydrology. The 2030 Condition represents the long-term effects of the year 2030 level of development over the 74-year period of historical hydrology. The 2030 Condition assumes development of approved specific plans and associated reductions in agricultural acreage and water demand in Zone 40 and increases in surface-water supplies to satisfy the increased urban demand. Groundwater pumping would still be used to supplement water supplies for urban areas and to meet agricultural demand.

The model runs for the 2030 Condition were conducted to illustrate potential effects related to all of the following:

- groundwater pumping locations (pumping within the subarea of use, pumping concentrated in the northern portion of Zone 40, pumping concentrated in the southern portion of Zone 30, and a uniform pumping scenario),
- variable volumes of reuse of remediated groundwater,
- increases in surface water from availability of appropriative water, and
- enhancement of Cosumnes River flows.

The modeling evaluated projected pumping within the groundwater basin by SCWA as well as all other water users, including those for agriculture. The results of the groundwater model indicate that in 2030, approximately 74,000 afy of groundwater is expected to be pumped by SCWA and private urban and agricultural water users for use in the Zone 40 2030 Study Area.

This volume, combined with other pumping in the Central Basin (including pumping for groundwater remediation), would be less than the WFA sustainable-yield recommendation of 273,000 afy for all modeled scenarios that assume some level of reuse of remediated groundwater. Assuming such reuse, average groundwater levels in the northern Zone 40 area would increase by about 4 feet, while those in the southern Zone 40 area would decrease by about 1 foot (WSMP, Appendix F, p. 6-21). Stabilized groundwater elevations at the Central Basin's cone of depression under the modeled scenarios would range from approximately 50 feet below mean sea level (msl) to 84 feet below msl, which are all substantially higher in elevation than the WFA projected level of 116 feet below msl to 130 feet below msl.

Groundwater pumping associated with the Zone 40 WSMP would not cause sustainable-yield recommendations to be exceeded. Therefore, groundwater levels at the Central Basin cone of depression are projected to be higher than those determined to be acceptable to the Water Forum, and this impact was considered less than significant in the Zone 40 WSMP EIR.

Table 3-7 lists available water supplies in Zone 40 during normal, single dry, and multiple dry years. This table reflects a conjunctive-use pattern in Zone 40 in which groundwater use averages 39,000 afy in normal years. In dry years, when the availability of surface water is limited, projected groundwater use increases to 70,000 afy to make up for the reduction in surface water. In all consecutive dry years, water-demand management programs

would be implemented to a higher degree (e.g., greater conservation, reduced outdoor use) to reduce the potential impacts from increased extraction of groundwater.

Table 3-7
Reliability of SCWA Zone 40 Water Supplies for 2030 (afy)[1]

Water Supply Sources	Normal Water Year	Single Dry Water Year	Multiple Dry Water Years			
			Year 1	Year 2	Year 3	Year 4
Zone 40 Surface Water[2]	75,751	34,683	26,106	26,106	23,183	20,909
Zone 40 Groundwater	40,900	68,327	65,599	65,599	68,522	70,795
Zone 40 Recycled Water	4,400	4,400	4,400	4,400	4,400	4,400

Notes: afy = acre-feet per year; SCWA = Sacramento County Water Agency

[1] This table presents only Zone 40 water supply sources as identified in the *2005 Zone 41 Urban Water Management Plan*. It does not account for any available supplies of groundwater extraction and treatment (GET)–Remediated Water.

[2] The Zone 40 surface water supply includes existing CVP contracts (the SMUD and Fazio supplies), appropriative water rights, and POU water and future planned water supplies that are considered already secured or highly likely to be secured.

Source: SCWA 2005b; Roybal, pers. comm., 2010

With implementation of the Zone 40 WSMP, Zone 41 UWMP, and Zone 40 WSIP, SCWA Zone 40 would be served with reliable, long-term groundwater supplies. SCWA has secured (and is in the process of securing additional) surface water entitlements that would allow SCWA to meet its projected 2030 water demands. The only surface water supply without an existing entitlement is Other Transfer Water Supplies. However, as discussed above, those supplies are planned and in the preliminary negotiation stage. The *Vineyard* standard of "reasonable likelihood" does not require that all water sources be secured based on existing entitlements or contracts. Given the amount of this source of water (5,200 afy) and the limited periods in which it is needed (dry and critically dry years), the overall SCWA water supply to meet projected demand is considered reasonably likely to be available. Consistent with recent history in the California water market and SCWA's planning for this water supply to-date, SCWA anticipates being able to obtain the water transfers during the times they are needed (dry and critically dry years) in 2030 and subsequently. SCWA intends to continue to extract groundwater to meet its customer demands within the limits of the negotiated sustainable yield of the Central Basin. Therefore, SCWA's groundwater supplies are considered reliable, as are those surface water supplies for which SCWA has existing CVP contracts (the SMUD and Fazio supplies), appropriative water rights, and POU water and there is reasonable likelihood that these water supplies will continue to be available. In addition to the surface water, groundwater, and recycled water supplies described above, approximately 8,900-afy of GET-Remediated Water is currently available for diversion at the FRWP by SCWA.

CIRCUMSTANCES AFFECTING THE LIKELIHOOD OF LONG-TERM WATER SUPPLIES

Because Zone 40 water is allocated on a first-come, first-served basis, the water available to the SDCP/SRSP under the Zone 40 WSMP and the Zone 41 UWMP could be affected by rapid development in other portions of Zone 40 or by expansion of the City of Elk Grove's urban services area. Neither scenario has occurred or is anticipated to occur in the immediate future. As development occurs, SCWA will track service demands in relation to available supplies. Specific projects that are planned for in the future would be served with water supplies as the necessary conveyance and treatment facilities to deliver water to the newly developing areas are developed.

Changed Water Supply Operations for Water Forum Purveyors

Surface water supplies in the Sacramento River watershed (including the American River basin) are managed, in large part, by the operations of the Reclamation CVP. In combination with the State Water Project (SWP), the

combined CVP/SWP operations are integrated and responsive to surface water demands of their contractors and other non-project agricultural and municipal and industrial demands in northern California. Consequently, all CVP/SWP integrated surface water operations may incrementally affect regional reservoir storage and river flow conditions in the Central Valley.

- The FRWP EIR/EIS (2003; certified in 2004) and the SCWA Zone 40 WSMP EIR (2004a; certified in 2005) were prepared and certified prior to the release of the USFWS Biological Opinions for the CVP/SWP Operations Criteria and Plan (OCAP) (U.S. Bureau of Reclamation 2005; USFWS 2008) and the National Oceanic and Atmospheric (NOAA, known now as NMFS) Fisheries Biological Opinions for OCAP (2004 and revised 2009). These Biological Opinions addressed impacts on the following species: Delta smelt (USFWS); the Central Valley winter-run and spring run Chinook salmon, the Central Valley steelhead, the Southern Distinct Population Segment of Green Sturgeon, and the Southern Resident Killer Whale (NMFS). Environmental groups successfully challenged the two Biological Opinions, resulting in decisions by Judge Oliver Wanger of the United States District Court for the Eastern District of California. In determining that the Biological Opinions violated the Endangered Species Act (ESA), Judge Wanger imposed restrictions on the operation of the CVP/SWP system that had the effect of reducing exports from the Sacramento-San Joaquin Delta to CVP and SWP contractors. In response to Judge Wanger's decisions on these first two Biological Opinions, USFWS and NMFS prepared new Biological Opinions, which imposed operational restrictions, including export limitations, much more severe than were required by the first set of Biological Opinions. These restrictions then prompted a new series of lawsuits—this time filed by water users rather than environmental groups. Although, at the time this DEIR was released for public review, this new round of litigation was not yet over, Judge Wanger had found that both USFWS and NMFS had violated ESA in fashioning the new Biological Opinions, and that the Bureau of Reclamation (Reclamation) had violated NEPA by failing to conduct environmental review with respect to some of the "reasonable and prudent alternatives" imposed through the Biological Opinions. Although, as of mid-December 2010, Judge Wanger had just issued a final decision on the merits of the lawsuit attacking the USFWS Biological Opinion, his Memorandum Decision did not impose a remedy regarding how the CVP/SWP system should be operated while USFWS addressed the problems he had identified. And it remained possible that one or more of the losing parties might appeal to the Ninth Circuit Court of Appeals, making both the ultimate outcome of the litigation and its practical ramifications unclear. As of that same date, he had not yet reached a final decision with respect to the NFMS Biological Opinion, despite having ruled against NMFS and Reclamation preliminary rulings. In short, these new decisions by Judge Wanger have created uncertainty regarding the final operational restrictions on the CVP/SWP system. If his decisions are not overturned by a higher court (a process that could take years), then USFWS and NMFS will have to prepare new Biological Opinions, and Reclamation will have to prepare a NEPA document addressing the effects on the human environment of the "reasonable and prudent alternatives" (RPAs) that are associated with those Biological Opinions.

In the meantime, the DWR and Reclamation have undertaken a regulatory process intended to result in a habitat conservation plan/natural communities conservation plan (HCP/NCCP) known as the Bay Delta Conservation Plan (BDCP). When it is completed after the preparation and ultimate completion of an EIR/EIS, the BDCP will provide "incidental take" authorization for the combined CVP/SWP system while providing for the recovery of the endangered and threatened species currently in trouble in the Sacramento-San Joaquin Delta. The BDCP process is currently underway, and its participants are currently:

- identifying conservation strategies to improve the overall ecological health of the Delta;
- identifying ecologically friendly ways to move fresh water through and/or around the Delta; and,
- addressing toxic pollutants, invasive species, and impairments to water quality.

The Draft EIR/EIS for the BDCP will likely be released sometime in 2011, and the entire BDCP process will likely be completed in 2012. At present, it would be pure speculation to predict the outcome of that process, though the BDCP in final form is very likely to involve authorization of a new "north delta diversion" to reduce reliance on the export pumps at the far south end of the Delta, which are a source of many of the problems for

Delta fisheries (especially the Delta smelt). Such a new diversion could take the form of a surface canal either east or west of the Sacramento River, ultimately connecting with the Clifton Court Forebay at the far south end of the Delta, or an underground tunnel/pipeline also connecting at the same southern terminus. Any such major public works facility would of course take several years to construct, and would only become operational around 2020 or so. The goal of the process is to create a stable ecology in the Delta that will facilitate the recovery of currently declining species while at the same time increasing the reliability of the Delta as a source of water supplies for CVP and SWP customers.

Both the FRWP EIR/EIS and the Zone 40 WSMP EIR were issued prior to the first of Judge Wanger's decisions on the 2004 and 2005 versions of the USFWS and NFMS Biological Opinions. Thus, the CALSIMII water supply operations modeling conducted for the FRWP EIR/EIS did not reflect water supply operations as modified by the current USFWS and NOAA Biological Opinions and by Judge Wanger's decisions invalidating not only the 2004 and 2005 versions, but also the 2008 and 2009 versions.

Current CALSIMII modeling, such as conducted for the 2005 USFWS OCAP Biological Opinion, includes many of the regulatory changes and updated underlying hydrologic inputs. Implementation of the many necessary operational responses to regulatory changes (e.g., amendments to the Bay-Delta Water Quality Control Plan, biological opinions for Endangered Species Act compliance) have been shown through the quantitative analyses to be achievable within the flexibility of the CVP/SWP system. However, the revised USFWS and NOAA Fisheries OCAP Biological Opinions and the Wanger decisions have not yet been quantified with CALSIMII and Reclamation's associated temperature and salmon mortality models (as of June 2010) and, therefore, the effects of these Biological Opinions on CVP/SWP operations can only be assessed on a qualitative basis at this time. The additional uncertainty created by Judge Wanger's most recent decisions (in May 2010) only underscores the inability of even expert water supply and fisheries consultants to undertake any sort of quantitative analysis of how the CVP/SWP system will operate in future years. The ultimate approval and implementation of the BDCP adds still further uncertainty. Furthermore, making quantitative comparisons of differences in water supply and hydrologic effects of single projects is not possible in light of, among other things, the enormous amounts of water moved through the overall CVP/SWP system and technological limitations on the modeling tools currently available. Reclamation in concert with DWR, USFWS, and NOAA Fisheries is presently working on modifying the CALSIMII analytical model to incorporate the RPAs of the OCAP Biological Opinions into the modeling tools; however, this is not yet complete or available for operations analyses. This process may be interrupted, however, due to Judge Wanger's recent decisions calling into question the validity of those RPAs, which USFWS and NMFS may modify in response to his decisions.

The City of Roseville (Roseville) recently completed an EIR for the Sierra Vista Specific Plan (City of Roseville 2009) in which it evaluated the reliability of CVP operations to meet the contract water demands of Water Forum purveyors in the American River basin and the environmental effects thereof, in comparison to the analyses presented in the original 1999 Water Forum EIR. This analysis represents the best currently available technical information on the subjects it addresses. As described in Section 3.1.1, above, the Water Forum EIR evaluated additional surface water deliveries in the American River basin ranging from 128,000 to 234,000 afy (relative to 1995 deliveries), depending on water year type, to meet projected additional demands in 2030 (i.e., ranging from 198,000 to 324,000 afy), including a projected firm yield to SCWA of 45,000 afy from the Sacramento River up to 78,000 afy on an intermittent basis (i.e., 33,000 afy may be subject to cutbacks during drought conditions). The Water Forum EIR included safe-yield groundwater management in the region, but did not include additional water deliveries to EBMUD of up to 133,000 afy from the Sacramento River at Freeport. Roseville's evaluation for the Sierra Vista Specific Plan was based on a quantitative analysis commissioned in 2006 using CALSIMII to consider the effects of provisions in USFWS' 2004 OCAP Biological Opinion on yield to Water Forum purveyors (including SCWA), and a qualitative analysis of the potential effects of the current USFWS and NOAA Fisheries OCAP Biological Opinions and Wanger decisions. While quantifiable differences were reported, much of what is known is, by necessity, qualitative and based on the professional opinions of experts familiar with the CVP/SWP operations. Roseville's analysis concluded that the effects of the multiple analytical, regulatory, and hydrologic changes of the past ten years have not radically changed the performance of CVP facilities with respect to

Sacramento River operations identified in the Water Forum EIR. The conclusions of Roseville's analysis can be summarized as follows:

- CVP/SWP operations will be guided, in part, by the USFWS and NOAA Fisheries Biological Opinions for the OCAP. The Biological Opinions limit many aspects of CVP/SWP reservoir storage, river release, and contractor diversions. The progression of time and imposition of new and revised regulatory actions affecting CVP/SWP operations has resulted in less ability to "flex" project operations to maintain historical performance with the given hydrologic conditions. Because there is a finite water supply, and environmental protections are not discretionary, ultimately, these limitations manifest themselves in reduced contractor diversions under some conditions.

- Water demands of CVP/SWP contractors have increased, but have taken place coincident with regulatory actions intended to maintain or improve conditions for the environment. Consequently, the environmental protections envisioned by the Water Forum EIR remain.

- Increased south of Delta demands could result in lower end-of-year storage in Folsom Reservoir in some years by requiring additional releases. However, because the inflow to storage ratio for Folsom Reservoir is quite high, Folsom is operated as an annual reservoir, meaning that it is not expected to store water for future years, but rather is operated to maintain at least minimally acceptable storage in the fall months in order to provide minimum instream flows below Nimbus Dam, American River water rights deliveries, and flood protection for each upcoming winter. In nearly all years the storage will recover by the following spring. Folsom Reservoir levels, and minimum and typical lower American River flows, would remain within range of operations identified in the Water Forum EIR.

- Other upstream CVP reservoirs do carry over storage as insurance for a following dry year. These reservoirs could experience lower storage but would remain within the range of operations identified in the Water Forum EIR.

- Compared to conditions simulated in the Water Forum EIR, future CVP deliveries from the American River are expected to be less than full more frequently under dry and critical water year conditions and shortages in those years may be greater, but the range of annual deliveries can be expected to be comparable with those identified in the Water Forum EIR.

- By virtue of the CVP contract priorities based on a contractor's geographical location and intended use for the water, diversion reductions are applied when water supplies are limited. The majority of the delivery reduction effects will occur to the export contractors south of the Delta who will experience much more frequent reductions and greater cuts to deliveries.

- CVP operations can still honor senior American River water rights in all years and meet full American River CVP water contractor diversions in many years. Overall, water supplies from the American River remain highly reliable under the Water Forum and anticipated current and future CVP operations.

Although these conclusions were formulated with Roseville's CVP contract in mind, and although they were reached prior to Judge Wanger's recent decisions finding problems with the 2008 USFWS Biological Opinion for Delta smelt and the 2009 NFMS Biological Opinion for the salmonid species and other species, the consultants preparing this EIR nevertheless consider the conclusions reached in the Roseville document to be as current and valid as any other existing analysis on the subject. These conclusions were reached after the 2008 and 2009 Biological Opinions in were in place, and thus reflect a very stringent regulatory regime. To the extent that Judge Wanger's most recent decisions indicate that this regime may be *too* stringent, any future changes to the Biological Opinions are likely to move in the direction of the interests of water users, rather than environmental interests. If the BDCP is ultimately successful, moreover, the new regulatory regime that will develop as a result is also intended to create more reliable water supplies for all CVP contractors, including SCWA. Unlike south-of-Delta CVP contractors, however, SCWA will be in the position, once the Freeport Diversion is operational, of

diverting its water well upstream of the worst trouble spots in the Delta. It is also worth mentioning that much, and perhaps most, of the water diverted at Freeport by SCWA will end up back in the Sacramento River, approximately one mile downstream, through discharges of treated wastewater at the treatment facility operated by SRCSD.

Inherent Uncertainties Under California Water Law

Virtually all water supplies in California that have yet to be perfected suffer from some uncertainty due to combination of evolving environmental factors. One such factor is possible future species listings under the ESA and its State analogue, the California Endangered Species Act (CESA), which could affect both CVP and SWP operations, as well as the timing and extent of other water diversions throughout California.

Consistent with the obligation under the California Supreme Court's *Vineyard* decision to address possible sources of uncertainty for anticipated water supplies, the City notes several principles of California water law that create some amount of uncertainty for virtually any post-1914 surface water supply based on appropriative water rights, regardless of how firm the underlying appropriative water rights may be. Taken together, these principles provide that water supplies can, in effect, be reallocated over time, from human uses to environmental uses, from relatively inefficient or wasteful human uses to more efficient and less wasteful human uses, from agricultural uses to municipal and industrial uses, and from Southern to Northern California. Notably, some of these principles could ultimately favor the urban customers of a Northern California supplier such as SCWA.

First, the California Constitution and the Water Code prohibit wasteful or unreasonable use of water. (See Cal. Const., art. X, Section 2; see also Water Code Section 100.) The California Constitution, Article X, Section 2, provides: "[T]he general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use…of water be prevented…". Case law has interpreted this provision as follows: "What may be a reasonable beneficial use, where water is present in excess of needs, would not be a reasonable beneficial use in an area of great scarcity and great need. What is a beneficial use at one time may, because of changed conditions, become a waste of water at a later time." (See *Tulare Irrigation Dist. v. Lindsay-Strathmore Irrigation Dist.* (1935) 3 Cal.2d 489, 547.)

A second, and related, principle is that the limited availability of water for use in California means that those water resources that are available must be applied to the maximum beneficial use of which they are capable. (See Water Code Section 100; see also 23 C.C.R. Sections 659-672.) As with the constitutional provisions discussed immediately above, the statutes and regulations embodying this latter principle recognize that societal notions of efficiency and beneficial use evolve over time, as the State's increasing population requires all water users to use their water supplies more wisely.

Third, there are watershed of origin and county of origin priorities. (See, e.g., Water Code Sections 1215.6, 1216.) These priorities were put in place primarily to assure Northern California and rural interests that the CVP and SWP, by sending water southward from the Delta, would not foreclose the eventual use of water by the Northern and rural entities as their demands for such water increased over time. The legal basis for the watershed and county of origin priorities derives from specific statutes or through conditions and reservations attached to appropriative rights issued by the SWRCB. For example, in 1927, pursuant to statute, the State of California sought and obtained permits that reserve large amounts of water from watersheds such as the American River watershed for eventual assignment to water users within such watersheds.

Fourth, provisions of the California Water Code provide that in times of water shortage, municipal and industrial water users should have priority over agricultural users. (See Water Code Section 106 et seq.) Although there is little case law on the subject, Water Code section 106.5 is thought to express the policy that municipalities are exempt from the due diligence requirement generally applicable to perfecting an appropriative right. Coupled with the interim appropriation permits issued pursuant to Water Code sections 1203 and 1462, it is argued that the exemption strikes a balance between the needs of municipalities to secure a reliable water supply and the

constitutionally mandated requirement that water be placed for beneficial use to the maximum extent feasible. (Cal. Const., art. X, Section 2.) Another policy consideration at work here is the pragmatic notion that, while agricultural lands can be temporarily fallowed during drought conditions, houses and businesses cannot be similarly deprived of the minimum amounts of water needed for public health and safety purposes related to domestic water usage.

A final legal principle with the potential to require periodic adjustments of water allocations between human and environmental purposes is the public trust doctrine, which has historically been defined in relationship to the federal and state governments' sovereign ownership of navigable waters, tidelands, and submerged lands of navigable waters. In the early 1980s, the California Supreme Court adopted an expanded interpretation of trust uses and held that state sovereign ownership was not limited to the traditional triad (commerce, navigation, and fishing), but is rather an evolving legal doctrine designed to accommodate the public's needs as they change over time, so that the State Water Resources Control Board, in administering post 1914 appropriative water rights, must now account for environmental considerations (see *National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419, 434-445).

3.1.3 CITY OF RANCHO CORDOVA

CITY OF RANCHO CORDOVA WATER SUPPLY EVALUATION

The City conducted a water supply evaluation for the Rancho Cordova General Plan (City of Rancho Cordova 2006c). The evaluation included information about all of the following:

- the regulatory and planning environment with regard to the regional water supply;
- water purveyors that currently provide water service within Rancho Cordova;
- water demands associated with buildout of the City's corporate limits, including the demand from the SDCP/SRSP project (which was estimated in the water supply evaluation to build out by 2020) and larger planning area (which was assumed to build out by 2050);
- existing available water supplies that could meet a portion of the City's projected buildout water demands (e.g., buildout of the planning area);
- the area within the City's corporate limits for which long-term water supplies have been secured (e.g., approved and planned projects, including the SDCP/SRSP project, and existing development);
- potential future sources of water to meet remaining buildout water demands; and
- a brief summary of the potential environmental impacts associated with delivering future water supplies to Rancho Cordova.

The City's water supply evaluation concluded that water supplies are currently available to meet the water demands associated with buildout of the current City's corporate limits (i.e., 2030), including the demand from the SDCP/SRSP. Because the majority of the City's corporate limit is located within GSWC's, Cal-Am's, or SCWA's NSA service areas and water supplies have been planned for buildout of these areas, adequate water supplies would likely be available to meet the City's corporate limit buildout water demands with implementation of the various water supply plans, agreements, and projects planned by local water purveyors (City of Rancho Cordova 2006c:50). The City's water supply evaluation found that water supplies are not available to serve buildout of the City's planning area outside the City boundaries. However, based on information available at this time, it is not reasonably foreseeable for buildout in the Planning Area to occur during the horizon of the

SDCP/SRSP development. Therefore, buildout of the City Planning Area is not viewed as a reasonably foreseeable project for the purposes of this EIR.

CITY OF RANCHO CORDOVA'S RECYCLED-WATER SUPPLIES

SRCSD is responsible for the collection, treatment, disposal, and reuse (of recycled water) of up to 5 mgd of wastewater throughout most of the urbanized areas of Sacramento County, including the majority of the SWCA retail service areas. SRCSD implemented a water recycling program on the Sacramento Regional Water Treatment Plant (SRWTP) site, which began service to communities in southern Sacramento County in 2003.

Through an agreement between SCWA and SRCSD, SCWA has successfully implemented a water recycling program (SRCSD 2007). Approximately 4,400 afy of recycled water is currently provided to SCWA by SRCSD and used within the Zone 40 service area. This program provides recycled water for SRCSD's on-site uses and for large commercial irrigation customers within Zone 40 (e.g., commercial uses, industrial uses, right-of-way landscaping, schools, and parks). Because of its high reliability and its independence of hydrologic conditions in any given year, recycled water is a desirable source of water for a community's outdoor irrigation demands—parks, schools, street medians, landscaping of residential front and back yards, and public open space. It is also desirable for industrial uses such as cooling water. In addition, recycled water is commonly used for environmental purposes such as wetlands and habitat restoration. SRCSD is working in partnership with SCWA to serve areas in Zone 40, including Rancho Cordova. The expanded water-recycling facility and new water-recycling service areas will be called Phase II of the SRCSD Water Recycling Program. Phase II construction will be timed with the need for the higher capacity and is currently expected to be in service in five to ten years.

The City emphasizes the use of recycled water for nonpotable uses, such as landscape irrigation, wherever feasible. The City adopted a Citywide Recycled Water Distribution Ordinance (Resolution No. 11-2006) on February 6, 2006, stating that new development should install a "purple pipe" recycled-water distribution system (City of Rancho Cordova 2006e). Because of the City's commitment to the use of recycled water, SCWA and SRCSD are investigating the feasibility of providing recycled-water service.

SCWA has indicated that the expanded use of recycled water for nonpotable purposes could reduce demands for potable water by as much as 10%–50%, depending on the level of reuse that is prescribed. Using recycled water for public areas such as medians and park strips would reduce demands for potable water by approximately 10%–15%, and using recycled water for public area and residential outdoor areas (e.g., residential landscaping) could reduce overall demands for potable water by as much as 50% (City of Rancho Cordova 2006e:4.9-49).

Expanded Use of Recycled Water

The water recycling program on the SRWTP site was designed and constructed to be readily expandable from 5 mgd to 10 mgd in accordance with SRCSD's Master Reclamation Permit (WDR #97-146). To plan for water recycling projects beyond 2010, a planned plant expansion of the water recycling facility from 5 mgd to 10 mgd could serve new areas of planned and expected growth and public open space areas. The increased use of recycled water within Zone 40 would increase the total volume of supplies available to SCWA to meet its projected demands within Zone 40.

SRCSD has prepared a *Water Recycling Opportunities Study* (SRCSD 2007) to study the feasibility of meeting its goal to increase water recycling throughout the Sacramento region on the scale of 30–40 mgd over the next 20 years. The study serves to:

- identify potential opportunities for water recycling throughout the Sacramento region and SRCSD service area;
- engage potential water-recycling partners and stakeholders;

- develop, assess, and prioritize potential water-recycling projects; and
- provide a strategy to further develop and implement the projects initially selected to move forward in achieving the stated goals of the large-scale water-recycling program.

The study also ranks potential projects based on water demand, feasibility of implementation, costs, and other factors to prioritize projects for implementation. Implementation of a large-scale Water Recycling Program would be required to undergo a comprehensive review of the program elements to satisfy CEQA requirements. The Water Recycling Opportunities Study provides technical information to support a programmatic-level EIR.

Future projects to provide recycled water to Rancho Cordova include diversion of wastewater from the Bradshaw/Folsom Interceptor System and require construction of a new wastewater treatment plant, an aboveground storage tank, a pump station, and new infrastructure to convey recycled water. The average day demand for recycled water in the city is anticipated to be 3.8 mgd and the peak day demand would be 9.8 mgd (SRCSD 2007:27).

Future expansion and use of recycled water within Zone 40 would increase the total volume of supplies available to SCWA to meet its projected demands within Zone 40. However, it is unknown what portion of the expanded recycled water supplies would be available to Zone 40.

3.2 REGULATORY FRAMEWORK

3.2.1 FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

There are no federal plans, policies, regulations, or laws related to utilities and service systems (water supply) that are applicable to the SDCP/SRSP.

3.2.2 STATE PLANS, POLICIES, REGULATIONS, AND LAWS

SENATE BILLS 610 AND 221

The State of California has enacted legislation that is applicable to the consideration of larger projects under CEQA. Senate Bill (SB) 610 (Chapter 643, Statutes of 2001; Section 21151.9 of the Public Resources Code and Section 10910 et seq. of the Water Code) requires the preparation of "water supply assessments" for large developments (i.e., more than 500 dwelling units or nonresidential equivalent). These assessments, prepared by "public water systems" responsible for serving project areas (here, SCWA), address whether existing and projected water supplies are adequate to serve the project while also meeting existing urban and agricultural demands and the needs of other anticipated development in the service area in which the project is located. If the most recently adopted UWMP accounted for the projected water demand associated with the project, the public water system may incorporate the requested information from the UWMP. If the UWMP did not account for the project's water demand, or if the public water system has no UWMP, the project's WSA shall discuss whether the system's total projected water supplies (available during normal, single-dry, and multiple-dry water years during a 20-year projection) would meet the project's water demand in addition to the system's existing and planned future uses, including agricultural and manufacturing uses.

Where a WSA concludes that insufficient supplies are available, the public water system must provide to the city or county considering the development project (here, originally the County of Sacramento, succeeded by the City of Rancho Cordova) its plans for acquiring and developing additional water supplies. Based on all the information in the record relating to the project, including all applicable WSAs and all other information provided by the relevant public water systems, the city or county must determine whether sufficient water supplies are available to meet the demands of the project, in addition to existing and planned future uses. Where a WSA concludes that insufficient supplies are available, the WSA must lay out the steps that would be required to obtain the necessary

supply. The WSA is required to include (but is not limited to) identification of the existing and future water supplies over a 20-year projection period. This information must be provided for average normal, single-dry, and multiple-dry years. The absence of an adequate current water supply does not preclude project approval, but it does require a lead agency to address a water supply shortfall in its project findings.

The SDCP/SRSP was prepared and circulated for public review prior the implementation of SB 610 (became effective January 1, 2002). As such, the preparation of an SB 610 WSA was not required prior to approval of the SDCP/SRSP. However, when the County of Sacramento issued the Draft EIR (in 1999) and revised recirculated Draft EIR (2001), a predecessor statute—known as SB 901—remained in effect. Like SB 610, SB 901 required local agencies reviewing projects involving specific plans anticipating more than 500 residential units to address whether adequate water supplies were available for such projects, along with other planned development over a 20-year time horizon, taking into account normal, single-dry, and multiple-dry years. Notably, in the litigation resulting in the *Vineyard Area Citizens* decision, the adequacy of Sacramento County's compliance with SB 901 was not an issue, as the California Supreme Court itself noted. (See 40 Cal.4th at p. 433, fn. 8.) Since the analysis in this new (2011) environmental document is being prepared on remand from the Supreme Court and is addressing only those *CEQA* issues that the Supreme Court and Superior Court directed the City to address, neither the City nor the Sacramento County Water Agency has prepared, or was required to prepare, a new Water Supply Assessment for the project pursuant to SB 610.

In any event, the City is now the land use agency responsible for implementing specific development plans within the SDCP/SRSP and has prepared a General Plan water supply evaluation that describes the water supply sources identified for the SDCP/SRSP and the long-term reliability of those sources to meet demands within the SDCP/SRSP during normal, dry, and multiple-dry years (City of Rancho Cordova 2006c:48).

With respect to future subdivision maps proposed within the SDCP/SRSP, additional complementary statutory requirements, created by 2001 legislation known as SB 221 (Government Code Section 66473.7), may apply. SB 221 applies to the approval of tentative subdivision maps for more than 500 residential dwelling units. This statute requires cities and counties to include, as a condition of approval of such tentative maps, the preparation of a "water supply verification." The verification, which must be completed by no later than the time of approval of final maps, is intended to demonstrate that there is a sufficient water supply for the newly created residential lots. The statute defines sufficient water supply as follows:

> *the total water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection period that would meet the projected demand associated with the proposed subdivision, in addition to existing and planned future uses, including, but not limited to, agricultural and industrial uses.*

A number of factors must be considered in determining the sufficiency of projected supplies:

- the availability of water supplies over a historical record of at least 20 years;
- the applicability of an urban-water-shortage contingency analysis that includes action to be undertaken by the public water system in response to water supply shortages;
- the reduction in water supply allocated to a specific water-use sector under a resolution or ordinance adopted or a contract entered into by the public water system, as long as that resolution, ordinance, or contract does not conflict with statutory provisions giving priority to water needed for domestic use, sanitation, and fire protection; and
- the amount of water that the water supplier can reasonably rely on receiving from other water supply projects, such as conjunctive use, reclaimed water, water conservation, and water transfer, including programs identified under federal, state, and local water initiatives.

California Water Conservation Act

SBx7-7 was enacted in November 2009 and requires each urban water supplier to select one of four water conservation targets contained in California Water Code Section 10608.20 with the statewide goal of achieving a 20% reduction in urban per capita water use by 2020. Under SBx7-7, urban retail water suppliers (in this case, SCWA) are required to develop water use targets and submit a water management plan to DWR by July 2011. The plan must include the baseline daily per capita water use, water use target, interim water use target, and compliance daily per capita water use. In addition, the State will make incremental progress towards this goal by reducing per capita water use by at least 10% by December 31, 2015.

SCWA is currently preparing its 2010 Zone 41 UWMP, which will include new requirements for water conservation as set forth in the SBx7-7. It is anticipated that the 2010 Zone 41 UWMP will be an updated and enhanced version of SCWA's 2005 Zone 41 UWMP. SCWA anticipates the 2010 Zone 41 UWMP will be submitted to DWR by July 2011.

3.2.3 REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

RANCHO CORDOVA LANDSCAPING ORDINANCE (MUNICIPAL CODE TITLE 23, CHAPTER 23.716)

The City of Rancho Cordova's Landscaping Ordinance (Municipal Code Title 23, Chapter 23.716) establishes minimum landscape standards to enhance the appearance of developments, reduce heat and glare, control soil erosion, conserve water, ensure the ongoing maintenance of landscape areas, and ensure that landscape installations do not create hazards for motorists or pedestrians. All new nonresidential, mixed-use, and single-family residential and multifamily residential subdivisions are required to comply with landscaping requirements.

The Landscaping Ordinance requires all multifamily, nonresidential, and mixed-use development to install a low-pressure irrigation system in 30% of all landscaped areas; to install automatic programmable controllers with check valves in sloping areas with elevation differences of more than 5 feet as defined from the toe to the top of slope; to group landscape materials with the same watering needs together; to design irrigation systems to avoid runoff, excessive low head drainage, overspray, or other similar conditions where water flows or drifts onto adjacent property, non-irrigated areas, walks, roadways, or structures; and to post an annual maintenance program with the seasonal watering schedule in or near the control box.

RANCHO CORDOVA GENERAL PLAN

The following goals and policies of the City of Rancho Cordova General Plan (2006a; 2006d) are applicable to the project.

Infrastructure, Services, and Finance Element

GOAL ISF.2: Ensure the development of quality infrastructure to meet community needs at the time they are needed.

- **Policy ISF.2.1:** Ensure the development of public infrastructure that meets the long-term needs of residents and ensure infrastructure is available at the time such facilities are needed.
- **Policy ISF.2.4:** Ensure that water supply and delivery systems are available in time to meet the demand created by new development, or are guaranteed to be built by bonds or securities.
    - **Action ISF.2.4.1:** The following shall be required for all legislative-level development projects, including community plans, general plan amendments, specific plans, rezonings, and other plan-level discretionary

entitlements, but excluding tentative subdivisions maps, parcel maps, use permits, and other project-specific discretionary land-use entitlements or approvals:

> Proposed water supplies and delivery systems shall be identified at the time of development project approval to the satisfaction of the City. The water agency or company proposing to provide service (collectively referred to as "water provider") to the project may provide several alternative methods of supply and/or delivery, provided that each is capable individually of providing water to the project. The project applicant or water provider shall make a factual showing prior to project approval that the water provider or providers proposing to serve the development project has or have legal entitlements to the identified water supplies or that such entitlements are reasonably foreseeable by the time of subsequent, project-specific discretionary land-use entitlements or approvals. This factual showing shall also demonstrate that the water provider's identified water supply is reasonably reliable over the long term (at least 20 years) under normal, single-dry and multiple-dry years.
>
> All required water treatment and delivery infrastructure for the project shall be in place at the time of subsequent, project-specific discretionary land-use entitlements or approvals, or shall be assured prior to occupancy through the use of bonds or other sureties to the City's satisfaction. Water infrastructure may be phased to coincide with the phased development of large-scale projects.

- **Action ISF.2.4.2:** The following shall be required for project-specific discretionary land-use entitlements and approvals including, but not limited to, all tentative subdivision maps, parcel maps, or use permits.

  > An assured water supply and delivery system shall be available or reasonably foreseeable at the time of project approval. The water agency providing service to the project may provide several alternative methods of supply and/or delivery, provided that each is capable individually of providing water to the project.
  >
  > The project applicant, water agency (or agencies), or water company (or companies) providing water service to the project site shall make a factual showing consistent with, or the City shall impose conditions similar to, those required by Government Code section 66473.7 in order to ensure an adequate water supply for development authorized by the project. Prior to recordation of any final subdivision map, or prior to City approval of any similar project-specific discretionary land use approval or entitlement required for nonresidential uses, the project applicant or water provider shall demonstrate the availability of a long-term, reliable water supply for the amount of development that would be authorized by the final subdivision map or project-specific discretionary non-residential approval or entitlement. This assurance of water supply shall identify that the water provider has legal entitlement to the water source and that the water source is reasonably reliable (at least 20 years) under normal, dry and multiple dry years. Such demonstration shall consist of a written certification from the water provider that either existing sources are available or that needed improvements will be in place prior to occupancy.
  >
  > Offsite and onsite water infrastructure sufficient to provide adequate water to the subdivision shall be in place prior to the issuance of building permits or their financing shall be assured to the satisfaction of the City prior to the approval of the Final Map, consistent with the requirements of the Subdivision Map Act, or prior to the issuance of a similar, project-level entitlement for non-residential land uses.
  >
  > Offsite and onsite water distribution systems required to serve the subdivision shall be in place and contain water at sufficient quantity and pressure prior to the issuance of any building permits.

Model homes may be exempted from this policy as determined appropriate by the City, and subject to approval by the City.

Natural Resources Element

GOAL NR.5: Protect the quantity and quality of the city's water resources.

- **Policy NR.5.1:** Promote water conservation within existing and future urban uses.
- **Policy NR.5.2:** Encourage the use of treated wastewater to irrigate parks, golf courses, and landscaping.

3.3 THRESHOLDS OF SIGNIFICANCE

The water supply analysis in a CEQA document is governed by California case law that requires the lead agency to consider both the relative certainty of new water supplies that a project would require and the impacts that could result from the use of those new water supplies. The following discussion introduces the principles governing water supply analyses in CEQA documents and distinguishes between the analysis of the certainty of supplies and the impact of providing those supplies. These principles are as follows:

1. An environmental impact report (EIR) may not assume a solution to problem of water supply, but must instead present sufficient facts to evaluate the pros and cons of supplying the required water. (*Santiago County Water District v. Orange* [1981] 118 Cal.App.3d 818, 829.)

2. The water supply analysis for large, multiphase projects may not be limited to the first few years or phases. Furthermore, the first or programmatic document for such a project may not defer analysis to future phases, but must analyze reasonably foreseeable impacts of supplying required water. The tiering principle does not allow deferral to future studies or documents. (*Santa Clarita Organization for Planning the Environment v. County of Los Angeles* [2003] 106 Cal. App. 4th 715, 723.)

3. An EIR evaluating a planned land use project must assume that all phases of the project will eventually be built and will need water. The EIR for such a project must analyze the impacts of supplying water to the entire project. (*Stanislaus Natural Heritage Project v. County of Stanislaus* [1996] 48 Cal.App.4th 182, 206.)

4. Future water supplies for a project must bear a reasonable likelihood of proving to be available. While absolute certainty is not required, water supplies must be identified with more specificity as projects progress from general to specific phases (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* [2007] 40 Cal. 4th, 412, 434). "Where, despite a full discussion, it is impossible to confidently determine that anticipated water sources will be available, CEQA requires some discussion of possible replacement sources or alternative to use of the anticipated water, and of the environmental consequences of those contingencies." (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* [2007] 40 Cal. 4th 412, 432)

5. Although much of the case law focuses on the issue of certainty, the ultimate issue under CEQA is not whether an EIR establishes a likely source of water, but whether the document adequately analyzes the reasonably foreseeable impacts of supplying water to the project. (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* [2007] 40 Cal. 4th, 412, 434)

The discussion of water supply in this section follows these principles. Accordingly, this analysis looks at both the reasonable likelihood of selected water supplies being available and the impacts that would result from those supplies. An impact is considered significant if the project or a phase of the project would result in a water shortage or another significant adverse physical impact on the environment.

The significance thresholds for this analysis are also based on Appendix G of the State CEQA Guidelines. A water supply impact is considered significant if implementation of the project would do any of the following:

- require or result in the construction of new water treatment facilities or expansion of existing facilities, of which their construction or operations could cause significant environmental effects;
- have insufficient water supplies available to serve the project from existing or permitted entitlements and resources, or require new or expanded entitlements.

Section 15126.4(a)(1)(D), of the State CEQA Guidelines states that if a mitigation measure would cause one or more significant environmental effects in addition to those that would be caused by the project, the effects of the mitigation measure must be discussed, but in less detail that the significant effects of the project.

3.4 ANALYSIS METHODOLOGY

The impacts of the provision of long-term water supplies to SDCP/SRSP, including the associated conveyance and treatment facilities, were identified by comparing existing and planned service capacity and facilities with future demand associated with SDCP/SRSP buildout. Where possible, a quantitative comparison was used to determine impacts of the SDCP/SRSP on future demands.

Potential demands for water and impacts on infrastructure were evaluated based on a review of a variety of documents pertaining to the SDCP/SRSP project site and surrounding area. Primarily, because SDCP/SRSP would be served by SCWA's conjunctive use water supply program and related facilities within Zone 40, the impact analyses and mitigation measures in the 2002 Zone 40 WSMP EIR and other applicable environmental documents are summarized and incorporated by reference throughout this chapter. In addition, the long-term water supply for the project cannot be delivered until the conveyance facilities identified in the Zone 40 WSMP have been constructed and are online. Specific Zone 40 water conveyance facilities, including the FRWP; Vineyard Surface WTP; NSAPP; Anatolia WTP; and NVWF Well 4, Well 5, and Well 6, have been analyzed in project-level IS/MNDs. Therefore, these facilities are not evaluated in further in this Revised DEIR. However, because SDCP/SRSP would be served by SCWA's conjunctive use water supply program and related facilities within Zone 40, the impact analyses and mitigation measures in the 2002 Zone 40 WSMP EIR and the IS/MNDs for the Vineyard Surface WTP; NSAPP; Anatolia WTP; and NVWF Wells 4, 5, and 6 are hereby incorporated by reference and summarized in this section as they relate to the project.

As discussed in detail in Chapter 6 of this DEIR, the IS/MND for Wells 1-3 was the subject of a petition for writ of mandate filed by the same litigants who challenged the recirculated SDCP/SRSP EIR in Sacramento County Superior Court (*Vineyard Area Citizens for Responsible Growth, et al., v. Sacramento County Water Agency, et al.* [Case No. 04CS00031]). The litigation challenging the MND was abated by stipulation of the parties while a final resolution in the SDCP/SRSP EIR litigation was pending. Because the SDCP/SRSP EIR was invalidated, the abated litigation over the EWFWTPP MND was revived, even though by that time the facilities analyzed in the latter document had been constructed and were fully operational. SCWA decided to work as a responsible agency with the City of Rancho Cordova while the latter modified the SDCP/SRSP EIR to comply with the directives of the California Supreme Court. Because of this background as well as the fact that the two projects are closely related, the City has included the reanalysis of the EWFWTPP facilities in this Revised DEIR for the SDCP/SRSP. If and when the Rancho Cordova City Council has certified this new EIR and has taken actions to reapprove the SDCP and SRSP, the Board of Directors of SCWA, acting as a responsible agency under CEQA, may initiate a proceeding to reapprove the EWFWTPP. The analysis of the environmental impacts associated with the construction and operation of the NVWF Wells 1-3 was based on review the project's IS/MND, review of the MMRP completed by DERA, and subsequent field review by City of Rancho Cordova staff. Potentially significant environmental impacts and mitigation measures to reduce those impacts to a less-than-significant level are identified in Chapter 6 are summarized below where appropriate.

In accordance with Section 15150 of the State CEQA Guidelines, Section 1.8 lists the documents that have been incorporated by reference in this Revised DEIR, and relevant portions of these documents are summarized herein where their analysis has been relied on. Most of these documents are publically available on the Internet; website addresses are provided in Chapter 9, "References," of this Revised DEIR. Copies of all documents that are not publically available on the Internet are available for review at the City of Rancho Cordova Planning Department, located at 2729 Prospect Park Drive, Rancho Cordova, CA 95670.

3.5 IMPACT ANALYSIS AND MITIGATION MEASURES

IMPACT 3-1: Increased Demand for Long-Term Water Supplies. *Implementation of the SDCP/SRSP would increase demand on Zone 40 water supplies. According to the Zone 40 WSMP, Zone 41 UWMP, and the City's water supply evaluation, reliable, long-term water supplies would be available to serve Zone 40 through 2030. Therefore, Zone 40 water supplies are considered a reliable source of potable water and it is reasonably certain as a physical matter that long-term water supplies needed to serve SDCP/SRSP would be available. This impact is considered* less than significant.

The project would be served by SCWA Zone 40 through its conjunctive-use water supply system. According to the Zone 40 WSMP, Zone 41 UWMP, and the City's general plan water supply evaluation, reliable, long-term water supplies would be available to serve Zone 40 through 2030, including the SDCP/SRSP. SCWA intends to continue to extract groundwater to meet its customer demands within the limits of the negotiated sustainable yield of the Central Basin. Therefore, SCWA's groundwater supplies are considered reliable, as are those surface water supplies for which SCWA has existing CVP contracts (the SMUD and Fazio supplies), appropriative water rights, and POU water agreement, and there is reasonable likelihood that these water supplies will continue to be available. In addition to the surface water, groundwater, and recycled water supplies, GET-Remediated Water pursuant to the County-SCWA-Aerojet agreement is currently available for diversion at the FRWP by SCWA.

The following analysis provides the SDCP/SRSP water demand, identifies available SCWA Zone 40 water supplies, discusses the reasonable likelihood of long-term water supplies to meet SDCP/SRSP demands, and analyzes potential environmental effects of providing long-term water supplies.

3-1a. SDCP/SRSP Water Demand

To estimate total future water demand for buildout of the SDCP/SRSP, SCWA's Zone 40 water-demand factors were applied to the acreage for each land use designation that generates water use within the SDCP/SRSP. Table 3-7 provides a summary of the water demand for each proposed or approved project within the SDCP/SRSP boundaries, as well as for the General Plan land use designations for Grant Line North and Grant Line West planning areas.

The estimates of water demand for projects under construction (Anatolia I-III and SunRidge Park) are based on final approved maps and building permits. The estimates of water demand for approved projects that are not under construction (Anatolia IV, Arista del Sol, Cresleigh SunRidge, Douglas 103, Douglas 98, Grantline 208, Mather East, Montelena, and North Douglas) are based on tentative maps, rezone, or development agreements. The estimates of water demand for the proposed projects (North Douglas II, Heritage Falls, The Ranch at SunRidge, Sun Creek Specific Plan, and the portion of the Arboretum Specific Plan within the SDCP) are based on acreages and unit counts as proposed by the applicants or in the associated environmental documents prepared by the City. The estimates for the Grant Line North and Grant Line West planning areas, which have no specific development proposals as of May 2010, are based on the conceptual land uses shown in the Land Use Element of the *Rancho Cordova General Plan* (Figures LU-16 on pg 65 and LU-20 on pg 71, City of Rancho Cordova 2006a). As shown on Table 3-8, the total estimated water demand for buildout of the SDCP/SRSP is approximately 15,844 afy: 9,162 afy for the SDCP and 6,682 afy for the SRSP. The water demand for the SDCP/SRSP shown in Table 3-8 does not reflect the 20% reduction in water use that is mandated under SBx7-7. SCWA is currently preparing its 2010 Zone 41 UWMP, which will include new requirements for water conservation as set forth in SBx7-7, and it

Table 3-8
Estimated Water Demand for the Sunrise Douglas Community Plan Area/SunRidge Specific Plan

Project or City of Rancho Cordova Planning Area	Total Acreage of Water Consuming Land Uses[1]	Water Demand (afy)[2]
SunRidge Specific Plan		
Anatolia I [3]	230	642
Anatolia II [3]	227	672
Anatolia III [3]	209	770
Anatolia IV [4]	25	94
Arista Del Sol [2]	159	1,156
Cresleigh (SunRidge Lot J) [4]	73	238
Douglas 103 [4]	57	186
Douglas 98 [4]	100	352
Grantline 208 [4]	136	452
Mather East (Sundance) [4]	19	68
Montelena [4]	165	589
North Douglas [4]	129	413
SunRidge Park [3]	204	584
Subtotal	**1,734**	**6,216**
System Losses (7.5%)	--	466
Total		**6,682**
Sunrise Douglas Community Plan		
Arboretum Specific Plan [5]	390	1,338
Grant Line North Planning Area [6]	193	793
Grant Line West Planning Area [6]	534	1,974
Heritage Falls	198	578
North Douglas II	22	60
Ranch at SunRidge (SunRidge 530)	318	1,047
SunCreek Specific Plan	882	2,733
Subtotal	**2,186**	**8,523**
System Losses (7.5%)	--	639
Total	**2,186**	**9,162**
Total Demand	**3,920**	**15,844**

Notes: afy = acre-feet per year

[1] Total acres of land uses that generate water demand only. Land uses such as wetland reserves or detention basins that do not require water are not included in these totals.

[2] Total water demand for build-out of each project, based on project's proposed or approved land uses and SCWA water demand factors shown in Table 3-1.

[3] Based on approved final maps. These projects are currently under construction.

[4] Based on approved tentative maps, rezoning, and development agreements. These projects are not under construction (as of April 2010).

[5] The total water demands for the Arboretum Specific Plan includes only the portion of the specific plan area inside the Sunrise Douglas Community Plan boundaries.

[6] Includes only acreage within Sunrise Douglas Community Plan boundaries.

Source: Rancho Cordova 2010a, SCWA 2005a, Data compiled by AECOM in 2010

is expected that the City will implement the conservation measures identified in the 2010 Zone 41 UWMP after the plan adoption by SCWA in late 2011.

3-1b. SDCP/SRSP Water Supply Plan

Surface water would be diverted from the Sacramento River via the FRWP facilities and conveyed to the Vineyard Surface WTP for treatment. Treated water would then be conveyed to the SDCP/SRSP through the NSAP (see Impact 3.17-3, below).

Groundwater would be provided to the SRCP/SRSP by the NVWF (see Impact 3.17-3, below). The SDCP/SRSP water supply plan would solely rely on NVWF groundwater to serve near-term development. SCWA has constructed the first phase of the NVWF, consisting of three wells and three filters. These first three NVWF wells (Wells 1 through 3) are operational and are capable of producing approximately 3,600 afy. The total volume pumped from the NVWF and delivered to the SRSP in 2009 was 1,077 afy.

SCWA plans to construct four additional wells (Wells 4 through 7) as new water supplies are required in the SDCP/SRSP. The NVWF could provide for the extraction of up to 10,000 afy of groundwater at buildout. SCWA has allocated a total of 7,300 afy from the NVWF to projects within the SDCP/SRSP, including 5,717 afy to the SRSP (see Table 2-5 in Chapter 2, "Project Description"), 1,493 afy to the Ranch at SunRidge, and 63 afy to the North Douglas II development project. Allocation of capacity at the NVWF, when it becomes available, would continue to be provided to projects within the SDCP/SRSP on a first-come, first-served basis; therefore, it is not assured that other SDCP/SRSP projects would be guaranteed access to the NVWF. In the long term, the NVWF would be integrated with the planned conjunctive use Zone 40 water supplies and facilities for the region, making both surface and groundwater supplies available.

The provision of long-term water supply to the SDCP/SRSP relies on the construction of additional wells in the NVWF and construction and operation of surface water conveyance facilities identified in the Zone 40 WSMP EIR (i.e., the Vineyard Surface WTP and the NSAPP) (see Impact 3-3 below). No additional SDCP/SRSP development could be authorized if 1) the current 3,600 afy capacity of the NVWF is allocated to other development and additional groundwater wells and SCWA's surface water conveyance facilities have not been constructed nor are online; or 2) all of the SCWA-allocated 7,300 afy capacity of the NVWF is met and no additional surface water supplies are available because SCWA's surface water conveyance facilities have not been constructed nor are online. The Vineyard Surface WTP, the proposed NSAPP, and the proposed NVWF Wells 4 through 6 were identified and analyzed programmatically in the Zone 40 WSMP EIR and at the project level in IS/MNDs prepared for these facilities. Potentially significant environmental impacts identified in these project-level CEQA documents for these facilities would be reduced to a less-than-significant level with implementation of the mitigation measures incorporated as part of those projects (see Impact 3-3, below). Therefore, there are no known significant regulatory and environmental obstacles for construction and operation these facilities. In the long term, SCWA anticipates the majority of water demands in the NSA (including the SDCP/SRSP) would be met with surface water. However, the year-to-year mix of surface and groundwater varies depending on a large number of variables and surface water and groundwater supplies would be adjusted as necessary to meet the demands of the NSA as part of its conjunctive use program (SCWA 2006:4-31).

3-1c. SCWA Zone 40 Water Supplies Available to Meet SDCP/SRSP Demands

The SDCP/SRSP lies within Zone 40's 2030 Study Area and SCWA has planned for water supplies for these lands through its conjunctive-use water supply system identified in the Zone 40 WSMP. Table 3-7 above lists available water supplies in Zone 40 during normal, single dry, and multiple dry years. The SDCP/SRSP's water demands were compared to available Zone 40 water supplies for 2030 to determine whether a reliable water supply is available to serve the SDCP/SRSP and existing water demands during normal and dry years. As shown in Table 3-9, SCWA has adequate water supplies available to meet SDCP/SRSP's projected water demands, even in critically dry years. Because SCWA would implement a conjunctive use water supply program, water supplies

would never exceed projected demands because groundwater would be pumped and surface water would be used to meet, not exceed, water demands.

Table 3-9
Normal-Year and Dry-Year Comparison of Water Supply and Demand for 2030 (afy)[1]

Component	Normal Water Year	Single Dry Water Year	Multiple Dry Water Years			
			Year 1	Year 2	Year 3	Year 4
Zone 40 Water Supplies[1]	121,051	107,410	96,105	96,105	96,105	96,105
Demand						
Zone 40 2030 Study Area (SDCP/SRSP not included)	105,207	91,566	80,261	80,261	80,261	80,261
SDCP/SRSP Demand	15,844	15,844	15,844	15,844	15,844	15,844
Total Demand	**121,051**	**107,410**	**96,105**	**96,105**	**96,105**	**96,105**
Difference (Supply minus Demand)[2]	**0**	**0**	**0**	**0**	**0**	**0**

Notes: afy = acre-feet per year; SCWA = Sacramento County Water Agency

[1] This table presents only Zone 40 water supply sources as identified in the *2005 Zone 41 Urban Water Management Plan*. The Zone 40 surface water supply includes existing CVP contracts (the SMUD and Fazio supplies), appropriative water rights, and POU water and future planned water supplies that are considered already secured or highly likely to be secured.

[2] Because SCWA would implement a conjunctive use water supply program, water supplies would never exceed projected demands because groundwater would be pumped and surface water would be used to meet, not exceed water demands.

Source: SCWA 2005b:2-12; City of Rancho Cordova 2006c:27

3-1d. Alternatives to Long-Term Water Supply

As described above, SCWA has existing secured surface-water supplies (SMUD and Fazio supplies), appropriative water rights, and POU water), groundwater, and recycled water, as well as the right to GET-Remediated Water supplies pursuant to the Count-SCWA-Aerojet agreement, and is pursuing entitlements for future one-year water transfers for dry and critically dry years. Because currently available water supplies for the SDCP/SRSP are reasonably likely, the identification and analysis of alternate sources of water and the impacts associated with those sources are not required under *Vineyard*. However, although it is not legally required, a discussion of alternative sources is included below.

The following alternative water supply options have been developed and are evaluated herein:

- Alternative 1 – Golden State Water Company
- Alternative 2 – City of Folsom
- Alternative 3 – Natomas Central Mutual Water Company

Alternative 1 – Golden State Water Company

Long-term water demands for the SDCP/SRSP could potentially be met by the GSWC (formerly known as Southern California Water Company). The GSWC generally serves the northeastern portion of Rancho Cordova. Its service area is generally bounded by Sunrise Boulevard and Hazel Avenue to the east, Mather Air Force Base to the south, Mather Field Road to the west, and the American River to the north.

The total available surface water supply available to GSWC is 20,000 afy (assuming GSWC does not receive Aerojet replacement water) and is diverted from the Folsom South Canal. The GSWC diverts surface water from

the American River under a pre-1914 water right and from the Sacramento River under an existing surface water entitlement from the Reclamation, which is allocated as follows (City of Rancho Cordova 2006c:37):

- 10,000 afy from the American River through a pre-1914 water right.
- 10,000 afy from the American River through a CVP water-service contract pursuant to Public Law 101-514 (referred to as "Fazio water") with Reclamation.

Additional water demands in the GSWC service area are met through groundwater extraction from the Central Basin. GSWC pumps groundwater for the Cordova System from 15 production wells located in the Central Basin. Portions of the basin are severely impaired by groundwater contamination, caused primarily by past operations at Aerojet, which is located immediately east of the Cordova System. This contamination has caused GSWC to suspend operation of several groundwater wells. Extraction of groundwater is anticipated to decrease from 7,450 afy to 4,500 afy by 2015. Two production wells are expected to remain operational through 2032 and would continue to provide 4,500 afy of groundwater. (City of Rancho Cordova 2006c:38 and 41.)

It is possible that additional water supplies may be developed through acquisition of new surface water rights or modifications to existing surface water rights. Additional groundwater could be provided by using existing GSWC wells that have been decommissioned as a result of groundwater contamination or drilling new deep-well replacements for wells that GSWC has taken out of service because of actual or anticipated contamination. Use of existing decommissioned wells or drilling new deep-well replacements would require approval of the DPH. Additionally, the question of whether the groundwater basin could sustain additional pumping by GSWC without going beyond the determined sustained yield would have to be examined in a future analysis prior to any such action being taken.

Raw water supplies are treated by GSWC's the Coloma and the Pyrites WTPs. The maximum reliable daily treatment capacities of the Coloma WTP and the Pyrites WTP are approximately 7,140 gpm and 3,150 gpm, respectively. It is not known if the Coloma and the Pyrites WTPs would have the capacity to treat any additional water supplies developed for the SDCP/SRSP, and existing facilities may require expansion. If expansion of existing facilities is not feasible, new water treatment facilities may need to be constructed to serve the SDCP/SRSP. Under this alternative, additional off-site distribution facilities, which could include new water treatment facilities, conveyance infrastructure, pump stations, or storage tanks, may be required to convey water to the SDCP/SRSP.

If this alternative were implemented, the following potentially significant impacts could occur from potential development of new water treatment facilities, conveyance infrastructure, pump stations, or storage tanks:

- Aesthetics—Degradation of visual character and creation of new light and glare and skyglow from potential development of new pump stations or water treatment facilities.
- Air Quality—Temporary, short-term construction-generated emissions of criteria air pollutants, such as PM_{10} (e.g., respirable particulate matter with a diameter smaller than 10 microns) and emissions of ozone precursors (e.g., reactive organic gases [ROG] and oxides of nitrogen [NO_X]), and exposure of sensitive receptors to toxic air contaminants and odors. Long-term emissions of criteria air pollutants or local mobile source carbon monoxide resulting from potential development of new water treatment facilities, conveyance infrastructure, pump stations, or storage tanks.
- Biological Resources—Loss and degradation of habitat for special-status wildlife and plants, potential loss and degradation of jurisdictional wetlands and other waters of the United States or waters of the State, and impacts on fisheries resulting from any increased diversion of surface water from the American River and additional extraction of groundwater from the Central Basin.

Also, any changes to surface water rights and entitlements could trigger consultation Section 7 of the Endangered Species Act (ESA) with USFWS with respect to nonanadromous, freshwater fish species and with NOAA and National Marine Fisheries Service (NMFS) with respect to anadromous (ocean-going) fish species.

- Cultural Resources—Loss of or damage to known and as-yet-undiscovered cultural resources and human remains during construction.

- Geology, Soils, and Paleontological Resources—Temporary, short-term construction-related erosion; damage to structures and infrastructure from seismic activity; construction on expansive/unstable soils and soils with high shrink-swell potential; loss of mineral resources; and loss of or damage to known and to as-yet-undiscovered paleontological resources during construction.

- Hazards and Hazardous Materials—Exposure of construction crews and the public to contaminated soil, groundwater, and hazardous materials used in construction or present in excavated soils or from the routine transport, use, and disposal of hazardous materials; potential migration of the contaminant plumes of groundwater and the potential that new wells could become contaminated in the future.

- Hydrology and Water Quality—Increased stormwater discharges of suspended solids, increased turbidity, and potential mobilization of other pollutants from project construction sites, and hydrologic and water quality impacts from incremental reduction of American River and Folsom South Canal flows and extraction of additional groundwater from the Central Basin.

- Land Use—Approval from the CPUC for annexation of the SDCP/SRSP to GSWC's service area;

- Noise—Temporary, short-term exposure of sensitive receptors to noise levels above noise ordinances during construction, and long-term exposure of sensitive noise receptors to new stationary-source noise from potential development of new water treatment facilities, pump stations.

- Traffic and Transportation—Temporary lane closures, increased truck traffic, and other roadway impacts during construction, and long-term impacts associated with operation and maintenance of potential new water treatment facilities, conveyance infrastructure, pump stations, or storage tanks.

- Climate Change—Emissions of greenhouse gases from construction vehicles or from operation of potential new water treatment facilities or pump stations.

Additional CEQA and NEPA (if approval from a federal agency such as the Reclamation, USFWS, or NMFS is required) analysis would be required to analyze specific impacts and identify any required mitigation measures associated with potential development of new water treatment facilities, conveyance infrastructure, pump stations, or storage tanks. Because it is unknown if water supplies would be available from GSWC and because additional distribution and treatment facilities would be required, there is not a reasonable certainty that these water supplies would be available to serve the demands of the SDCP/SRSP.

Alternative 2 – City of Folsom

Long-term water demands for the SDCP/SRSP could potentially be met by securing an assignment of American River surface water supply from the City of Folsom. The City of Folsom's water service area includes the areas within the city limits south of the American River. The water service area is bordered on the east by the El Dorado County line, on the north by Folsom Reservoir and Folsom State Prison, on the west by Lake Natoma and the American River, and on the south by U.S. Highway 50. (City of Folsom 2008:2-1).

The total available water supply available to the City of Folsom is 34,000 afy and is diverted from the American River at the Folsom Reservoir. The City diverts surface water from the American River under a pre-1914 water

right and a purchase agreement with the Arden Cordova Water Service, and under an existing surface water entitlement from Reclamation, which is allocated as follows (Water Forum 2000:175):

- 22,000 afy from the American River through a pre-1914 water right.
- 5,000 afy from the American River that is purchased from the Arden Cordova Water Service.
- 7,000 afy from the American River through a CVP water-service contract pursuant to Public Law 101-514 (referred to as "Fazio water") with Reclamation.

It is possible that additional water supplies may be developed through acquisition of new water rights or modifications to existing water rights similar to the water rights entitlement process. For example, the City of Folsom and the applicants for the Folsom South of U.S. 50 Specific Plan project have proposed to acquire an assignment of up to 8,000 acre-feet of Sacramento River water from Natomas Central Mutual Water Company (NCMWC) pursuant to NCMWC's contract with the U.S. Bureau of Reclamation to serve the proposed Folsom South of U.S. 50 Specific Plan area with a firm, dry year supply of at least 6,000 afy. That assignment has not yet been approved. If the assignment is approved, it is possible that Folsom could have between 1,600 and 3,800 afy of surplus water to make available to serve the SDCP/SRSP.

Raw water is conveyed from the Folsom Reservoir, treated at the City-owned and operated water treatment plant, and can be stored in 12 treated water storage reservoirs located throughout the city (City of Folsom 2008: ES-2). It is not known if existing water treatment facilities would have the capacity to treat any additional water supplies developed for the SDCP/SRSP, and existing facilities may require expansion. If expansion of existing facilities is not feasible, new water treatment facilities may need to be constructed to serve the SDCP/SRSP. Under this alternative, additional off-site distribution facilities, which could include conveyance infrastructure, pump stations, or storage tanks, may be required to convey water from City of Folsom's treatment and distribution systems to the SDCP/SRSP.

If this alternative were implemented, the following potentially significant impacts could occur:

- Aesthetics—Temporary degradation of visual character for developed land uses during construction, and degradation of visual character for developed land use and creation of new light and glare and skyglow from potential development of new pump stations or water treatment facilities.
- Agricultural Resources—Conversion of Important Farmland to nonagricultural urban uses, cancellation of Williamson Act contracts, conflicts with existing agricultural operations, and the disruption of existing agricultural operations during construction and/or potential development of new water treatment facilities, pump stations, or storage tanks.
- Air Quality—Temporary, short-term construction-generated emissions of criteria air pollutants, such as PM_{10} and emissions of ozone precursors (e.g., reactive organic gases [ROG] and oxides of nitrogen [NO_X]), and exposure of sensitive receptors to toxic air contaminants and odors. Long-term emissions of criteria air pollutants or local mobile source carbon monoxide resulting from potential development of water treatment facilities, conveyance infrastructure, pump stations, or storage tanks.
- Biological Resources—Loss and degradation of habitat for special-status wildlife and plants, potential loss and degradation of jurisdictional wetlands and other waters of the United States or waters of the State, and impacts on fisheries resulting from any increased diversion of surface water from the American River and Folsom Reservoir.

  Also, any changes to surface water rights and entitlements could trigger consultation Section 7 of the ESA with the USFWS with respect to nonanadromous, freshwater fish species and with NMFS with respect to anadromous (ocean-going) fish species.

- Cultural Resources—Loss of or damage to known and as-yet-undiscovered cultural resources and human remains during construction.

- Geology, Soils, and Paleontological Resources—Temporary, short-term construction-related erosion; damage to structures and infrastructure from seismic activity; construction on expansive/unstable soils and soils with high shrink-swell potential; loss of mineral resources; and loss of or damage to known and to as-yet-undiscovered paleontological resources during construction.

- Hazards and Hazardous Materials—Exposure of construction crews and the public to contaminated soil, groundwater, and hazardous materials used in construction or present in excavated soils or from the routine transport, use, and disposal of hazardous materials.

- Hydrology and Water Quality—Increased stormwater discharges of suspended solids, increased turbidity, and potential mobilization of other pollutants from project construction sites, and hydrologic and water quality impacts from incremental reduction of American River flows and diversion from the Folsom Reservoir.

- Land Use—Approval from the Sacramento Local Agency Formation Commission for annexation of the SDCP/SRSP to the City of Folsom's service area.

- Noise—Temporary, short-term exposure of sensitive receptors to noise levels above noise ordinances during construction, and long-term exposure of sensitive noise receptors to new stationary-source noise from potential development of new water treatment facilities, pump stations.

- Traffic and Transportation—Temporary lane closures, increased truck traffic, and other roadway impacts during construction, and long-term impacts associated with operation and maintenance of potential new water treatment facilities, conveyance infrastructure, pump stations, or storage tanks.

- Climate Change—Emissions of greenhouse gases from construction vehicles or from operation of potential new water treatment facilities or pump stations.

It cannot be determined without additional study if these water supplies would be adequate to serve the needs of the SDCP/SRSP. Additional CEQA and NEPA (if approval from a federal agency such as Reclamation, USFWS, NOAA, or NMFS is required) analysis would be required to analyze specific impacts and identify any required mitigation measures if this alternative water supply were implemented. Because it is unknown if water supplies would be available from the City of Folsom and because additional distribution and treatment facilities may be required, there is not a reasonable certainty that these water supplies would be available to serve the demands of the SDCP/SRSP.

Alternative 3 – Natomas Central Mutual Water Company

Long-term water demands for the SDCP/SRSP could potentially be met by securing an assignment of a Sacramento River surface water supply from the Natomas Central Mutual Water Company (NCMWC) pursuant to NCMWC's contract with Reclamation. The service area of NCMWC is defined by its contract with Reclamation for diversion of water from Sacramento River sources and for water service from the CVP. The NCMWC service area encompasses approximately 53,537 acres in the interior portion of the Natomas Basin in northern Sacramento County and southern Sutter County.

NCMWC holds six water right licenses and one permit to divert water from the Sacramento River, Natomas Cross Canal (NCC), and interior drainage system within its service area to provide irrigation water for agricultural use and habitat preservation, and untreated water is also used for golf course and landscape irrigation. The license/permit; place of use; purpose of use; and diversion periods, amounts, and limits are shown in Table 3-10 and described below.

Table 3-10
NCMWC Surface-Water Entitlements

License/Permit	Place of Use	Purpose of Use	Diversion Period	Diversion Amount (cfs)	Diversion Limit (afy)
1050	Reclamation Settlement Contract Service Area	Agricultural Irrigation and M&I[1]	April 1 – October 1	42	Limited to 120,200 by the Reclamation Settlement Contract
2814			April 15 – October 15	38	
3109			May 1 – October 31	160	
3110			May 1 – October 1	120	
9794			April 1 – June 30	131	
9989			April 1 – June 30; September 1 – October 31	14	
19400	Sacramento International Airport and Metro AirPark	Domestic M&I and Industrial	October 1 – April 1	168	10,000

Notes: Reclamation = U.S. Bureau of Reclamation; cfs = cubic feet per second; afy = acre-feet per year; NCMWC = Natomas Central Mutual Water Company; M&I = municipal and industrial use.

[1] Licenses 1050, 2814, 3109, 3110, and 9794 may be used for M&I purposes with approval from the SWRCB.

Source: Tully & Young 2008

NCMWC entered into Contract No. 14-06-200-885A (Settlement Contract) with Reclamation in 1964, which was renewed for a 40-year term (Renewal Contract) in 2005. The Settlement Contract is based on NCMWC's pre-existing licenses and permit to divert water. The purpose of the Settlement Contract is to change the timing and pattern of those diversions to accommodate Reclamation's operation of the CVP. However, NCMWC's water rights exist independently of the Settlement Contract.

Under the Renewal Contract, NCMWC is entitled to divert up to 120,200 afy from the Sacramento River in a normal water year. This water supply consists of approximately 98,200 afy of "Base Supply," which can be diverted from April through October, and 22,000 afy of "Project Water," which can be diverted during July and August. The Base Supply and Project Water are affected by the Settlement Contract, as it defines and limits the monthly and annual maximum diversion amounts. The Settlement Contract does not currently allow water diverted to be used for municipal and industrial (M&I) purposes. Approval by the SWRCB and/or Reclamation would be required to modify the purpose of use, place of use, and delivery schedule under the Settlement Contract and/or obtain a new water right license/permit.

Water diversions under the Settlement Contract provide an enhanced entitlement to divert during dry years. The maximum reduction in NCMWC's diversions during any critically dry year is 25% of both "Base Supplies" and "Project Water." In a normal year when there is ample water in the CVP system, NCMWC receives 100% of its Settlement Contract entitlement (120,200 afy). During a critically dry year, NCMWC receives no less than 75% of its normal year entitlement (90,150 afy).

Water supplies could be made available to the SDCP/SRSP by NCMWC reducing its surface water diversions/pumping during the irrigation season or modifying the existing delivery schedule to a year-round M&I schedule, which would allow for a more consistent diversion over the course of a given year. This water supply would then remain in the Sacramento River and would flow downstream, where it would be removed from the river at the FRWA's diversion facility and conveyed to the Vineyard Surface WTP for treatment. Under this alternative, it would be expected that SCWA would dedicate capacity within the FRWP, and the use of this capacity would not increase SCWA's permitted diversion rates and would not require any increase in the FRWP's currently permitted diversion capacity or increase treatment capacity at the Vineyard Surface WTP. For this reason, no physical changes would occur to the FRWP diversion and pump structure and conveyance pipeline or

the Vineyard Surface WTP. Water would then be conveyed from the Vineyard Surface WTP to the SDCP/SRSP through Zone 40's existing and planned conveyance facilities, which have been evaluated in the Zone 40 WSMP EIR (see Impact 3-2 below).

If this alternative were implemented, the following potentially significant impact could occur from reducing NCMWC surface water diversions/pumping during the irrigation season, modifying the existing delivery schedule, or from changing the point of diversion of water supplies:

- Biological Resources—Impacts on fisheries resulting from any changes to a year-round delivery schedule. Also, any changes to surface water rights and entitlements could trigger consultation Section 7 of the ESA with the USFWS with respect to nonanadromous, freshwater fish species and with NMFS with respect to anadromous (ocean-going) fish species.

Approvals from Reclamation, SWRCB, NCMWC, and possibly USFWS and NMFS would be required to modify the purpose of use, place of use, and delivery schedule under the Settlement Contract. Additional CEQA and NEPA (if approval from a federal agency such as Reclamation, and potentially USFWS or NMFS is required) analysis would be required to analyze specific impacts and identify any required mitigation measures if this alternative water supply were implemented. Information regarding the specific amount of available water supplies from NCMWC is not available and it is unknown if water supplies would be available from NCMWC in the amount needed to serve the SDCP/SRSP (City of Rancho Cordova 2006c:52). Therefore, there is not a reasonable certainty that these water supplies would be available to serve the demands of the SDCP/SRSP.

3-1e. Impact Conclusion

According to the Zone 40 WSMP, Zone 41 UWMP, and the City of Rancho Cordova's water supply evaluation, reliable, long-term water supplies would be available to serve Zone 40 through 2030, including the SDCP/SRSP. SCWA intends to continue to extract groundwater to meet its customer demands within the limits of the negotiated sustainable yield of the Central Basin. Therefore, SCWA's groundwater supplies are considered reliable, as are those surface water supplies for which SCWA has existing CVP contracts (the SMUD and Fazio supplies), appropriative water rights, and POU water agreement and there is reasonable likelihood that these water supplies will continue to be available. As shown in Tables 3-8 and 3-9, SCWA has adequate water supplies available to meet projected water demands of the SDCP/SRSP. In the long term, SCWA anticipates the majority of water demands in the NSA (including the SDCP/SRSP) would be met with surface water. However, the year-to-year mix of surface and groundwater varies depending on a large number of variables and surface water and groundwater supplies would be adjusted as necessary to meet the demands of the NSA as part of its conjunctive use program (SCWA 2006:4-31). The only water supply source that is not secured by existing entitlements or contracts at this time is Other Transfer Supplies (see discussion above). Consistent with recent history in the California water market and SCWA's planning for this water supply to-date, SCWA anticipates being able to obtain the water transfers during the times they are needed (dry and critically dry years) in 2030 and subsequently. Therefore, there is reasonable likelihood that SCWA's long-term water supplies would be available to serve the SDCP/SRSP and this impact is considered **less than significant**.

According to the Zone 40 WSMP, Zone 41 UWMP, and the WSA prepared by SCWA for the project, reliable, long-term water supplies would be available to serve projected demand from Zone 40 users through 2030, including demand from SDCP/SRSP. In the long term, SCWA anticipates the majority of water demands in the NSA (including the SDCP/SRSP) would be met with surface water. However, the year-to-year mix of surface and groundwater varies depending on a large number of variables and surface water and groundwater supplies would be adjusted as necessary to meet the demands of the NSA as part of its conjunctive use program (SCWA 2006:4-31).

In addition, the City would implement General Plan Actions ISF 2.4.1 and 2.4.2 (City of Rancho Cordova 2006a:13 and 14). These actions would require the project applicants of all project phases to identify proposed

water supplies and delivery systems at the time of project approval to the satisfaction of the City. The project applicants of all project phases would identify that SCWA has legal entitlement to the water source and that the water source is available or reasonably foreseeable under normal, dry, and multiple dry years over a 20-year planning horizon for the amount of development proposed by the project. Therefore, General Plan Actions ISF 2.4.1 and 2.4.2 would ensure that a long-term, reliable water supply for individual projects is available or that needed improvements would be in place before approval of project-specific discretionary land-use entitlements and approvals, including all final small-lot maps; or for nonresidential projects, before issuance of use permits, building permits, or other entitlements.

Although there is a high degree of certainty that SCWA would be able to supply the project in the long term, the water supply for full project buildout cannot be physically delivered until the Vineyard Surface WTP, the proposed NSAPP, proposed NVWF Wells 4 through 6, and potentially the Anatolia surface water transmission pipeline are constructed and online. The Vineyard Surface WTP, the proposed NSAPP, and the proposed NVWF Wells 4 through 6 were identified and analyzed programmatically in the Zone 40 WSMP EIR and at the project level in IS/MNDs prepared for these facilities, and were not legally challenged. Potentially significant environmental impacts identified in these project-level CEQA documents for these facilities would be reduced to a less-than-significant level with implementation of the mitigation measures incorporated as part of those projects. Therefore, there are no known significant regulatory and environmental obstacles for the timely future construction and operation of these facilities.

It is assumed that once these facilities are developed, the water supplies would continue to flow to SCWA without interruption, consistent with its existing water supply contracts, barring a major shift in climate or policy, or unless the California water law principles described earlier are applied in a significantly more restrictive manner. Therefore, SCWA would be able to supply the project water in the long term.

The water supply and infrastructure needed to serve the SDCP/SRSP is considered reasonably likely under the standards articulated by the California Supreme Court in *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova*, 40 Cal.4th 412 (2007). Therefore, an analysis of alternative water supplies is not required under the *Vineyard* case. However, for information purposes only, this EIR contains an analysis of alternative water supplies (described above) that could be pursued and developed in the very unlikely event that the planned water supply and the infrastructure for delivery to the SDCP/SRSP is delayed or does not become available.

Mitigation Measure: No mitigation measures are required.

IMPACT 3-2: Potential Environmental Impacts of Providing Long-term Water Supplies to SDCP/SRSP. *Implementation of the SDCP/SRSP could contribute indirectly to impacts identified in the Zone 40 WSMP EIR. The Zone 40 water conveyance and treatment facilities (i.e., the Vineyard Surface WTP, the proposed NSAPP, and the proposed NVWF Wells 4 through 6) [1]were analyzed at the project level in IS/MNDs prepared for these facilities. Potentially significant environmental impacts identified in these project-level CEQA documents for these facilities would be reduced to a less-than-significant level with implementation of the mitigation measures incorporated as part of those projects. Therefore, SDCP/SRSP would not contribute to any significant and unavoidable impacts associated with Zone 40 WSMP infrastructure required to provide long-term water supplies to the SDCP/SRSP. This impact is considered* ***less than significant****.*

SCWA prepared a DEIR to analyze the impacts of implementing the Zone 40 WSMP. The DEIR was prepared and circulated for public review in November 2003 (SCH #95082041), and the FEIR was certified and the master

[1] As noted in Chapter 1, "Introduction," Section 1.3, Wells 1-3, which have been constructed and operating, are reanalyzed in Chapter 6 of this document because the original IS/MND prepared for those facilities relied in substantial part on the analysis that was the subject of the *Vineyard* litigation. SCWA opted to work as a responsible agency with the City of Rancho Cordova while the latter prepared this revised EIR to comply with the directives of the California Supreme Court to include an environmental analysis of the impacts of Wells 1-3 in this EIR.

plan was approved in 2005. As part of the Zone 40 WSMP EIR, impacts from construction and operation of the Zone 40 water supply system that would serve the SDCP/SRSP project, including construction and operation of the NVWF and infrastructure such as the Anatolia WTP, Vineyard Surface WTP, and the NSAPP, were analyzed at a programmatic level in the certified EIR on Zone 40's WSMP. Impacts that would remain significant or potentially significant after implementation of mitigation (i.e., significant and unavoidable), or for which no feasible mitigation is available to reduce impacts to a less-than-significant level, were identified as follows:

- growth inducement;
- potential farmland conversion impacts associated with construction of new facilities;
- direct visual impacts associated with operation of new facilities;
- potential short-term impacts on air quality associated with construction of new facilities (because it was unknown whether mitigation measures would be adequate to reduce impacts);
- short-term noise impacts associated with construction of new facilities;
- potential long-term stationary-source noise impacts from operation of new facilities;
- potential short-term construction impacts and long-term operational impacts on special-status plants and wildlife, if any species are identified in the locations where specific facilities are constructed;
- potential short-term construction impacts and long-term operational impacts on sensitive habitats, if any are identified in the locations where specific facilities are constructed; and
- potential loss of habitat from development of facilities that would otherwise be included in the proposed *South Sacramento County Habitat Conservation Plan* (SSCHCP), if facilities are developed outside the 2030 Study Area for the Zone 40 WSMP.

Subsequent to the adoption of the Zone 40 WSMP, project-level CEQA documents have been prepared for the infrastructure required to provide long-term water supplies to the SDCP/SRSP (i.e., the NVWF Wells 4, 5, and 6; the Vineyard Surface WTP, and the NSAP). The Vineyard Surface WTP, the proposed NSAPP, and the proposed NVWF Wells 4 through 6 were analyzed at the project level in IS/MNDs prepared for these facilities (see Impact 3-3, below). Potentially significant environmental impacts identified in these project-level CEQA documents for these facilities would be reduced to a less-than-significant level with implementation of the mitigation measures incorporated as part of those projects. Therefore, SDCP/SRSP would not contribute to any significant and unavoidable impacts associated with Zone 40 WSMP infrastructure required to provide long-term water supplies to the SDCP/SRSP beyond what was identified in the EIR for the Zone 40 WSMP. This impact is considered **less than significant**.

Mitigation Measures: No mitigation measures are required.

The impacts associated with long-term water supplies are uniquely cumulative. Because the Zone 40 water supplies and conveyance facilities would need to be constructed to serve SDCP/SRSP and other development in the 2030 Study Area as a whole, the SDCP/SRSP project indirectly and incrementally contributes to the environmental impacts associated with the construction and operation of these facilities. However, the construction and operations impacts of the Zone 40 water supply system would also occur without development of the SDCP/SRSP because Zone 40 facilities are required to serve development in the 2030 Study Area and would be needed whether or not SDCP/SRSP is developed. Chapter 7, "Cumulative Impacts," analyzes the potential for the SDCP/SRSP and related projects in the 2030 Study Area to result in a cumulatively considerable incremental contribution to significant and unavoidable impacts related to increased demands for long-term water supplies and conveyance facilities.

IMPACT 3-3: Need for Water Conveyance Facilities to Deliver Long-Term Water Supplies. *Implementation of the SDCP/SRSP would result in increased demand for off-site water conveyance, storage, and treatment facilities. The water supply for full project buildout cannot be delivered until the Vineyard Surface WTP, which is currently under construction; the proposed NSAPP; and proposed NVWF Wells 4 through 6 are online. Potentially significant environmental impacts identified in project-level CEQA documents for these facilities would be reduced to a less-than-significant level with implementation of the mitigation measures incorporated as part of those projects. The SDCP/SRSP would not contribute to any significant and unavoidable impacts associated with the construction and operation of the Vineyard Surface WTP; the NSAPP; and NVWF Wells 4, 5, and 6. This impact is considered* ***less than significant.***

As described in Impact 3-1 above, surface water would be diverted from the Sacramento River via the FRWP facilities and conveyed to the Vineyard Surface WTP for treatment. The FRWP was completed and became operational in April 2010. SCWA will begin using FRWP after completion of the Vineyard Surface WTP, which is currently under construction and is anticipated to be operational in November 2011. After the water is treated at the Vineyard Surface WTP, it would be delivered to the SDCP/SRSP through the proposed NSAP.

Groundwater would be provided to the SDCP/SRSP by the NVWF. SCWA has constructed the first phase of the NVWF, consisting of three wells (Wells 1-3) and three filters. Ultimately the well field would consist of up to seven wells, and Wells 4 through 7 will be constructed as new water supplies are required. Groundwater from the NVWF is conveyed and treated at the Anatolia WTP. Currently, the Anatolia WTP has a design capacity of approximately 6.5 mgd (4,500 gallons per minute). As of 2009, the average day demand was approximately 2.1 mgd and the maximum day demand was 4.3 mgd. Expansion of the Anatolia WTP to its ultimate capacity of 13.0 mgd is required to provide water treatment for build-out of the NVWF. SCWA would upgrade the Anatolia WTP when additional water treatment capacity is required.

The water supply for the project cannot be delivered until the Vineyard Surface WTP, which is currently under construction, the proposed NSAPP, and proposed NVWF Wells 4 through 6 are online. Because there is a relationship between the project and the need for the Vineyard Surface WTP, the proposed NSAPP, and proposed NVWF Wells 4 through 6, approval of the project would contribute indirectly to impacts identified in the IS/MNDs prepared for these facilities. These IS/MNDs are hereby incorporated by reference and summarized below.

North Vineyard Well Field

The environmental impacts of the construction and operation of the NVWF were analyzed at a programmatic level in the SDCP/SRSP EIR (specifically the Revised SDCP/SRSP EIR). Because the NVWF was identified as a facility necessary to supply groundwater to Zone 40, the well field was also analyzed at a programmatic level in the Zone 40 WSMP EIR.

SCWA has constructed the first phase of the NVWF, consisting of three wells (Wells 1-3) and three filters. Wells 1 through 3 were analyzed at the project level in an IS/MND (SCH #2003082095). The IS/MND was circulated for public review in April 2003 and the IS/MND as well as a MMRP was adopted by the County in December 2003 (Sacramento County 2004a). The Sacramento County Department of Environmental Review and Assessment conducted the mitigation monitoring for SCWA to ensure compliance with adopted MMRP for project construction between January 2004 and March 2005. While the NVWF Wells 1 through 3 currently exist and are operational, this Revised DEIR reanalyzes the conclusions of the IS/MND to determine if potential environmental impacts due to construction and operation were adequately addressed and discussed what impacts occurred (due to construction) and if any impacts may continue to occur (due to operations) (see Chapter 6). Because this chapter provides the revised analysis of the long-term water supply for the SDCP/SRSP, the analyses of the potential environmental effects of the long-term water supply in this chapter encompass and analyze the potential impacts of the withdrawal of groundwater from Wells 1 through 3.Therefore, the reanalysis of the Wells 1 through 3 focuses on the environmental effects associated with the construction and operation of the wells.

The IS/MND determined construction-related and operations impacts associated with agricultural resources, geology and soils, hazards hazardous materials, hydrology and water quality, land use, population and housing, public services, and traffic and transportation were less than significant, and determined construction-related and operational impacts related to aesthetics, air quality, biological resources, and cultural resources were potentially significant. As discussed in Chapter 6, mitigation measures previously adopted in the IS/MND would reduce potentially significant construction-related and operations impacts to a less-than-significant level and review of the MMRP files indicates that these mitigation measures were, in fact, successfully implemented. The reanalysis of NVWF Wells 1-3 set forth in Chapter 6 of this EIR determined that no new significant or potentially significant environmental impacts would result from continued operation of the wells.

Project-level CEQA review has been completed for construction and operation of Wells 4, 5, and 6:

- Well 4 was analyzed at the project-level in an IS/MND (SCH #2005042042), which was adopted by Sacramento County in June 2005. The IS/MND identified less-than-significant impacts related agricultural resources, aesthetics, air quality, geology and soils, hazards hazardous materials, hydrology and water quality, land use, population and housing, public services, and traffic and transportation. Potentially significant impacts were identified for biological and cultural resources. Implementation of mitigation measures identified in the IS/MND would reduce potentially significant impacts to a less-than-significant level.

- Well 5 was analyzed at the project-level in an IS/MND (SCH #2005062109), which was adopted by Sacramento County in September 2005. The IS/MND identified less-than-significant impacts related agricultural resources, air quality, geology and soils, hazards hazardous materials, hydrology and water quality, land use, population and housing, public services, and traffic and transportation. Potentially significant impacts were identified for aesthetics, biological resources, and cultural resources. Implementation of mitigation measures identified in the IS/MND would reduce potentially significant impacts to a less-than-significant level.

- Well 6 was analyzed at the project-level in an IS/MND (SCH #2005072003), which was adopted by Sacramento County in September 2005. The IS/MND identified less-than-significant impacts related agricultural resources, air quality, geology and soils, hazards hazardous materials, land use, population and housing, public services, and traffic and transportation. Potentially significant impacts were identified for aesthetics, biological resources, cultural resources, and hydrology and water quality. Implementation of mitigation measures identified in the IS/MND would reduce potentially significant impacts to a less-than-significant level.

Although the project-level CEQA review is complete, there is currently no time frame for construction of Wells 4 through 6 (Roybal, pers. comm., 2010). Well 7 has not undergone project-level CEQA review and there is currently no time frame for construction of Well 7.

Vineyard Surface Water Treatment Plant

The environmental impacts of the construction and operation of the Vineyard Surface WTP were analyzed at a programmatic level in the Zone 40 WSMP EIR, and at a project-level in an IS/MND (SCH #20047092050), which was adopted by the County on October 10, 2004. The IS/MND identified less-than-significant impacts related geology and soils, land use, population and housing, and public services. Potentially significant impacts were identified for aesthetics, agricultural resources, air quality, cultural resources, hazards and hazardous materials, hydrology and water quality, and traffic and transportation. Implementation of mitigation measures identified in the IS/MND and summarized above would reduce potentially significant impacts to a less-than-significant level. Therefore, the SDCP/SRSP would not indirectly contribute to significant and unavoidable impacts associated with the construction and operation of the Vineyard Surface WTP. Construction began in March 2008 and the plant is anticipated to be operational in November 2011.

North Service Area Pipeline Project

The NSAPP would be required to convey water treated at the Vineyard Surface WTP to the SDCP/SRSP. The NSAP would begin at the Vineyard Surface WTP and convey surface water through one of four alternative alignments to an existing 42-inch transmission main at the intersection of Douglas Road and Sunrise Boulevard. In addition, the NSAPP would construct a booster tank station at one of two proposed sites. The NSAP alternative alignments and booster tank station sites are described in Section 3.1, "Affected Environment," under "North Service Area Pipeline Project."

The environmental impacts of the construction and operation of the NSAP were analyzed at a programmatic level in the Zone 40 WSMP EIR, and at a project-level in an IS/MND (SCH #2010082044), which was circulated for public review in August 2010 (Sacramento County 2010). The IS/MND was adopted by the County in October 2010.

The IS/MND identified less-than-significant impacts related agricultural resources, geology and soils, hydrology and water quality, land use, population and housing, and public services. Potentially significant impacts were identified for aesthetics, air quality, biology, cultural resources, hazards and hazardous materials, land use, noise, and traffic and transportation. Implementation of mitigation measures identified in the IS/MND would reduce potentially significant impacts to a less-than-significant level. Therefore, the action alternatives would not indirectly contribute to significant and unavoidable impacts associated with the construction of the NSAPP. There is currently no time frame for construction of NSAP; however, it is expected that the NSAP would be constructed as demand for treated water begins to exceed the available groundwater supply.

Impact Conclusion

The reanalysis of NVWF Wells 1-3 determined that environmental impacts associated with the continued operation of Wells 1-3 would be less than significant (see Chapter 6). The project would contribute to indirect impacts associated with the construction and operation of the Vineyard Surface WTP; the NSAPP; and NVWF Wells 4, 5, and 6 that would be needed to serve the SDCP/SRSP. Potentially significant environmental impacts identified in these project-level CEQA documents for these facilities would be reduced to a less-than-significant level with implementation of the mitigation measures incorporated as part of those projects. The SDCP/SRSP would not directly or indirectly contribute to any significant and unavoidable impacts associated with the construction and operation of the Vineyard Surface WTP; the NSAPP; and NVWF Wells 4, 5, and 6.

There are no known significant regulatory and environmental obstacles for the timely future construction and operation of these facilities. Furthermore, the City would implement General Plan Actions ISF 2.4.1 and 2.4.2 (City of Rancho Cordova 2006a:13 and 14). These actions would ensure that off-site water conveyance facilities sufficient to convey water supplies to subdivisions or nonresidential uses would be in place or assured through the use of bonds or other sureties before recordation of any final small-lot subdivision map, or before City approval of any similar project-specific, discretionary approval or entitlement required for nonresidential uses . Therefore, this impact is considered **less than significant**.

Mitigation Measure: No mitigation measures are required.

IMPACT 3-4: Use of Nonpotable Water Supplies and Infrastructure. *The SDCP/SRSP would install a recycled-water distribution system to potentially provide nonpotable water supplies for landscaping irrigation of parks, streetscapes, schools, and commercial land uses. Initially, the nonpotable water supply demands would be met by the potable water supplies. In the long term, it is assumed that future nonpotable water supply would be provided by SRCSD, when a sufficient supply of nonpotable water is available to meet project demands. Because the SDCP/SRSP would install a nonpotable water system that would supply recycled water for the SDCP/SRSP in the future, the SDCP/SRSP would comply with the City's recycled water ordinance. Therefore, this impact would be* less than significant.

The City adopted a Citywide Recycled Water Distribution Ordinance (Resolution No. 11-2006) stating that new development should install a "purple pipe" recycled-water distribution system. Therefore, while it may not occur for many years, the SDCP/SRSP includes a component to implement a recycled-water-use program. All areas identified as parks, streetscapes, schools, and commercial land uses within the SDCP/SRSP would be irrigated via a recycled water system that could be easily converted from a potable to nonpotable water supply at some future date.

The draft *Sunrise Douglas Community Plan Area Non-Potable Water Master Plan* (Wood Rodgers 2007) defined nonpotable water service areas and demands, addressed the viability of providing nonpotable water supplies to the SDCP/SRSP, and identified infrastructure needs that would meet the SCWA operating goals (Wood Rodgers 2007: 1).

Nonpotable water demands were calculated based on land uses designated for parks, streetscapes, schools, and commercial land uses consistent with the City's Recycled Water Distribution Ordinance (Resolution No. 11-2006). The master plan calculated nonpotable water demands based on buildout of the following approved projects: Anatolia IV, Arista Del Sol, SunRidge Lot J, Doulas 103, Douglas 98, Grantline 208, and Montelena, and the following proposed projects: Preserve at SunRidge and the SunCreek Specific Plan, and the Arboretum Specific Plan (Wood Rodgers 2007:1). Buildout nonpotable water demands for the project were determined by applying an irrigated surface area factor to each proposed land use. The nonpotable water demands for the SDCP/SRSP are summarized in Table 3-11 below.

Table 3-11
Estimated Nonpotable Water Demand for the Sunrise Douglas Community Plan Area

Project	Area (acres)[1]	Site Area Irrigated (acres)[2]	Water Demand (afy)[3]
Anatolia IV	4.3	3.5	12.6
Arista Del Sol	30.3	25.7	92.9
Douglas 103	5.5	3.7	13.4
Douglas 98	17.0	15.3	55.3
Grantline 208	35.1	29.5	106.7
Montelena	27.4	24.7	89.2
SunRidge Lot J	12.0	10.8	39.2
Preserve at SunRidge	87.5	69.6	251.9
SunCreek Specific Plan	290.1	196.0	709.6
Arboretum	242.0	192.0	695.0
Total	**751.2**	**570.8**	**2,065.8**

Note: afy = acre-feet per year

[1] Total area includes the total surface area of parks, streetscapes, schools, and commercial land uses, including those areas that do not require nonpotable water for irrigation (i.e., structures, parking lots, sidewalks).

[2] Site area irrigated is the amount of irrigated surface area that is assumed to require nonpotable water as a percentage of the total area.

[3] Annual water demand (afy) = total site area irrigated (acres) x 3.62 af/ac/yr (annual irrigation demand for Sacramento County).

Sources: Wood Rodgers 2007, data compiled by AECOM in 2010.

As shown above, the total projected nonpotable water demands for the SDCP/SRSP are 2,065.8 afy. Initially, the nonpotable water supply demands would be met by the project's potable water supplies, which were identified and discussed in Impact 3-1 above. Therefore, impacts associated with nonpotable water supplies would be the same as those identified for the potable water supplies (see Impact 3-3). In the long term, it is assumed that future nonpotable water supply would be provided by SRCSD, when a sufficient supply of nonpotable water is available to meet project demands.

After a nonpotable water supply is available to serve the SDCP/SRSP, the connections to the potable water system would be closed. The location of the off-site nonpotable water supply distribution system is not known at this time; however, it is assumed that the nonpotable water supply would be conveyed to the SDCP/SRSP through a booster pump station and storage tank at the intersection of Douglas Road and Rancho Cordova Parkway (see Exhibit 3-2, below) (Wood Rodgers 2007:17). The use of recycled water by the SDCP/SRSP would comply with all regulations for recycled water.

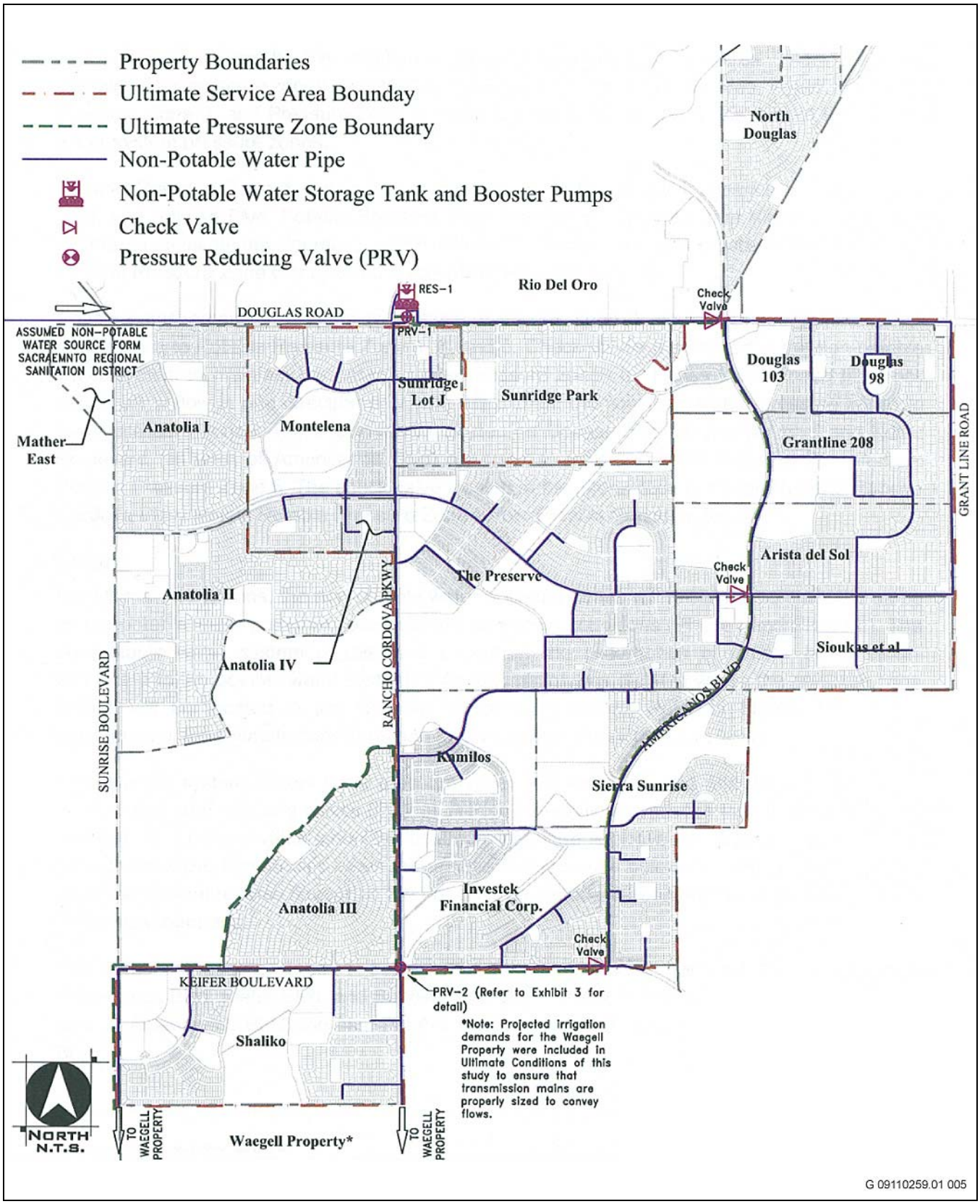
A planned Water Recycling Facility plant expansion could serve new areas of planned and expected growth and public open space areas, including Zone 40 and the City of Rancho Cordova. The expanded water recycling facility and new water recycling service areas will be called Phase II of the SRCSD Water Recycling Program. Phase II construction will be timed with the need for the higher capacity and is currently expected to be in service within five to ten years. Off-site facilities (i.e., infrastructure, storage tanks, and booster pumps) would be constructed by SRCSD through Phase II of the SRCSD Water Recycling Program.

Because the SDCP/SRSP would install a nonpotable water system that would supply recycled water for the SDCP/SRSP in the future when such water becomes available, the SDCP/SRSP would comply with the City's recycled water ordinance, and therefore this impact would be **less than significant**.

Mitigation Measure: No mitigation measures are required.

3.6 RESIDUAL SIGNIFICANT IMPACTS

Impacts associated with increased demand for potable and nonpotable water supplies and off-site water conveyance are considered less than significant. The reanalysis of NVWF Wells 1-3 determined that impacts associated with the continued operation of Wells 1-3 would be less than significant (see Chapter 6). Regarding the construction and operation of the Vineyard Surface WTP; the proposed NSAPP; and proposed NVWF Wells 4 through 6, all potentially significant environmental impacts identified in project-level CEQA documents for these facilities would be reduced to a less-than-significant level with implementation of mitigation measures contained in those CEQA documents; therefore, the SDCP/SRSP project would not contribute to any significant and unavoidable impacts associated with that infrastructure. Therefore, there would be no direct or indirect residual significant impacts related to increased demands for water supplies and on-site and off-site water conveyance facilities.



Source: Wood Rodgers 2007

Ultimate Non-Potable Water System – Sunrise Douglas Community Plan Area **Exhibit 3-2**

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4 FISHERIES AND AQUATIC RESOURCES

The purpose of this chapter is to provide the revised analysis of the potential project-related impacts to fisheries and aquatic resources because of the long-term supply of water to the Sunrise Douglas Community Plan/SunRidge Specific Plan (SDCP/SRSP), as required by the California Supreme Court ruling in *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (40 Cal.4th 412) and the Peremptory Writ of Mandate, as described in Chapter 1, "Introduction," of this Revised DEIR. Therefore, this analysis addresses both the potential effects to fisheries resources in the Cosumnes River because of groundwater withdrawal from the North Vineyard Well Field (NVWF) as well as potential effects to fisheries resources throughout the region, based on updated environmental conditions and regulations, because of meeting the long-term water demands for the SDCP/SRSP. The discussion of the affected environment is presented first and includes a brief summary of changed environmental conditions that have occurred in regional and local fisheries resource conditions since the certification of the SDCP/SRSP FEIR (July 2002). The regulatory background is presented next; followed by the thresholds of significance, and a description of the methodology used to analyze potential project impacts. Impacts to fisheries and aquatic resources are evaluated based on the changes in river flow, reservoir storage, and water quality conditions anticipated to occur in relation to groundwater withdrawal from the NVWF as well as the increased diversion of surface water to serve the municipal and industrial water demand associated with the SDCP/SRSP. Where appropriate, mitigation measures are provided to avoid or minimize impacts to the extent feasible.

As noted in Section 1.1 of this Revised DEIR, the California Supreme Court's *Vineyard Area Citizens* decision issued in February 2007 found that the SDCP/SRSP FEIR was deficient with respect to its analysis of indirect effects to fisheries resources resulting from long-term water supply deliveries to the SDCP/SRSP. The Supreme Court also found a deficiency with respect to the document's discussion of potential impacts on the Cosumnes River from groundwater pumping from the NVWF. On the latter point, Sacramento County, in responding in the (original) Final EIR to comments on the Revised Recirculated Draft EIR, had concluded that the effects on biological resources (including fisheries) in the Cosumnes River were likely to be small and that the effects would generally be insignificant. The Supreme Court, though, found that, in practical effect, the FEIR had disclosed a potentially significant impact of reduced river flows on aquatic species, including migrating salmon, in stating, "…the potential exception could be during periods of very low flow. During such periods of low flow, these depletions could change the timing and areal extent of the dewatering of the stream invert, potentially impacting aquatic and riparian-dependent species and habitat…" (See page 23.126 of the SDCP/SRSP FEIR Volume II). The Supreme Court stated, "Though phrased as a limited exception to the conclusion of insignificance, this reservation appears instead to identify a substantial, or at least potentially substantial, new impact. That is because 'periods of very low flow' are precisely those in which, according to comments on the DEIR by the United States Fish and Wildlife Service (USFWS) and The Nature Conservancy, migratory fish, waiting in the fall for streamflows to rise to sufficient levels, are likely to be adversely affected by further dewatering. The potential adverse change identified by the FEIR in 'the timing and areal extent of the [Cosumnes'] dewatering' is impossible to distinguish from the barrier to migration caused, according to The Nature Conservancy's comment, when the Cosumnes River 'ceases flowing earlier in the year, stays dry longer into the fall, and dries over an increasingly long reach…" (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, pp. 42-43). Consequently, this revised analysis of effects of water supply operations for SDCP/SRSP, including the NVWF, specifically addresses potential impacts to the Cosumnes River resources in light of changed conditions since the SDCP/SRSP FEIR was certified.

As explained in Section 3.1 in Chapter 3, "Water Supply," of this Revised DEIR, SDCP/SRSP long-term water supplies would be supplied by SCWA's Zone 40 conjunctive water supplies: a combination of groundwater from the NVWF and surface water diverted from the Sacramento River at the Freeport Regional Water Project (FRWP) intake facility. The FRWP EIR/EIS and the Zone 40 Water Supply Master Plan (WSMP) EIR evaluated potential impacts resulting from implementation of these water supply operations. Thus, the potential environmental effects to fisheries and aquatic resources that were previously assessed as being associated with the Zone 40 and FRWP

operations, as described in the respective EIRs, may be attributable to the SDCP/SRSP water supply in proportion to the incremental water deliveries for the project site. The EIRs for the FRWP and Zone 40 WSMP were certified in April 2004 and February 2005, respectively, and thus constitute what at the time were legally satisfactory analyses of all the environmental effects (including cumulative impacts) of the water supply operations. Therefore, consistent with the Supreme Court's findings in the *Vineyard* case, relevant information presented in the Zone 40 WSMP and FRWP EIRs are summarized and incorporated by reference in this analysis to specifically address potential impacts to regional fisheries and aquatic resources in addition to the Cosumnes River. Importantly, the analyses in these last two documents did not merely restate analysis previously prepared by Sacramento County in the original FEIR for the SDCP/SRSP project. Rather, those two later documents reflect original analyses not available to Sacramento County in 2002 when it certified the original FEIR for the SDCP/SRSP. They have served as the starting points for new analysis by fisheries experts that brings the earlier analyses up to date in light of existing conditions.

4.1 AFFECTED ENVIRONMENT

4.1.1 PHYSICAL SETTING

As described in Section 3.1 in Chapter 3, "Water Supply," of this Revised DEIR, the Zone 40 water supply system extracts and delivers groundwater and ultimately will deliver treated drinking water from the new Vineyard Surface Water Treatment Plant (WTP) in south Sacramento County, which in turn will obtain surface water diverted from the Sacramento River through the Freeport Regional Water Authority (FRWA) diversion facility at Freeport. The Vineyard Surface WTP is currently under construction and anticipated to be completed in late 2011. SCWA's authority for the future diversion of Sacramento River water from the FRWA facility is derived primarily through Central Valley Project (CVP) contract water entitlements of the County and other agencies for American River basin water, and the County's recently obtained appropriative water right from the Sacramento River. CVP operations to manage the available water supplies in the American River and Sacramento River basins, and integrated operations with the State Water Project (SWP) to meet other operational and environmental requirements upstream and downstream of the Sacramento region, require complex daily coordination of system-wide reservoir storage and river flows. The coordinated CVP/SWP operations in response to system water demands, including the incremental SDCP/SRSP demand, results in potential physical hydrologic and water quality effects to fisheries and aquatic resources throughout the American River and Sacramento River basins, and downstream water bodies including the Sacramento-San Joaquin Delta (Delta). Thus, for the purpose of this Revised DEIR, the affected environment consists of these water bodies affected by the integrated CVP/SWP water supply operations. Additionally, as addressed in detail in the SDCP/SRSP FEIR and the Zone 40 WSMP EIR, the affected environment also includes the lower Cosumnes River where streamflows are affected by interaction with south Sacramento County groundwater conditions.

4.1.2 CHANGED CONDITIONS SINCE CERTIFICATION OF SDCP/SRSP FEIR

This section addresses key changes in the physical setting, fisheries resource conditions, and water supply operations that have occurred in the years since the previous environmental documents were prepared, and that are relied on herein for the assessment of effects of the SDCP/SRSP water supply operations to fisheries and aquatic resources. Analysis of fisheries resources within the affected environment requires an understanding of life histories and life-stage environmental requirements of fish species potentially affected by the SDCP/SRSP water supply operations. The fish species of primary management concern for this environmental analysis include those that occur in the area that may be affected by the project that are federal- and state-listed species of the region and those that are considered recreationally or commercially important.

CHANGED CONDITIONS IN WATER SUPPLY OPERATIONS

Changes in CVP operations for American River contract water, and new regulations that have been implemented since the FRWP and Zone 40 WSMP EIRs were certified (in 2004 and 2005, respectively), may have indirect

impacts on hydrologic and fisheries resources conditions from SDCP/SRSP water supply. Therefore, this fisheries and aquatic resources impact analysis considers whether, and to what extent, the impact analyses and determinations in the FRWP EIR/EIS and Zone 40 WSMP EIR are still considered to be representative under current baseline conditions (2010). To the extent that updated information is necessary to address current condition, this chapter provides such new information. In particular, system hydrology and water supply operations are key variables that can result in effects to fisheries and aquatic resources. Additionally, this impact analysis considers the potential effects to all species and life stages of fish and other aquatic organisms that inhabit the regional surface water bodies that could be affected by groundwater or surface water use for the SDCP/SRSP. The focus of this impact analysis is on those effects to the sensitive populations, such as special-status and native fish species, which are considered representative for the analysis of potential worst-case impacts. The following sections address changed conditions in the region and consider whether impacts to fisheries and aquatic resources from the SDCP/SRSP long-term water supply (i.e., Zone 40 conjunctive groundwater and surface water supplies) remain substantially similar to those previously disclosed in the Zone 40 WSMP and FRWP EIRs, or whether there are any that would result in new or more severe significant impacts. Finally, this assessment incorporates by reference the assessments presented in the Zone 40 WSMP and FRWP EIRs, and provides updated information, where necessary, to evaluate the incremental effects of the provision of the SDCP/SRSP long-term water supply on fisheries and aquatic resources.

FRWP EIR/EIS Fisheries and Aquatic Resources Impacts

The FRWP EIR (certified 2004) evaluated the environmental impacts that could occur with SCWA's surface water diversion capacity of 85 million gallons per day (mgd) at the Freeport diversion facility on the Sacramento River, with a projected long-term average annual yield of 68,500 acre-feet per year (afy) to the Zone 40 system consisting of CVP contract water and appropriative water rights supplies from the American River and Sacramento River. Up to approximately 54,000 afy of the surface water entitlements potentially available for diversion by SCWA from the FRWP will be derived from CVP contract water entitlements based on available water supplies from the American River watershed. SCWA would also divert water during periods when surplus water is available in the Sacramento River based on an anticipated (i.e., anticipated at the time of the FRWP EIR/EIS and Zone 40 WSMP EIR) new appropriative water right (which has since been obtained). The Freeport diversion facility also includes capacity for the East Bay Municipal Utility District (EBMUD) to divert CVP contract water at a rate up to 100 mgd during drought years when EBMUD's terminal storage capacity is projected to be less than 500,000 acre-feet (af), which is expected to occur in about 3 out of every 10 years and yield an annual average of 133,000 afy in years when the diversions occur. The Freeport diversion facility includes a fish screen exclusion system designed to meet California Department of Fish and Game (DFG), National Oceanographic and Atmospheric Administration, National Marine Fisheries Service (NMFS), and USFWS criteria for adequate screen area, maintenance features, and hydraulics. Construction of the Freeport diversion facility, conveyance pipelines, and Vineyard Surface WTP to serve the Zone 40 area began in 2007 and the facilities are projected to be operational in 2011.

Although the FRWP would divert water from the Sacramento River and, as a result, reduce Delta inflow, changes in river flows would also occur upstream as CVP adjusts reservoir operations to facilitate the SCWA demands and its other operational requirements. The FRWP EIR found that potential operations-related impacts to fisheries and aquatic resources would be less than significant. The following summarizes the analysis of impacts to fisheries and aquatic resources associated with SCWA's water demand and deliveries presented in the FRWP EIR (see Chapter 5; Note: fisheries impacts were not numbered in the FRWP EIR/EIS). Notably, none of these impacts suggested any adverse effects on fish species that use the Cosumnes River.

- **Reservoir Storage and Releases:** Periodic changes in monthly flow and diversions may affect fish and fish habitat in reaches of the Trinity, Sacramento, Feather, and American Rivers, and in the Delta and Suisun Bay; however, the annual average volume of water flowing down the rivers to Freeport would be essentially unchanged. The simulated changes in reservoir release and storage patterns, in response to FRWP demand, resulted in relatively small changes in the timing and magnitude of downstream flows, and flow changes that

exceed 10% are infrequent. Moreover, the simulated changes are primarily a response to the interaction of operations rules within CALSIM II (water operations model) for the CVP/SWP facilities.

- **Delta Inflow:** While the FRWP removes water from the Sacramento River resulting in reduced Delta inflow, changes in Delta inflow are small and reflect the combined effect of FRWP diversions and upstream reservoir operations. The project-related change in the proportion of Sacramento River flow diverted into the Delta Cross Channel and Georgiana Slough is substantially less than 1% during almost all months.

- **Delta Outflow and Salinity:** Simulated Delta outflow is slightly reduced in some months; however, the changes in outflow are small and consistent with Delta salinity criteria. The parameter X2 (i.e., the distance in kilometers measured east from the Golden Gate Bridge where tidal exchange results in salinity equal to 2 parts per thousand) is an indicator of salinity distribution in the Delta. The modeling indicates a slight upstream shift in the average X2 position of approximately 0.02 kilometers (km), with both positive (upstream) and negative (downstream) changes occurring.

- **Spawning Habitat:** The infrequent and relatively small flow changes in the Trinity, Sacramento, Feather, and American Rivers attributable to changes in water operations have minimal effect on spawning habitat area for anadromous or resident fish species. The small changes in Delta outflow, and subsequent small effects on the position of X2, would not substantially affect the area and distribution of spawning habitat for delta smelt (*Hypomesus transpacificus*).

- **Rearing Habitat:** Simulated flows in the Trinity, Sacramento, Feather, and American Rivers are nearly identical compared to baseline conditions, with only slight changes in the seasonal flow patterns (i.e., reductions in some months and years and increases for other months and years), thus resulting in very few expected changes in rearing habitat for salmonid or resident species. The slight upstream shift in the position of X2 would be expected to have a minimal adverse effect on delta smelt rearing habitat area.

- **Migration:** Migration of adult and juvenile Chinook salmon (*Oncorhynchus tshawytscha*) would be minimally affected by FRWP operations in the upper Trinity, Sacramento, Feather, and American Rivers because timing and streamflow rates would not change appreciably. Survival of steelhead and Chinook salmon migrating through the central Delta is generally considered to be lower than in the mainstem Sacramento River because of increased vulnerabilities associated with predation by nonnative fish species and entrainment into diversions. Migration of salmonids from the Sacramento River into the central Delta would not be adversely affected because the proportion of Sacramento River flow diverted into the Delta Cross Channel and Georgiana Slough would be nearly the same as the baseline condition. Reduced Delta flow toward the Bay may adversely affect migration habitat for larval and early juvenile delta smelt, slowing transport to estuarine rearing habitat and increasing vulnerability to entrainment in diversions. Because changes in Delta outflow are small (<1%), changes in the movements of delta smelt larvae and early juveniles as a result of the FRWP diversions would be minimally affected.

- **Temperature:** Simulated water temperature patterns in the upper CVP/SWP reservoirs on the Trinity, Sacramento, Feather, and American Rivers, and within the downstream river reaches to the Delta, would be minimally affected by the FRWP operations. Survival indices (a unitless number ranging from 0 to 1.0) based on thermal tolerances for each fish species life stage were used to assess the thermal effects of the FRWP. The largest change occurred in the survival index for adult Coho salmon (*Oncorhynchus kisutch*) in the Trinity River as a result of additional diversion of water from the Trinity River to the Sacramento River, with a small decrease of 0.1 occurring during 5 months within the 71-year simulation period compared to baseline conditions. Water temperatures in the Sacramento, Feather, and American Rivers would be similar to baseline conditions, with simulated changes almost always less than 1 degrees Fahrenheit (°F) and no predicted change, relative to the base condition, in the frequency with which water temperatures would have exceeded criteria previously established by the NMFS in its 1993 Biological Opinion on an initial version of the Operations Criteria and Plan (OCAP) (which was current at the time of the FRWP EIR). OCAP establishes

the principles and detailed description of the CVP/SWP coordinated water supply operations based on historical hydrology, operations, and regulatory requirements, and serves as a starting point for planning project operations in the future. The small temperature-related changes associated with the FRWP were considered to result in less-than-significant impacts to fisheries resources.

ZONE 40 WSMP EIR FISHERIES AND AQUATIC RESOURCES IMPACTS

The Zone 40 WSMP EIR evaluated the environmental impacts that could occur with additional groundwater pumping to meet water demands associated with changes in approved land uses over time (projected to occur by 2030) within the Zone 40 area. The Zone 40 existing and projected water demands and supplies are described in Section 3.1.2 in Chapter 3, "Water Supply," of this Revised DEIR.

The Zone 40 WSMP EIR impact analyses were based on output from the Sacramento County Integrated Groundwater Simulation Model (SacIGSM) numerical groundwater model, which was used to simulate regional groundwater conditions of the deep unconfined and semi-confined aquifers in the central groundwater basin of Sacramento County. The SacIGSM model was used to simulate groundwater conditions for projected land use, hydrologic conditions, and groundwater demands at the 2000 and 2030 (cumulative) levels of development. SacIGSM simulates groundwater pumping, flow fields, and the interaction between streams and the main aquifer system. Shallow perched groundwater conditions are not directly taken into consideration and SCWA's system of pumping in Zone 40 would not draw groundwater from the shallow aquifer. SCWA made model refinements to SacIGSM for the Zone 40 WSMP FEIR in collaboration with parties that submitted comments on Zone 40 WSMP DEIR regarding SacIGSM's ability to accurately portray the effects of groundwater pumping operations on Cosumnes River flows. The model refinements were described in the FEIR and consisted of: (1) increased model nodes along the Cosumnes River; (2) updated SacIGSM data files to reflect the refined geographic (spatial) characteristics; (3) development of daily hydrology data for the 1969–1995 calibration period rather than the monthly data; (4) updated streambed and aquifer characteristics; (5) incorporation of additional calibration wells adjacent to the Cosumnes River; and, (6) incorporation of subsurface flows from additional ungaged watersheds on the eastern model boundary.

The Zone 40 WSMP EIR specifically evaluated the potential operations-related impacts to fisheries, aquatic, and riparian resources associated with the Cosumnes River and its tributaries from the conjunctive use program and found that the impacts would be less than significant (see Impact 4.6-3 in the Zone 40 WSMP EIR). The following summarizes the analysis of impacts to fisheries, aquatic, and riparian resources presented in the Zone 40 WSMP EIR for the greatest amount of groundwater pumping relative to surface water deliveries from the FRWP.

- **Groundwater Levels:** The uniformly distributed pumping scenario (i.e., equal groundwater pumping at many wells across a region, as opposed to concentrated pumping from a fewer number of concentrated well sites) would result in groundwater elevations of the upper unconfined aquifer stabilizing at levels ranging from lower to higher, depending on location, relative to the defined year 2000 baseline conditions. Average groundwater elevations would be approximately 13 feet lower in the southern zone of Zone 40 and 8 feet lower in the northern Zone 40, relative to 2000 baseline conditions. Groundwater levels near the existing Elk Grove cone of depression would stabilize at a level approximately 20–25 feet lower than the 2000 baseline. The changes in groundwater levels were considerably less at locations further away from the distributed groundwater pumping well locations simulated for Zone 40.

- **Cosumnes River Streamflow Rates:** The SacIGSM model also was used to simulate streamflow conditions, which support fisheries, aquatic, and riparian resources, in the Cosumnes River. Simulated hydrographs of Cosumnes River streamflow were evaluated at different locations to assess the differences under the modeled alternatives, and monthly streamflow was compared for upstream and downstream locations.

- Hydraulically Disconnected Reaches: The analysis found that groundwater levels in the unconfined aquifer are currently as much as 55 feet below the middle reach of the Cosumnes River channel, resulting in the aquifer being hydraulically disconnected from the river for the majority of its length within the Central Valley and is most pronounced in the middle reaches of the lower river between Meiss Road (river mile 24.8) and State Route 99 (river mile 11). The refined SacIGSM modeling conducted for the FEIR confirmed the results of the DEIR, which showed there would be no substantial changes in average groundwater levels at simulated locations near the river. Because of the hydraulic disconnection between the aquifer and the channel, further reductions in groundwater levels would not result in direct losses or changes in surface flows that support fisheries, aquatic, and riparian resources in these already disconnected reaches of the river.

- Hydraulically Connected Reaches: The analysis found that the deep unconfined aquifer is closer to the Cosumnes River channel surface in the eastern portion of the County, upstream of Dillard Road (river mile 27.3), and in the western portion of the County, downstream of Twin Cities Road (river mile 5). Additionally, studies by University of California at Davis indicate that areas of shallow perched groundwater in portions of these reaches are seasonally connected with the river. In addition, groundwater in the western reaches is in close proximity to the Delta and under tidal influence. Streamflow in the reaches that remain hydraulically connected to the regional aquifer could be sensitive to further lowering of groundwater levels. However, the refined SacIGSM modeling conducted for the FEIR confirmed the results of the DEIR that showed there would be minimal to no changes in average groundwater levels at simulated locations near the river. Moreover, average annual Cosumnes River streamflow is predicted to increase slightly as a result of implementing Zone 40 (e.g., changes in groundwater pumping locations and rates, conjunctive use of the surface and groundwater supplies) as agricultural land uses decrease and urban land uses increase within the Zone 40 area (see next bullet for further detail regarding Cosumnes River streamflow conditions).

- Average Cosumnes River Streamflow: Historical flow data suggest that flow volumes in the lower basin steadily decreased between 1942 and 1982. In water years 1942-1961, there was an average of 82 days of very low (<5 cubic feet per second [cfs]) or no flow at the U.S. Geological Survey (USGS) McConnell gauge (near State Route 99). In water years 1962-1982, the average was 108 days, representing an average increase of 26 days per year. The current average is thought to be even higher, but daily average flow values have not been recorded at the McConnell gauge since 1982. Relative to historical conditions, the Cosumnes River is believed to cease flowing earlier in the year, the middle reaches stay dry longer into the fall, and the channel dries over an increasing length of the middle reach. Following implementation of the Zone 40 WSMP, SacIGSM streamflow modeling results showed that average annual Cosumnes River flow and average fall flows (September through November) at State Route 99 would be virtually unchanged relative to 2000 baseline conditions. Moreover, the total annual flow would increase slightly from 318,800 af under the 2000 baseline to just over 319,400 af as a result of conjunctive use operations where surface water supplies would be relied on more to meet demand in wet years, allowing the groundwater aquifer to gain water to a greater degree than it does currently. Under 2030 conditions (319,400 af), the anticipated additional system-wide changes in water supply operations associated with land use changes in addition to increased reliance on recycled water reuse opportunities, would result in increases to the volume of Cosumnes River streamflow of about 4 cfs (resulting from the total increase to 319,400 af) on average during the September through November period, relative to the 2000 baseline. No further IGSM modeling or other investigations exist to relate the existing groundwater and Cosumnes River conditions to modeled conditions. However, because the Zone 40 modeling demonstrates that the conjunctive use program would not adversely affect surface water and associated fisheries, aquatic, and riparian resources, the findings of the previous assessments are considered relevant for the purposes of this assessment and constitute the best reasonably available information on point. Although some above-ground conditions have changed somewhat in recent years due to new development and infrastructure, the modeling assumptions regarding 2000 baseline hydrological conditions continue to

represent a reasonable approximation of existing hydrological conditions (i.e., those in the winter of 2010–2011).

- **Findings of Potential Effects to Fisheries, Aquatic, and Riparian Resources of the Cosumnes River:** Central Valley fall-run Chinook salmon begin their upstream migration between late August to September, with peak spawning typically occurring in late October and November. The migration coincides with the period of very low or no flow in the reach of the Cosumnes River from Twin Cities Road to Dillard Road. Staff of The Nature Conservancy's Cosumnes River Preserve indicated that a minimum flow of about 60 cfs at Michigan Bar (river mile 36) was necessary in the fall to provide flow in the middle reach of the Cosumnes River and facilitate upstream passage of migrating Chinook salmon to their upstream spawning grounds (SCWA 2004). Observations indicate that there is successful salmon spawning during relatively wet conditions; however, drought conditions are believed to lengthen the section of the river that dries up and result in inadequate flows for upstream migration. Based on the ISGSM modeling that indicated implementation of the Zone 40 WSMP would not appreciably change groundwater levels underlying the Cosumnes River or alter the average streamflow, the Zone 40 WSMP EIR concluded that the Zone 40 WSMP would not adversely affect biological resources, including fall-run Chinook salmon, associated with the Cosumnes River/Deer Creek corridor. In particular, because surface flows are currently disconnected from the groundwater in the middle reaches of the channel during much of the dry summer and fall months, changes in groundwater levels associated with changing land uses and water supply operations would not cause additional adverse effects to fisheries, aquatic, and riparian resources. In other words, where the river bed is already dry during drought periods (thereby thwarting upstream migration), implementation of the Zone 40 Master Plan, including pumping at the NVWF to serve the SDCP/SRSP, will not make conditions any worse for the fish.

CHANGED WATER SUPPLY MANAGEMENT, REGULATIONS, AND OTHER CONDITIONS RELEVANT TO IMPACTS OF FRWP AND ZONE 40 WSMP TO FISHERIES AND AQUATIC RESOURCES

The following sections describe changed conditions that have occurred since the Zone 40 WSMP EIR and FRWP EIR/EIS were certified, which are relevant to fisheries and aquatic resources, such as changes in the overall water supply system hydrology or operations of the central groundwater basin, CVP/SWP water supply management operations, applicable NMFS and USFWS Biological Opinion requirements, and fisheries conditions in the Cosumnes River/Sacramento River/Delta.

Changed Central Basin Groundwater Management

The most recent Basin Management Report (SCGA 2009) of the Sacramento Central Groundwater Authority (SCGA) summarized central groundwater basin monitoring data that existed at the end of the 2008 water year, which reflected a period in which 4 of the 5 previous water years (2004-2008) were considered below normal based on the Sacramento Valley water year index of runoff conditions. Estimated groundwater pumping within the basin was relatively stable, ranging from 244,000 to 247,000 afy for the period of 2005 through 2008. Groundwater pumping by Aerojet for water quality remediation activities increased from approximately 12,000 afy to 18,000 afy. Groundwater elevations in the deep unconfined aquifer have generally increased since the lowest recent levels that occurred by the end of the 1987-1992 drought. The base of the groundwater elevation in the Elk Grove cone of depression in 2008 ranged from about -40 to -50 feet mean sea level (msl), as opposed to -70 to -80 feet msl in 1997. The SCGA also adopted its Groundwater Management Plan in 2006 (SCGA 2006) which indicated there were no changes in projected land uses or water demands that were developed for the Zone 40 WSMP. Additionally, the Groundwater Management Plan identified that overall water balance analyses indicate that available water supplies should be sufficient to meet the projected 2030 water demands.

Changed CVP/SWP Water Supply Management and Regulations

As noted above under "FRWP EIR/EIS Fisheries and Aquatic Resources Impacts," and in greater detail in Section 3.1, the FRWP EIR was based on CALSIM II water supply operations modeling and prepared prior to the release of the USFWS Biological Opinions for OCAP (2005 and revised 2008) and the NMFS Biological Opinions for OCAP (2004 and revised 2009), and also prior to the numerous U.S. District court decisions of Judge Oliver Wanger pertaining to the USFWS and NMFS Biological Opinions for OCAP (see additional detail regarding "Wanger decisions" in Section 3.1 and below under "Regulatory Framework"). The SacIGSM, CALSIM II, and related modeling with the U.S. Bureau of Reclamation (Reclamation) temperature and salmon mortality models conducted for the FRWP EIR reflect the most comprehensive and quantitative analysis of water supply operations to meet Zone 40 water demands.

As discussed in Section 3.1.2 in Chapter 3, "Water Supply," of this Revised DEIR, the City of Roseville's Sierra Vista Specific Plan DEIR (City of Roseville 2009) included an evaluation of the reliability of CVP operations to meet the contract water demands of Water Forum purveyors in the American River basin and the environmental effects thereof, in comparison to the analyses presented in the original 1999 Water Forum EIR (Sacramento City-County Office of Metropolitan Water Planning). Roseville's analysis qualitatively considered how changed conditions since 1999 regarding hydrology and water supply management conditions, CALSIM II modeling tools, revised USFWS and NMFS Biological Opinions for OCAP, and Wanger decisions might affect the environmental impacts assessed in the Water Forum EIR. Roseville's analysis is informative and representative for the purposes of this assessment in that: (a) the majority of water to be delivered by SCWA via the FRWP is CVP contract water associated with water entitlements from the American River basin; (b) the currently developed CALSIM II modeling code includes the FRWP and EBMUD's demands via the FRWP, as opposed to older model codes that assessed only SCWA diversions from the Sacramento River at a programmatic level in the Water Forum EIR; and (c) the full Water Forum demands are much larger than SCWA's demand alone, and thus Roseville's analysis reflects the likely effects of changed baseline conditions applicable to SDCP/SRSP. Roseville's analysis considered the anticipated changes in water supply management and hydrologic conditions (summarized in Section 3.1.2 of Chapter 3, "Water Supply") and assessed all of the individual fisheries impacts identified in the Water Forum EIR. The Water Forum EIR found the following potentially significant impacts to fisheries:

- Temperature- and habitat-related impacts to warmwater species in Folsom Reservoir (Water Forum EIR Impact 4.5-2)
- Flow- and temperature-related impacts to fall-run Chinook salmon (Water Forum EIR Impact 4.5-5)
- Flow- and temperature-related impacts Sacramento splittail (*Pogonichthys macrolepidotus*) (Water Forum EIR Impact 4.5-7)

Roseville's analysis found that in all cases, the Water Forum water demands imposed on the changed conditions and system operations would not be expected to cause changes in any of the previously determined significant impacts to fisheries resources listed above. Consequently, there were no changes recommended to the identified mitigation measures that were adopted for the Water Forum EIR, which are being implemented at this time. Additionally, the analysis indicated that there would not be any new significant impacts not previously identified in the Water Forum EIR, nor would the severity of previously determined less-than-significant or significant impacts be increased.

Changed Fisheries Resources Conditions in Affected Water Bodies

The current status of fisheries resources in the Sacramento River, Delta, and Cosumnes River indicates that there are potential adverse influences to fisheries and aquatic resources related to altered flow, decreasing habitat quantity and quality, and declining water quality (e.g., increased water temperatures). Therefore, this section assesses current (as of June 2010) information regarding fisheries and aquatic resources that may be affected by FRWP and Zone 40 operations since the certification of the FRWP EIR/EIS in 2004 and Zone 40 WSMP EIR in

2005. The primary species of concern for potential effects of FRWP and Zone 40 operations include state and federal special-status species and native resident and anadromous salmonids in the Cosumnes River, Sacramento River and its tributaries, and the Delta. The primary coldwater and warmwater species of management concern include: the anadromous species (winter-, spring-, and fall-run Chinook salmon, coho salmon, Central Valley steelhead [*Oncorhynchus mykiss*], Sacramento splittail, American shad [*Alosa sapidissima*], striped bass [*Morone saxatilis*], green sturgeon [*Acipenser medirostris*], and river lamprey [*Lampetra ayresi*]); and resident species (delta smelt, longfin smelt [*Spirinchus thaleichthys*], and hardhead [*Mylopharodon conocephalus*]). The most recent USFWS and NMFS OCAP Biological Opinions found that federally listed species within their jurisdiction (i.e., delta smelt, Chinook salmon and steelhead) are in "jeopardy" of becoming extinct without implementation of Reasonable and Prudent Alternative (RPA) actions applicable to the major CVP/SWP water supply operations. However, a federal trial court ruling has found these Biological Opinions are deficient (see discussion below at pp. 4-12 and 4-13). Current information regarding the Sacramento River and tributaries, the Delta, and the Cosumnes River is summarized below.

- **Sacramento River and Tributaries.** Following a period of rising population levels, Sacramento River Chinook salmon escapement (i.e., the number of fish returning to natal freshwater habitat to spawn) numbers have declined substantially in both recent wet year-types and dry year-types. These declines are believed to be attributable to a number of factors that have acted upon the populations in a cumulative fashion over decades including reduced habitat availability, poor migration conditions, increased water temperature, increased contaminants, entrainment in diversions, increased predation, reduced food, hatchery effects, altered ocean conditions, and harvest. Preliminary escapement numbers for all runs of Central Valley Chinook salmon in 2008 and 2009 were 91,476 and 72,066, respectively, down from a peak of 938,203 in 2002 (DFG 2010).

- **Delta.** In the Delta, attention has been focused on the phenomenon known as Pelagic Organism Decline (POD), which refers to the decline of the open-water (pelagic) fishes (i.e., delta smelt, longfin smelt, juvenile striped bass, and threadfin shad), and some prey species (Healy et al. 2008). The population levels of the special-status delta smelt and longfin smelt have declined substantially in both recent wet year-types and dry year-types. The causes of POD remain uncertain, and are likely because of many factors including changed estuarine food web, export pumping, declining habitat quality, and toxic condition effects (Baxter et al. 2008). Habitat suitability for delta smelt is believed to have declined because of increasing water clarity (smelt are most common in turbid water), high water temperatures in summer, and salinity mixing zone intrusion in fall months. High entrainment by south Delta export operations during winter and spring months when adult migration and spawning occurs is also believed to be an important factor, particularly in drier years when delta smelt are distributed further eastward into the Delta. Notably, the December 2008 USFWS Biological Opinion for OCAP, issued in response to an earlier decision by Judge Wanger, invaliding an earlier Biological Opinion, have imposed pumping restrictions on CVP/SWP south Delta export operations specifically for the protection of delta smelt. CVP and SWP operations are being managed with input from a Water Operations Management Team (WOMT) of agency representatives that serve the purpose of determining how to best implement the RPA actions outlined in the Biological Opinion. The WOMT reviews flow, water quality, and delta smelt data on a routine basis, with a particular focus on weekly monitoring data from approximately December through May. These interim actions to limit effects of water supply operations on delta smelt and their critical habitat are ongoing and presumably are maintaining improved flow and water quality conditions relative to what otherwise might be occurring if the restrictions were not in place. In December 2010, however, in response to litigation filed by various water users unhappy with these new restrictions, Judge Wanger issued a ruling finding flaws with some aspects of the new Biological Opinion. Because that decision did not impose a remedy regarding how the CVP/SWP system should be operated while USFWS addressed these flaws, and because it is possible that one or more of the losing parties might appeal to the Ninth Circuit Court of Appeals, neither the ultimate outcome of the litigation nor its practical ramifications are yet clear.

- **Cosumnes River.** During the late 1990s and early 2000s The Nature Conservancy, The Fishery Foundation, the USFWS Anadromous Fish Restoration Program (AFRP), and other public and private entities were

actively working to restore the remnant Cosumnes River fall-run Chinook salmon population. Restoration actions, which were aimed at perceived limiting factors, included passage improvements, floodplain restoration to improve rearing conditions, replenishment of spawning gravel at key locations, and the experimental acquisition and release of supplemental surface water to aide in fall migration. In the fall of 2005, which was considered a Water Forum wet year in the American River basin, the Southeast Sacramento County Agricultural Water Authority worked with Reclamation to facilitate the temporary release of surplus water from the Folsom South Canal to the Cosumnes River channel to provide a pre-wetting flow prior to the fall-run Chinook salmon migration season. This action, referred to as the Cosumnes River Flow Augmentation Project (CRFAP), has been identified and assessed by SCWA in the past (e.g., Zone 40 WSMP), but there are not currently any parties with a defined plan to implement CRFAP on an annual basis. CRFAP flows were designed to pre-wet only the dry portion of the channel and were not intended to create a hydraulic connection to the Delta. Connection of river flows to the tidally inundated reach is not desirable for CRFAP flows until such a time in the late fall when sufficient precipitation has occurred to produce sufficient natural flow for successful migration and spawning with limited risk of stranding. The 2005 trial CRFAP operation released approximately 740 af of water over the course of 17 days and demonstrated that it may be possible to mimic historical river conditions by releasing supplemental flows into the Cosumnes River from the Folsom South Canal to pre-wet the channel. While the flows successfully served to pre-wet the Cosumnes River channel, some concerns were raised by fisheries agencies during the project planning phase regarding the potential for the release of American River water to cause false attraction of American River salmon into the Cosumnes/Mokelumne system. The trial flows were released to ensure that the flow of American River water downstream did not connect the Cosumnes River to the tidally inundated reach until such time that fall rains and runoff returned to the basin to make the connection occur naturally, thereby avoiding the agency's concerns. Because the CRFAP occurs in the river reach that is disconnected from the deep aquifer, Zone 40 groundwater pumping operations would not affect CRFAP operations.

The Omochumne-Hartnell Water District (OHWD) operates four flashboard dams on the lower Cosumnes River to facilitate irrigation deliveries for agricultural uses. Since 2001, several dam repair projects have been implemented to correct damages caused by large floods that in occurred in 1997 and 2005 and implement fish passage improvements to aid migration conditions for fall-run Chinook salmon. A new fish ladder was constructed for Blodgett Dam in 2002 to repair damage that resulted from the winter 1997 flooding and created an impassable barrier to upstream migrating Chinook salmon. In 2008, repairs were made to the two most downstream dams (Mahon and Elk Grove Hop Ranch) and included fish passage improvements. In 2009, AFRP funds were used to implement the Rooney Dam Fish Passage Improvement Project, which in addition to dam improvements, created a boulder weir fish passage structure immediately downstream of the dam to rectify a fish passage barrier that occurred at low flow conditions.

In the summer of 2008, The Fishery Foundation of California, funded by AFRP, implemented the Cosumnes River Gravel Augmentation Project, which added spawning gravel to existing gravel beds immediately below State Route 16. This project has potential AFRP funding through fiscal year 2011 to provide additional gravel as a project maintenance activity and would be confined to the same area.

While these efforts have improved habitat and passage conditions on the Cosumnes River, escapement numbers (i.e., the number of adults that return from the ocean that could potentially spawn) from the last 10 years (Table 4-1, below) show that fall-run Chinook salmon escapement in the Cosumnes River have remained low (or decreased), and 2007, 2008, and 2009 had the lowest escapements within the 10-year period, consistent with low runs throughout the Central Valley. A steelhead run does not exist in the Cosumnes River because of a natural barrier that prevents steelhead from accessing the upper reaches of the river where year-round temperature and hydrologic conditions would be suitable for supporting steelhead life-history requirements.

Despite recent restoration efforts aimed at increasing the Cosumnes River fall-run Chinook salmon population, escapement numbers have remained very low, and in fact may have decreased during a period when groundwater pumping levels and groundwater elevations have remained relatively steady. This indicates that adverse effects to

the species may be because of surface flow variations and other factors that are not related to variations in groundwater levels.

Table 4-1
Cosumnes River Fall-run Chinook Salmon Escapement Numbers 2000–2009

Year	Escapement Estimate
2000	460
2001	100
2002	1,350
2003	122
2004	1,208
2005	370
2006	530
2007	77
2008	15
2009	0

Source: Reported by DFG Grand Tab (DFG 2010)

Lower Cosumnes River Environmental and Water Management Memorandum of Agreement

The *Memorandum of Agreement (MOA) for the Management for Water and Environmental Resources Associated with the Lower Cosumnes River* has been entered into by SCWA, the Southeast Sacramento County Agricultural Water Authority (SSCAWA), and The Nature Conservancy. The goal of the MOA is to restore and maintain key functions of the Cosumnes River corridor while furthering conjunctive use in the agricultural areas between the American and Cosumnes Rivers and from the Cosumnes River to the southern boundary of Sacramento County. The signatories to the MOA seek to ensure the viability of both the agricultural economic base and ecosystems associated with the Cosumnes River. Through the MOA, the signatories are committed to working together to enhance conjunctive use within the region to reduce groundwater pumping and improve flow conditions in the Cosumnes River. The MOA would make available approximately 5,000 afy of American River water during each fall season to SCWA for the CRFAP element of the agreement, which would in-turn make the water available to The Nature Conservancy. The Nature Conservancy would need to obtain the necessary agreements to divert the water from Folsom South Canal to the Cosumnes River for supplemental flows on a schedule that is beneficial for fisheries enhancement and groundwater recharge. (City of Rancho Cordova 2006c: 31, SCWA 2006: 3-7).
To date, no CRFAP operations have been implemented by The Nature Conservancy under the MOA, and it is uncertain when they may occur in the future. Additional environmental analysis and agency-related authorizations would likely be necessary in the future to facilitate the CRFAP operations on a long-term basis. For the purposes of this Revised DEIR, no CRFAP operations are assumed to occur.

4.2 REGULATORY FRAMEWORK

4.2.1 FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

FEDERAL ENDANGERED SPECIES ACT

The federal Endangered Species Act (ESA) regulates threatened, endangered, and other special-status fish species. NMFS and USFWS jointly implement the ESA for aquatic species. Federally listed anadromous fish species fall under the jurisdiction of NMFS and federally listed nonanadromous fish species fall under the jurisdiction of

USFWS. Section 9 of the ESA and federal regulations prohibit the "take" of federally listed species. "Take" is defined under ESA, in part, as killing, harming, or harassment of listed species. Under federal regulations, "take" is further defined to include habitat modification or degradation where such activity actually results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. An incidental take permit under Section 10(a) or federal consultation under Section 7 of the ESA is required if the project might take a federally listed species.

MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

The Magnuson-Stevens Fishery Conservation and Management Act, as amended (also known as the Sustainable Fisheries Act), requires all federal agencies to consult with the Secretary of Commerce on activities or proposed activities authorized, funded, or undertaken that may adversely affect Essential Fish Habitat (EFH) of commercially managed marine and anadromous fish species. The EFH provisions of the Sustainable Fisheries Act are designed to protect fishery habitat from being lost because of disturbance and degradation. The act requires that EFH must be identified for all species federally managed under Pacific Fisheries Management Council (PFMC). PFMC is responsible for managing commercial fisheries resources along the coasts of Washington, Oregon, and California. Managed species are covered under three fisheries management plans: Pacific Groundfish Fishery Management Plan, Coastal Pelagic Fishery Management Plan, and Pacific Salmon Fishery Management Plan.

BIOLOGICAL OPINIONS

USFWS Biological Opinion on the OCAP and Judge Wanger Decisions

The operation of CVP/SWP is described in the OCAP. Under the ESA, USFWS must prepare a "Biological Opinion" that analyzes the impact of OCAP implementation on freshwater species listed under ESA (including the delta smelt). In effect, the ESA authorizes USFWS to require changes to the OCAP for the protection of the delta smelt and other federally listed species.

In 2005, USFWS issued a biological opinion for OCAP, and concluded that CVP/SWP operations did not jeopardize delta smelt populations. However, that Biological Opinion was ruled invalid by Judge Wanger following a lawsuit filed by various environmental groups. USFWS was ultimately ordered to revise the Biological Opinion. The Wanger decision also included interim remedies, which severely restricted CVP and SWP pumping in the Delta pending completion of the new Biological Opinion by the USFWS. Those restrictions took effect in December 2007.

In December 2008, USFWS released a new Biological Opinion concluding that CVP/SWP operations would jeopardize the continued existence of endangered delta smelt. USFWS further outlined a set of RPA actions for the proposed OCAP protocol that would, it claimed, protect the delta smelt and its habitat from the adverse effects of OCAP. The RPA actions would modify operations of the CVP and SWP, including restricting Delta pumping operations and thus limiting deliveries of water to CVP/SWP contractors south of the Delta. Extrapolating from the text of the RPA there are several Actions (1, 2, and 3) that would affect operations of the CVP and SWP, including limiting Delta exports by virtue of limitations on Old and Middle River (OMR) flows, and Action 4 requiring additional X2 flows in the fall months that would affect reservoir releases and/or Delta exports.

Water user groups challenged the December 2008 Biological Opinion, resulting in additional rulings by Judge Wanger in 2009 and 2010, which stated that NEPA environmental documentation procedures were not followed when developing the RPA provisions and the basis of certain RPA actions were not fully supported. The legal proceedings regarding the USFWS Biological Opinion and Wanger decisions are ongoing, and are subject to potential further appeal by the parties involved, which all may take several years to resolve. Depending on the ultimate outcome, the USFWS may need to prepare a new Biological Opinion and Reclamation may have to prepare additional NEPA environmental documentation to implement the ultimate RPA provisions that are

adopted. Thus, overall, the final long-term operational restrictions on the CVP/SWP system for ESA compliance are uncertain at this time.

NMFS Biological Opinion on the OCAP and Judge Wanger Decisions

Like the USFWS, under the ESA, NMFS must produce a formal Biological Opinion analyzing the impact of OCAP implementation on ESA-listed species under NMFS' jurisdiction, which include: endangered Sacramento River winter-run Chinook salmon, threatened Central Valley spring-run Chinook salmon, threatened Central Valley steelhead, threatened Southern Distinct Population Segment (DPS) of North American green sturgeon, and Southern Resident killer whales. As stated earlier, in effect, the ESA authorizes NMFS to require changes to the OCAP for the protection of the federally listed species identified above.

In October 2004, NMFS issued a Biological Opinion for OCAP, and concluded that CVP/SWP operations were not likely to jeopardize the continued existence of the Sacramento River winter run Chinook salmon, spring run Chinook salmon, and Central Valley steelhead populations. In April, 2008, that opinion was struck down by Judge Wanger following a lawsuit filed by Pacific Coast Federation of Fishermen's Associations, Institute for Fisheries Resources, and others. The court found that NMFS failed to analyze multiple factors and the 2004 Biological Opinion was remanded to NMFS and Reclamation for further consultation.

In June 2009, NMFS released a new Biological Opinion concluding that CVP and SWP operations would jeopardize the continued existence of endangered Sacramento River winter-run Chinook salmon, threatened Central Valley spring-run Chinook salmon, threatened Central Valley steelhead, threatened Southern DPS of North American green sturgeon, and Southern Resident killer whales. NMFS further detailed a RPA to the proposed OCAP protocol that would, it claimed, protect these species and their habitat from the adverse effects CVP/SWP. The RPA would restrict Delta pumping operations and NMFS estimated that deliveries of water to CVP/SWP contractors south of the Delta would be reduced by 5% to 7% of average annual exports. The RPA includes multiple actions applied to various CVP-influenced watersheds.

As with the USFWS Biological Opinion, water users challenged the June 2009 NMFS Biological Opinion resulting in additional rulings by Judge Wanger in 2010, similarly finding that NEPA procedures were not followed in developing RPA provisions and RPA actions were not fully supported by best available science. In particular, two decisions in 2010 by Judge Wanger determined that: (a) new export limitations to limit reverse flow conditions in the Delta could not be imposed until a NEPA analysis was completed that considered the effects of such action on the human environment; and (b) that NMFS had not used the best available science in developing certain RPA actions. Unless these rulings are overturned on appeal, NMFS will likely need to prepare a new Biological Opinion and Reclamation may have to prepare additional NEPA environmental documentation. The legal proceedings are ongoing, subject to potential further appeal by the parties involved, and thus the final operational restrictions on the CVP/SWP system for ESA compliance are uncertain at this time.

ANADROMOUS FISH RESTORATION PROGRAM

Congress directed the Secretary of the Interior to develop and implement a program that makes all reasonable efforts, including increased river flows, to restore and enhance anadromous fish habitat in the rivers and streams of California's Central Valley, excluding the San Joaquin River upstream of Mendota Pool. The resulting AFRP has an overall target of doubling the natural production of anadromous fish relative to the average levels attained during the period 1967–1991 (Sections 3046[b][1] of the Central Valley Project Improvement Act; Public Law 102-575). The Secretary directed the USFWS and Reclamation to jointly implement the AFRP. The Final Restoration Plan for the AFRP was adopted on January 9, 2001, and will be used to guide the long-term development of the AFRP.

4.2.2 STATE PLANS, POLICIES, REGULATIONS, AND LAWS

CALIFORNIA ENDANGERED SPECIES ACT

Pursuant to the California Endangered Species Act (CESA) of the California Fish and Game Code, a DFG permit is required for projects the implementation of which could result in the take of a species state listed as threatened or endangered (i.e., species listed under CESA). Pursuant to Section 2080, take of a listed species is prohibited without an Incidental Take Permit. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The CESA definition of take does not include "harm" or "harass" as is included in the federal act. As a result, the threshold for take under CESA is generally considered higher than under ESA. Four fish listed under the CESA occur in the regional surface water bodies that could be affected by groundwater or surface water use for the SDCP/SRSP: winter-run Evolutionarily Significant Unit (ESU) Chinook salmon (endangered), spring-run ESU Chinook salmon (threatened), delta smelt (threatened), and longfin smelt (threatened).

STEELHEAD RESTORATION AND MANAGEMENT PLAN FOR CALIFORNIA

DFG prepared the Steelhead Restoration and Management Plan for California in 1996. This plan identifies water diversions and associated structures, high water temperatures, pollution, channelization projects, flood control projects, bank protection projects, and water export operations as the primary impacts to production and survival of steelhead and other anadromous fish in the main stem Sacramento River. The plan recommends the following actions to increase survival of migrating adult and juvenile steelhead:

1. Install state-of-the-art fish screens at the Glenn-Colusa Irrigation District diversion;

2. Correct fish passage and loss problems at the Red Bluff Diversion Dam;

3. Accelerate the program initiated by DFG, DWR, and Reclamation to screen small agricultural diversions;

4. Establish carryover storage standards for Shasta Reservoir to allow Reclamation to meet the water quality standards set forth in the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins;

5. Clean up the Iron Mountain Superfund Site:

5. Evaluate the feasibility of re-routing the Colusa Drain so that it does not discharge directly into the lower Sacramento River; and

6. Further encourage state and federal water agencies to consider actions that may reverse the declines of the Delta's fisheries and other aquatic ecosystems, which may lead to implementation of measures such as curtailment of water exports during critical times of the year, a decreased frequency of negative flows in the lower San Joaquin River, and greater outflows to San Francisco Bay.

PUBLIC TRUST DOCTRINE AND CALIFORNIA WATER RIGHT LAW

Public trust lands in California (i.e., sovereign lands) include tide and submerged lands and the beds of lakes, streams, and other navigable waterways. This includes 4 million acres underlying the state's waterways, 120 rivers and sloughs, 40 lakes, 1,100 miles of coastline, and thousands of miles of non-coastal shorelines. In coastal areas, sovereign lands include both tidelands and submerged lands from the shore to 3 miles into the Pacific Ocean. Tidelands are defined as lying between mean high tide and mean low tide, and submerged lands are below mean low tide. The permitted uses of lands that come under the jurisdiction of the Public Trust are: commerce, navigation, fisheries, ecological habitat protection, water-oriented recreation, and preservation of land in its natural condition.

The U.S. Supreme Court issued its landmark ruling in *Illinois Central Railroad Co. v. Illinois* (1892) on the nature of a state's title to its tide and submerged lands. That decision serves as notice to lawmakers in all states that they are restricted in giving up trust lands to private interests. Although state and federal courts have reviewed tidelands trust issues many times since then, this basic premise of the trust remains fundamentally unchanged.

In 1938, the California legislature created an independent State Lands Commission, consisting of the Lieutenant Governor, the State Controller, and the Director of Finance to administer the State's property interest in Public Trust lands. The Commission acts pursuant to legislative direction, the constitution, and the public trust doctrine to protect the public's interest in all Public Trust lands, including granted trust lands.

Although the application of the public trust was originally limited to commerce, navigation, and fisheries, the courts have broadened the definition over the years to include recreational and ecological values within the list of resources covered by the doctrine. In a landmark case of *National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419, the California Supreme Court held that the doctrine applied to constrain extraction of water that destroys public trust interests. More specifically, the court held that the State's continuing supervisory control over public trust resources "prevents any party from acquiring a vested right to appropriate water in a manner harmful to the interests protected by the public trust." The court added, however, that the Legislature, through the State Water Resources Control Board, had authority to authorize appropriations that may not further, or may even harm, the public trust. In short, "[t]he state has an affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible."

4.2.3 REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS

The following goal and policies of the City of Rancho Cordova General Plan (2006c) are applicable to the project.

- **Policy NR.1.1** Protect rare, threatened, and endangered species and their habitats in accordance with State and federal law.

    - **Action NR.1.1.2 –** Review projects through the entitlement process and CEQA analysis to ensure that they comply with this policy if the site contains unique habitat, creeks, and/or wooded corridors.

4.3 THRESHOLDS OF SIGNIFICANCE

An impact related to fisheries, aquatic, and riparian resources (Public Trust resources) is considered significant if the project would:

- cause a reduction in habitat quantity via changes to creek/river flows or riparian vegetation / shaded riparian aquatic (SRA) cover or cause degradation in habitat quality, via changes to temperature, of sufficient magnitude, frequency and geographic extent that it would adversely affect a species' long-term population level in one or more water body;

- reduce or degrade habitat used by state or federal special-status species, including habitat designated as critical habitat, to an extent that could cause a reduction in species abundance or long-term population levels, or ability to sustain a population. Special-status species are defined as those that are currently listed as endangered or threatened under the ESA and/or CESA and species formally proposed for federal and/or State listing as threatened or endangered; or

- reduce benthic macroinvertebrate abundance within a water body by a sufficient magnitude and geographic extent as to adversely affect overall BMI community function, including the fish forage base that it provides within the water body.

These thresholds have been specifically tailored to address fisheries and aquatic resources based on the professional judgment of the City's fisheries biologists based in part on the more generic thresholds set forth in section 15065 of the CEQA Guidelines ("mandatory findings of significance") and on the general biological resource topics that lead agencies must address as set forth in Appendix G to the CEQA Guidelines (see "Sample Questions" on "Biological Resources"). Section 15065, subdivision (a), requires lead agencies to find project impacts to be significant where they would:

- substantially reduce the habitat of a fish species or other aquatic species;
- cause a population of fish or other aquatic species to drop below self-sustaining levels;
- threaten to eliminate a plant or animal community; or
- substantially reduce the number or restrict the range of an endangered, rare or threatened aquatic species.

Because these "mandatory" thresholds, as set forth in section 15065, are written in broad terms applicable to all different kinds of fish, wildlife, and plant species, they are most useful when used as starting points for more specific thresholds tailored to address particular species based on expert judgment and experience. CEQA permits such refinement of these thresholds, as long as the resulting versions are at least as stringent as the literal language of section 15065, which is the case here. The tailored thresholds also address the various relevant topics found in the "biological resources" questions posed in Appendix G to the Guidelines, as they focus on species and habitats determined by federal and state resource agencies to require special consideration and protection.

Section 15126.4(a)(1)(D), of the State CEQA Guidelines states that if a mitigation measure would cause one or more significant environmental effects in addition to those that would be caused by the project, the effects of the mitigation measure must be discussed, but in less detail that the significant effects of the project.

4.4 ANALYSIS METHODOLOGY

The Water Forum EIR (Sacramento City-County Office of Metropolitan Water Planning 1999), FRWP EIR/EIS (Freeport Regional Water Authority 2003), and Zone 40 WSMP EIR (SCWA 2005a) collectively assessed the potential environmental impacts of diversions and deliveries of the parent water supplies that would be relied upon to meet the water demand of development within the SDCP/SRSP boundaries. Therefore, the methods of analysis and the potential impacts to fisheries and aquatic resources used for this Revised DEIR focused on the specific incremental project-level impacts of SDCP/SRSP implementation, for which focused assessment is required. This assessment addresses the potential impacts of surface and groundwater use on fisheries and aquatic resources, and updates the assessment of impacts evaluated in the prior environmental documents to account for changed baseline resource conditions and/or changes in the evidence relating streamflow and water quality changes to species and habitats. As noted above, the fish species of primary management concern for this analysis include federal- and state-listed species of the region and those that are considered recreationally or commercially important. This assessment considered all species evaluated in the previous environmental documentation (i.e., Zone 40 WSMP EIR, FRWP EIR/EIS, and Water Forum EIR), updated the information presented, and included any new species of concern in the assessment (as necessary).

With respect to changed water supply conditions, this impact assessment incorporates by reference information in a recent report commissioned by the City of Roseville for the Sierra Vista Specific Plan EIR (City of Roseville 2009), which evaluated the anticipated future changes to resource conditions (i.e., hydrology and water quality) under integrated CVP/SWP operations pursuant to the anticipated implementation of RPA actions stipulated in the NMFS and USFWS Biological Opinions for OCAP. As described above, the previous water supply modeling studies conducted for the parent surface water supplies for SDCP/SRSP in the FRWP EIR/EIS and Water Forum EIR pre-date the NMFS and USFWS Biological Opinions. Therefore, the predictions of changed water supply conditions and associated analysis of the potential incremental effects of SDCP/SRSP water deliveries relative to the impacts of the parent water supply operations are, by necessity, conducted on a qualitative basis for this Revised DEIR.

4.5 IMPACT ANALYSIS AND MITIGATION MEASURES

IMPACT 4-1: Potential Impacts of Providing Long-term Groundwater Supplies to SDCP/SRSP on Fisheries, Aquatic, and Riparian Resources Associated with the Cosumnes River. *A portion of the long-term water supplies to meet the SDCP/SRSP water demands would be provided by groundwater via SCWA's Zone 40 conjunctive water supply system. The Zone 40 water system includes delivery of groundwater pumped from the central Sacramento County groundwater basin. The Zone 40 WSMP EIR provided a comprehensive assessment of the potential environmental impacts of proposed groundwater pumping on fisheries, aquatic, and riparian resources associated with the Cosumnes River, and determined that the impacts would be less than significant. With respect to changed environmental conditions since the 2002 Zone 40 WSMP EIR was prepared, the impacts of the overall Zone 40 groundwater use on fisheries, aquatic, and riparian resources of the Cosumnes River, and therefore the project-specific SDCP/SRSP impact, would remain* ***less than significant****.*

SCWA's Zone 40 conjunctive water supply system relies directly on available groundwater in the central groundwater basin, Sacramento River surface water supplies, and CVP operations of American River contract water. Based on the best available information (discussed above) regarding changed environmental conditions since certification of the Zone 40 WSMP EIR in 2005, the fisheries and aquatic resources conditions appear to be degraded for species of management concern in the Delta (see discussion on POD above) and in the Sacramento River and its tributaries. The presence of multiple stressors on habitat quantity and quality conditions for special-status anadromous and resident fish species continues to persist.

As discussed above in Section 4.1.2, however, the potential impacts to fisheries and aquatic resources in the Cosumnes River associated with Zone 40 WSMP groundwater pumping operations were considered to be less than significant in the Zone 40 WSMP EIR based on best available information and extensive analyses and refinements to the SacIGSM for the Zone 40 WSMP FEIR. The conclusions presented in the Zone 40 WSMP EIR were based on the SacIGSM modeling of overall groundwater pumping from the NVWF, other Zone 40 system wells, and other southern Sacramento County groundwater wells. The Zone 40 WSMP EIR identified that implementation of the Zone 40 WSMP would not appreciably change groundwater levels underlying the Cosumnes River or alter the average streamflow, and would not adversely affect biological resources, including fall-run Chinook salmon, associated with the Cosumnes River/Deer Creek corridor. In particular, because surface flows are currently disconnected from the groundwater in the middle reaches of the channel during much of the dry summer and fall months, changes in groundwater levels associated with changing land uses and water supply operations would not cause additional adverse effects to fisheries resources. However, it should be noted that the hydrologic effects associated with NVWF production were not specifically identified in the SacIGSM modeling results that addressed distributed groundwater production throughout the Zone 40 well systems, though these specific effects were subsumed within the larger analysis. Thus, the hydrologic effects of the NVWF production alone cannot be separated and quantified from the effects of overall groundwater pumping. However, because the groundwater-related effects of overall Zone 40 operations—a kind of worst case scenario compared with one limited just to the effects of the NVWF—were found to not adversely affect fisheries or aquatic resources of concern, the inability to specifically discern the effects of the NVWF operations (a fraction of the overall effects of the Zone 40 operations) does not result in any lack of relevant information with respect to the assessment of effects of the SDCP/SRSP water supply operations. Accordingly, the SDCP/SRSP water demands imposed on the changed conditions and system operations via Zone 40 operations would not be expected to cause any new significant impacts to fisheries, aquatic, and riparian resources in the Cosumnes River, nor create more severe impacts, and would be **less than significant**, consistent with the determination in the Zone 40 WSMP EIR.

Mitigation Measures: No mitigation measures are required.

IMPACT 4-2: Potential Impacts to Regional Fisheries and Aquatic Resources from Providing Long-term Surface Water Supplies to SDCP/SRSP Previously Analyzed in the FRWP EIR/EIS and Water Forum EIR. *A portion of the long-term water supplies to meet the SDCP/SRSP water demands would be provided by surface water conveyed to the Zone 40 system via the FRWA diversion facility on the Sacramento River at Freeport. Both the FRWP EIR/EIS and Water Forum EIR evaluated potential impacts of surface water diversions from the Sacramento River to regional fisheries and aquatic resources.*

With respect to changed environmental conditions since these prior environmental documents were prepared, the surface water for the SDCP/SRSP would contribute to the significant and unavoidable environmental impacts to the fisheries resources in the American River basin that were disclosed in the Water Forum EIR. Due largely to uncertainties that existed at the time of the Water Forum EIR regarding mitigation measures, and additional uncertainties that exist today with respect to the implementation of the USFWS and NMFS Biological Opinions, the previously identified significant and unavoidable impacts to fisheries resources in the American River basin would remain ***significant and unavoidable****.*

The following assessment addresses potential project-related impacts to fisheries species of concern and aquatic resources that were addressed in detail in the FRWP EIR/EIS, and Water Forum EIR that are associated with surface water supply operations that provide water to the Zone 40 distribution system. The findings of the City of Roseville's assessment of the future water supply outlook for integrated CVP/SWP operations (City of Roseville 2009) are informative and applicable to this analysis of the conditions that diversions of surface water from the FRWP facility will encounter in the future. The City of Roseville's findings, which are summarized herein, indicated that the flexibility of CVP's American River operations to meet current and future contract demands in balance with other environmental obligations has decreased and it is likely that, compared to conditions that existed at the time of the Water Forum, Zone 40 WSMP, and FRWP EIRs, future water deliveries can be expected to be less than full more frequently under dry and critical water year conditions and shortages in those years may be greater. Reduced surface water delivery opportunities for FRWP may result in more reliance on Zone 40 groundwater supplies under drought conditions, or require additional conservation measures. However, by virtue of the CVP protocols for allocating water during shortages based on a contractor's geographical location and intended use for the water, the majority of reduced water deliveries will occur to south of Delta water contractors, and agricultural contractors in general. Thus, reduced regional water supply availability would not be expected to result in substantial changes to SCWA's deliveries, and the firm yields for CVP contract water during dry and multiple dry years is not anticipated to decrease appreciably. Consequently, based on the City of Roseville's analysis, it is anticipated that the FRWP and Zone 40 WSMP operations and resulting hydrologic impacts would not change appreciably compared to the original planning scenarios documented in their respective water supply modeling studies and environmental documentation for CEQA/NEPA compliance.

The surface water demands attributable to SDCP/SRSP (and the associated FRWP diversion operations), would contribute to overall regional water demands. Consequently, the SDCP/SRSP would contribute to the hydrologic changes associated with the integrated CVP/SWP water supply operations that are conducted in response to the demands to comply with operational and environmental requirements. As discussed above in Section 4.1.2, the potential hydrologic and water quality impacts to fisheries and aquatic resources associated with FRWP water supply diversions were all considered to be less than significant in the FRWP EIR/EIS. However, the earlier Water Forum EIR determined that integrated CVP/SWP operational responses to the Water Forum purveyor demands would result in potentially significant impacts to fisheries resources in Folsom Reservoir and the lower American River (i.e., downstream of Nimbus Dam) as follows:

- Temperature- and habitat-related impacts to warmwater species in Folsom Reservoir (Water Forum EIR Impact 4.5-2)
- Flow- and temperature-related impacts to fall-run Chinook salmon (Water Forum EIR Impact 4.5-5)
- Flow- and temperature-related impacts Sacramento splittail (Water Forum EIR Impact 4.5-7)

It is anticipated that the SDCP/SRSP-related water demand of approximately 15,844 afy would contribute negligibly to the impacts identified in the Water Forum EIR, which were assessed based on water demands up to approximately 380,000 afy. However, based on the changed fisheries resources conditions described above, and more stringent and less flexible CVP/SWP water supply management operations that have been imposed since the FRWP EIR/EIS was prepared, a more conservative analysis of the impacts of SDCP/SRSP demands is warranted. In summary, the primary changed environmental conditions warranting the more conservative approach to the analysis consist of species populations that have experienced continued and larger declines, uncertainty regarding

the causes of declines in Delta species (POD and others), and additional system operational pressures resulting from invasive species, increased water deliveries, and CVP/SWP responses to additional environmental requirements. The SDCP/SRSP would obtain water supplies through the FRWP; therefore, the SDCP/SRSP would indirectly contribute to the fisheries impacts identified in the Water Forum. Based on this analysis of the changed conditions that have occurred since the Water Forum EIR, the fisheries impact conclusions identified in the Water Forum are still considered to be **significant,** and the project would indirectly contribute to that significant impact. However, the project would have a less-than-significant indirect impact on fisheries impacts that were identified as less than significant in the Water Forum EIR because the changed conditions described above do not warrant a change in the Water Forum EIR conclusion of a less-than-significant impact for these species.

Because there is a relationship between the SDCP/SRSP project and the need for the regional water facilities and regional water supply described above, approval of the SDCP/SRSP project contributes indirectly to the related impacts identified in the Water Forum EIR. As a Water Forum purveyor, SCWA is a party to the mitigation measures that were adopted via the Water Forum EIR process. As described in the Water Forum EIR, construction of these water facilities would result in several environmental impacts, most of which would be reduced to a less-than significant level through implementation of mitigation by the Water Forum parties. However, other mitigation measures were adopted, the implementation of which may not reduce the severity of the fisheries impacts to a less-than-significant level. The mitigation measures adopted in the Water Forum EIR are summarized as follows:

- **Enhance Spawning and Rearing Conditions for Warmwater Fish in Folsom Reservoir.** This measure would involve encouraging establishment of natural vegetation or artificial substrates at lower reservoir elevations to compensate for loss of littoral structure and minimize reservoir water elevation fluctuations that may flood or dewater warmwater fish nesting areas.

- **Dry Year Flow Augmentation and Spawning and Rearing Habitat Improvements for Chinook Salmon.** This measure would reduce the flow-related impacts to Chinook salmon. Dry-year flow augmentation would be implemented via water purchases from Placer County Water Agency to increase flows in the spawning period of dry and critically dry years. Implementation of year-round flow fluctuation criteria for the lower American River would minimize losses of salmon fry from redd dewatering and minimize losses of juvenile/fry losses from habitat stranding. Implementation of wetland/slough complex restoration/maintenance, instream woody debris, and shaded riverine aquatic (SRA) [1] habitat protection/management actions would contribute to an overall increase in viability of the salmon population. Habitat improvement actions are being addressed in the Habitat Management Plan "element" of the Water Forum Agreement and successor effort (see below).

- **Flow Fluctuation Criteria and Habitat Improvements for Splittail.** This measure would reduce the flow- and temperature-related effects to splittail. Implementation of flow fluctuation criteria for the lower American River would minimize losses of fry and juvenile splittail to stranding. Implementation of wetland/slough complex and SRA restoration/maintenance actions would contribute to an overall increase in spawning and rearing success and viability of the splittail population.

The Water Forum included two elements (Element III [Improved Pattern of Fishery Flow Releases] and Element IV [Lower American River Habitat Management]) consisting of commitments among Water Forum purveyors and other resource agencies to address fisheries resource issues of concern. Under Element III, the lower American River Flow Management Standard (FMS) was developed to improve flow and temperature conditions in the lower American River for the primary purpose of maximizing annual production and survival of anadromous salmonids (Water Forum 2006). The FMS would address the following:

[1] SRA habitat is defined as the nearshore riparian / aquatic habitat occurring at the interface between a river and adjacent woody riparian habitat.

- improve currently required flow, water temperature, ramping rate, and flow fluctuation criteria;
- establish a river management process for Folsom Reservoir and lower American River operations; and
- coordinate monitoring, evaluation, and reporting of the resultant hydrologic and biological conditions.

While the agencies support implementing the improved lower American River flow requirements, the FMS has not been formally finalized and adopted at this time. Because of the uncertainties surrounding implementation of the USFWS and NMFS Biological Opinions for OCAP and Wanger decisions (past ongoing and potential future), and related changes that may be necessary on the part of CVP operations, the FMS development and implementation will not be completed until the uncertainties are resolved (Water Forum 2008), and implementation of the FMS will be responsibility of Reclamation.

Under Element IV of the Water Forum, the Lower American River Habitat Management Plan is being implemented primarily through the Fish and Instream Habitat Plan (FISH Plan), which was developed by the City and County in coordination with federal, state and other local agency representatives. The FISH plan addresses opportunities for improving fish and aquatic habitats in the lower American River, identification of data gaps and research needed, and monitoring and "adaptive management" of the resources. The FISH plan addresses actions to improve conditions for anadromous salmonids and splittail, restoration or maintenance of an appropriate distribution and abundance of other native fish species, and maintenance of American shad and striped bass populations in sufficient abundance consistent with restoration goals for native species. Development of the FISH plan involved numerous research, monitoring, and planning studies, and workshops and conferences, which in particular have been important in the development of the FMS.

As noted above, the process, development, and timing of actions to complete the USFWS and NMFS Biological Opinions for OCAP, and implementation of the associated RPA actions, remains uncertain at this time and is subject to the results of the ongoing litigation in federal court (i.e., Wanger decisions). Pursuant to the NMFS Biological Opinion, and as expanded to address the USFWS Biological Opinion as well, federal and state resource agencies convened interagency technical teams and the WOMT to coordinate implementation of RPA action requirements during 2009 and 2010. Interagency technical teams included the Delta Smelt Workgroup, Delta Salmonids and Sturgeon Group, and individual groups for major tributary operations (e.g., American River, Sacramento River, Stanislaus River). Technical teams reviewed weekly data to provide the WOMT with supporting information for water operations decisions. The WOMT prepared a summary of recommended operational adjustments to best meet the RPAs (Water Science Program 2010). Ultimately, the final biological opinions and Incidental Take Permits issued to the CVP and SWP for OCAP implementation will constitute the most up to date review of ecosystem needs and the stressors acting upon them, including system-wide water demands and Delta export pumping operations. Implementation of the Water Forum EIR mitigation measures is an ongoing commitment of the Water Forum purveyors (including SCWA) to avoid and minimize fisheries and aquatic resources impacts that were identified in the Water Forum EIR (to which this project would contribute). As stated above, those previously identified potentially significant impacts are as follows:

- temperature- and habitat-related impacts to warmwater species in Folsom Reservoir (Water Forum EIR Impact 4.5-2);

- flow- and temperature-related impacts to fall-run Chinook salmon (Water Forum EIR Impact 4.5-5); and

- flow- and temperature-related impacts Sacramento splittail (Water Forum EIR Impact 4.5-7).

As identified in the Water Forum EIR, there is uncertainty regarding whether the actions would fully mitigate the impacts identified. Because of (1) changed resource conditions since the Water Forum EIR and FRWP EIR/EIS were prepared, (2) the continued uncertainties regarding future resource conditions, and (3) uncertainties regarding implementation of RPA actions that will be needed for the USFWS and NMFS Biological Opinions, the City conservatively assumes that the fisheries impacts identified in the Water Forum EIR and FRWP EIR/EIS (stated in the bullet list above) may remain significant and unavoidable. Because SDCP/SRSP would obtain water

supplies through the FRWP, the SDCP/SRSP would indirectly contribute to these **significant and unavoidable** fisheries impacts and the need for these mitigation measures identified in the Water Forum EIR and the FRWP EIR/EIS. Furthermore, based on these uncertainties, and the Water Forum Successor Effort's plans to implement the adopted mitigation measures, the City believes that no other project-specific feasible mitigation measures are available at this time to further reduce the potential impacts on fisheries resources of water deliveries for the SDCP/SRSP. Moreover, as a water customer that will receive water via the Zone 40 system, the City and the SDCP/SRSP applicants have no direct responsibility in managing the conjunctive groundwater and surface water supply operations. Thus, the responsibility for implementation of mitigation measures that are available at this time is outside the jurisdiction and control of the City as the lead agency for this project (i.e., the responsibility for mitigation implementation rests primarily with the Water Forum purveyors, including SCWA and Reclamation).

> Mitigation Measures: No feasible mitigation measures other than those already identified above are available.

IMPACT 4-3: Potential Impacts of SDCP/SRSP Long-term Water Supply from Freeport Water Diversions on Green Sturgeon and Longfin Smelt not Previously Assessed in Detail in the FRWP EIR/EIS or Water Forum EIR. *A portion of the long-term water supplies to meet the SDCP/SRSP water demands would be provided by surface water conveyed to the Zone 40 system via the FRWA diversion facility on the Sacramento River at Freeport. Both the FRWP EIR/EIS and Water Forum EIR evaluated potential impacts of surface water diversions from the Sacramento River to regional fisheries and aquatic resources. However, longfin smelt and green sturgeon are species that have been listed since these documents were prepared, and therefore impacts to these species were not previously evaluated. With respect to changed environmental conditions since these prior environmental documents were prepared, the surface water for the SDCP/SRSP would result in* ***less-than-significant*** *impacts to longfin smelt and green sturgeon.*

The following assessment addresses potential project-related impacts to green sturgeon and longfin smelt, which are more recently listed (federal and state) species that were not addressed in detail in the FRWP EIR/EIS and Water Forum EIR. Since the certification of the FRWP EIR/EIS and Water Forum EIR, fisheries resource agencies have determined that green sturgeon and longfin smelt populations are declining. Thus, an additional assessment of the potential indirect impacts from SDCP/SRSP water demands and incremental deliveries of water via the FRWP on green sturgeon and longfin smelt is provided herein.

Longfin Smelt

Longfin smelt were listed as threatened under the CESA on March 5, 2009. However, no federal ESA listing has been made for this species. The range of longfin smelt includes San Pablo Bay, San Francisco Bay, South San Francisco Bay, and Gulf of the Farallones, but they migrate into the lower reaches of the Delta from Suisun Bay and Suisun Marsh upstream to Rio Vista during spawning. In wet years they may be distributed more toward San Pablo Bay and in dry years more toward the west Delta. Longfin smelt are relatively short-lived, reaching maturity at age 2. The majority of individuals live only two years, but may live as long as three years, and most fish die shortly after spawning. Spawning occurs in fresh water over substrates composed of sand and/or gravel, rocks, and aquatic plants and may occur from November into June, with peak spawning activity occurring from February through April (Emmett et al. 1991; Wang 1986). Spawning occurs mainly below Rio Vista in the Sacramento River and below Medford Island in the San Joaquin River, with a downstream boundary near Pittsburg and Montezuma Slough (Moyle 2002). Embryos hatch in 40 days at 45°F, and newly hatched larvae are buoyant and strong enough swimmers to move horizontally in the water column to maintain position within the mixing zone of the estuary (Moyle 2002). Based on CALSIM II water supply operations modeling conducted for the FRWP EIR, FRWP-related diversions would have little measurable impact on Sacramento River flows below Rio Vista. The water diversions at Freeport would have little measurable impact on flow, and thus little effect on habitat quantity or quality for longfin smelt in the Delta and lower reaches of the Sacramento River downstream of Rio Vista. Consequently, the SDCP/SRSP-related surface water demand would not result in adverse effects to habitat quality or quantity to an extent that would cause a reduction in the species abundance or long-term population levels, or ability to sustain the population. Additionally, because aquatic habitat quality and quantity

would not be substantially affected as a result of the surface water demand, the project would not result in reduced BMI abundance or overall BMI community function, nor would any effect rise to the level of exceeding one of the above-referenced thresholds of significance, which were derived in part from the "mandatory findings of significance" set forth in CEQA Guidelines Section 15065, subdivision (a). Therefore, the SDCP/SRSP-related surface water demand is considered to result in a **less-than-significant** impact on longfin smelt.

North American Green Sturgeon

NMFS proposed the southern DPS of North American green sturgeon, which includes all fish populations south of the Eel River, as threatened under the ESA in February 2005. A final rule listing the southern DPS as threatened was published on April 7, 2006 (71 FR 17757). Green sturgeon occur seasonally in the Sacramento and Feather rivers—water bodies directly affected by integrated CVP/SWP operations. The primary threats to the southern DPS include reduction of spawning areas (which are restricted to the upper Sacramento River), habitat loss resulting from impassible barriers, insufficient flows in spawning areas, water quality degradation, commercial catch, poaching, entrainment at water intakes, introduction of non-natives, small population size, and elevated water temperatures. The only known spawning populations of green sturgeon in North America are in the Klamath, Rogue, and Sacramento River systems (Moyle 2002; NMFS 2009). Green sturgeon are suspected to have spawned in upper reaches of the Feather River historically (i.e., prior to construction of Oroville Dam). Angler catches of green sturgeon downstream of the dam suggests that fish are attempting to migrate to inaccessible areas upstream of the dam; however, it is not known if spawning occurs in the Feather River downstream of the dam (NMFS 2009). The Sacramento River is the southernmost known spawning population.

There are three general phases in green sturgeon life history: (1) freshwater stage (<3 years old), (2) coastal migrants (3–13 years old), and (3) adults (>13 years old) (EPIC et al. 2001). Based on angler and incidental catches of green sturgeon in the Sacramento River, spawning times are believed to be from March through July, peaking from mid-April to mid-June (USFWS 1995). Spawning takes place in relatively deep (>3 meter), fast water of rivers over substrates often dominated by cobbles; however, substrates may range from clean sand to bedrock (Emmett et al. 1991). In the upper Sacramento River, spawning appears to occur primarily upstream of the Red Bluff Diversion Dam ([RBDD]) (Gaines and Martin 2002; Brown 2007), approximately 200 miles upstream of the Freeport diversion location. Females are oviparous and iteroparous (i.e., repeat spawners). Eggs are broadcast and fertilized externally. The adhesive eggs settle to the river bottom and attach to substrates. Excessive silt is known to prevent eggs from attaching to each other and/or substrates (Moyle 2002), likely resulting in decreased egg survival. Eggs likely hatch within approximately 200 hours at 55°F, based on their presumed similarity to white sturgeon (*A. transmontanus*) (Kohlhurst 1976). Adults are believed to hold in the upper Sacramento River between RBDD and the Glenn-Colusa Irrigation District (GCID) diversion from spring through fall (Heublin 2006 and 2009; Vogel 2008). Downstream emigration appears to be associated with increases in flow and decreases in temperature during the fall months, but some adult fish may emigrate during the summer months shortly after spawning. Therefore, adults may be present in the regional surface water bodies that could be affected by groundwater or surface water use for the SDCP/SRSP during their summer through fall emigration period (EPIC et al. 2001).

Little is known about the movement of juvenile green sturgeon, but they are believed to reside in freshwater habitats for 1 to 4 years, with most emigrating as yearlings (EPIC et al. 2001). The period in which juvenile green sturgeon move from rearing areas in the upper Sacramento River to the Delta is unknown. However, juveniles age 2-3 are captured in fish collection facilities and trawl samples in the south Delta during all months of the year. All post-alevin life stages of green sturgeon are primarily bottom feeders (EPIC et al. 2001). Juvenile green sturgeon residing in rivers and estuaries are primarily invertivores, feeding largely on amphipods, opossum shrimp, annelid worms, and isopods.

Based on CALSIM II water supply operations modeling conducted for the FRWP EIR, FRWP-related diversions would result in exceedingly small changes in monthly average flows throughout the affected upstream rivers and Delta inflows/outflow. Because adult green sturgeon migrate through the lower Sacramento River to and from

spawning reaches in the upper Sacramento River system during the late winter through fall months, the small flow-related changes associated with SDCP/SRSP-related water deliveries are unlikely have an adverse impact on their immigration or emigration, which occurs primarily near the bottom of open channels. During the summer months, the integrated CVP/SWP operations for water demands tend to result in increased upstream river flows as a result of releases from reservoir storage, thereby increasing flow rates during the adult immigration period. Likewise, because small changes in river flows would not measurably decrease open water spawning or rearing habitat, SDCP/SRSP-related water deliveries via the FRWP system are not likely to have adverse population-level impacts on spawning or juvenile green sturgeon rearing habitat availability or emigration.

Although the thermal tolerances of green sturgeon are not well understood, they are assumed to have higher temperature tolerances than the well-studied anadromous salmonids. Because the integrated CVP/SWP operations must maintain suitable temperatures for salmonids, temperatures would likewise be suitable for green sturgeon. Tagging studies in the Rogue River conducted by Erickson et al. (2002) indicate that green sturgeon will hold in sloughs and coves where temperatures range from 59-73°F for up to six months during the summer. The SDCP/SRSP-related water deliveries would not cause temperatures in the upper Sacramento River to exceed these values where they would not already exist, and temperatures during the fall are even cooler. Consequently, the SDCP/SRSP-related water deliveries via the FRWP system are not anticipated to have adverse population-level impacts on green sturgeon resulting from increased temperatures.

Finally, the Freeport diversion is equipped with a state-of-the-art fish screen designed to meet DFG, NMFS, and USFWS criteria. The fish screen face is oriented parallel to the river, which allows sweeping flows across the screens, thereby minimizing the overall screen length and exposure to the facility. Furthermore, as discussed above, juvenile green sturgeon emigrate as 1–4 year old fish and, therefore, are active swimmers with an ability to avoid the diversion. Consequently, the risk of impingement and entrainment is low and, therefore, not likely to have adverse population-level impacts on juvenile green sturgeon emigrating through the lower Sacramento River.

For the reasons discussed above, the SDCP/SRSP-related surface water demand would not result in adverse effects to habitat quality or quantity to an extent that would cause a reduction in the species abundance or long-term population levels, or ability to sustain the population, nor would any effect rise to the level of exceeding one of the above-referenced thresholds of significance, which were derived in part from the "mandatory findings of significance" set forth in CEQA Guidelines Section 15065, subdivision (a). Therefore, the potential impact of the SDCP/SRSP-related surface water demand on green sturgeon is considered to be **less than significant**.

Mitigation Measures: No mitigation measures are required.

IMPACT 4-4: Assessment of Potential Impacts of Providing Long-term Water Supplies to SDCP/SRSP on Public Trust Resources. *Fisheries, aquatic, and associated riparian resources are considered resources requiring consideration under the public trust doctrine, at least in some circumstances. Therefore, the public trust resource impacts identified herein for fisheries, aquatic, and associated riparian resources are the same as those previously identified in Impacts 4-1 (less than significant), 4-2 (significant and unavoidable), and 4-3 (less than significant).*

Public trust resources potentially affected by the SCDP/SRSP long-term water demand consist of fisheries, aquatic, and associated riparian resources upstream in the watersheds of the parent water supplies (i.e., American River and Sacramento River) and downstream of the delivery location (i.e., lower Sacramento River and Delta), including the associated habitats (river beds, adjacent wetlands and floodplains, and Delta estuary).

As identified in Impact 4-1 above, the SDCP/SRSP water demands imposed on the changed conditions and Zone 40 system groundwater pumping operations would not be expected to cause any new significant impacts to fisheries, aquatic, riparian resources in the Cosumnes River, nor create more severe impacts, relative to those determined in the Zone 40 WSMP EIR, and therefore impacts to this public trust resource would be **less than significant**.

Mitigation Measures: No mitigation measures are required.

As identified in Impact 4-2 above, the SDCP/SRSP project would contribute to the significant fisheries impacts assessed in the Water Forum EIR from (1) temperature and habitat impacts to warmwater fisheries in Folsom Reservoir; (2) and flow- and temperature-related impacts to fall-run Chinook salmon in the lower American River, and (3) flow- and temperature-related impacts to Sacramento splittail in the lower American River. Therefore, the SDCP/SRSP project would also contribute to the need to implement the mitigation measures identified in the Water Forum to reduce these impacts. The implementation of Water Forum mitigation measures to avoid and minimize these three identified fisheries and aquatic resources impacts, which also includes riparian resources (see discussion on SRA habitat under Impact 4-2 above), is ongoing, and the City of Rancho Cordova is implementing water conservation measures to reduce water demand, as called for in the General Plan. However, because of the uncertainties surrounding the resource conditions, Water Forum mitigation measures, and the USFWS and NMFS Biological Opinions, the ultimate resolution of water supply operations-related impacts to fisheries and aquatic resources remains uncertain. Therefore, the project would result in **significant and unavoidable** impacts to public trust resources.

Mitigation Measures: No feasible mitigation measures other than those already identified in Impact 4-2 are available.

Longfin smelt and green sturgeon are species that have been listed since the Water Forum EIR and the FRWP EIR/EIS were prepared, and therefore impacts to these species were not previously evaluated. As identified in Impact 4-3 above, the SDCP/SRSP-related surface water demand would not result in adverse effects to habitat quality or quantity of longfin smelt or green sturgeon to an extent that would cause a reduction in the species' abundance or long-term population levels, or ability to sustain the population. Additionally, because aquatic habitat quality and quantity would not be substantially affected as a result of the surface water demand, the project would not result in reduced BMI abundance or overall BMI community function, nor would any effect rise to the level of exceeding one of the above-referenced thresholds of significance, which were derived in part from the "mandatory findings of significance" set forth in CEQA Guidelines Section 15065, subdivision (a). Therefore, the project would result in a **less-than-significant** impact to these two public trust resources.

Mitigation Measures: No mitigation measures are required.

4.6 RESIDUAL SIGNIFICANT IMPACTS

The potential impacts from providing long-term groundwater supplies to SDCP/SRSP on fisheries and aquatic resources in the Cosumnes River (Impact 4-1), on green sturgeon and longfelt smelt (Impact 4-2), along with their corresponding public trust impacts (Impact 4-4), and public trust impacts to riparian resources (Impact 4-4) were determined to be less than significant. Therefore, no residually significant impacts to these resources would occur.

As a result of changed resource conditions since the Water Forum EIR and FRWP EIR/EIS were prepared, and as a result of the continued uncertainties regarding future resource conditions, implementation of Water Forum mitigation measures, and implementation of RPA actions that will be needed for the USFWS and NMFS Biological Opinions, the project's temperature and habitat impacts to warmwater fisheries in Folsom Reservoir and flow- and temperature impacts to fall-run Chinook salmon and Sacramento splittail in the lower American River, would remain significant and unavoidable. Therefore, residual significant impacts to these three fisheries and aquatic resources (Impact 4-2) and their related public trust resources (Impact 4-4) would occur.

4.7 CUMULATIVE FISHERIES AND AQUATIC RESOURCE IMPACTS

The cumulative impact discussion below is specific to fisheries and aquatic resources. As discussed above, public trust resources potentially affected by the SCDP/SRSP long-term water demand consist of fisheries, aquatic, and associated riparian resources upstream in the watersheds of the parent water supplies (i.e., American River and

Sacramento River) and downstream of the delivery location (i.e., lower Sacramento River and Delta), including the associated habitats (river beds, adjacent wetlands and floodplains, and Delta estuary). As a result, the cumulative impact discussion below also inherently addresses potential cumulative impacts to public trust resources. All other cumulative impacts are addressed in Chapter 7 of this DEIR.

4.7.1 CUMULATIVE GEOGRAPHIC CONTEXT AND THE RELATED PROJECTS

The State CEQA Guidelines identify two basic methods for establishing the cumulative environment in which the project is to be considered: the use of a list of past, present, and probable future projects (the "list approach") or the use of adopted projections from a general plan, other regional planning document, or certified EIR for such a planning document (the "plan approach"). This analysis utilizes a combination of the list and plan approaches. In terms of cumulative impacts to fisheries and aquatic impacts, the "cumulative context" entails an examination of known surface water demands, supply plans, operations, and infrastructure in the region that would affect the Sacramento River watershed (the source of surface water supplies for the project) and the Delta downstream of the FRWP diversion location. Additionally, the cumulative context entails examination of existing and future groundwater demands, plans, and operations in the Zone 40 2030 Study Area and other portions of southern Sacramento County, as they affect surface water resources of the Cosumnes River channel. Although the SDCP/SRSP water demand reflects a relatively localized area, the water supply sources and operations of the major state, federal, and municipal water purveyors are integrated and many water supply operations are coordinated to ensure compliance with agreements and regulatory requirements. Thus, the cumulative need for additional water supplies associated with other development projects within the Zone 40 2030 Study Area and other regional surface water demands in the Sacramento River basin contribute to potential cumulative environmental impacts. The potential cumulative impacts to fisheries and aquatic resources would occur as a result of the physical withdrawal of water from various regional water bodies that would supply water for the existing and planned development and growth.

The Central Valley Project (CVP) and State Water Project (SWP) control the major storage reservoirs in the Central Valley, and CVP/SWP operations are integrated and responsive to the water demands imposed by their contractors and other non-project agricultural and municipal and industrial demands. Therefore, all regional surface water demands incrementally affect regional reservoir storage and flow conditions in the Central Valley. In turn, the changes in reservoir storage and flow conditions can result in other indirect impacts such as changes in groundwater levels and groundwater quality, when water supply uses shift from surface water to groundwater during periods of drought. Other surface-water-dependent environmental resources that are potentially indirectly affected by changes in surface storage and flows consist of fisheries and aquatic resources habitat, water quality, recreational opportunities (e.g., reservoir access, river rafting), and hydropower power generation.

Future urban growth will result in additional demands for surface and groundwater in the region. Future water demands, as developed from community general plan scenarios and other land use projections, are considered in the water supply operations model used for Zone 40 WSMP, FRWP, Water Forum Agreement, and CVP/SWP planning purposes. However, there are several large projects or programs that involve water supply operations and facilities for which the environmental assessments are ongoing, thus resulting in potential additional impacts to fisheries resources that have not been assessed at this time in a comprehensive manner. Additionally, up to this point, there has been no comprehensive assessment of the future cumulative conditions that address new federal rules to protect endangered species, which directly and indirectly influence regional water supplies through obligations imposed on the integrated CVP/SWP operations.

A list of major future water supply projects/programs/regulations that are considered in this cumulative impact analysis for fisheries and aquatic resources in addition to the Zone 40 WSMP EIR, FRWP EIR/EIS, and Water Forum Agreement EIR (i.e., "the related projects"), is provided below:

- Sacramento River Water Reliability Study (SRWRS): Proposed new surface water diversion (up to approximately 88,000 afy) on the Sacramento River upstream of the confluence with the lower American

River that would serve to meet demands of the Placer County Water Agency (PCWA), the cities of Sacramento and Roseville, and the Sacramento Suburban Water District (SSWD) up to and beyond 2030. Although these agencies were actively pursuing this project from approximately 2005 through 2009, the project is now on hold indefinitely due to the reduced short-term demand for new water supplies attributable to the economic slowdown.

- El Dorado Water and Power Authority (EDWPA): Proposed new surface water diversion (up to 40,000 afy) from the American River basin upstream of Folsom Reservoir to serve El Dorado County. CEQA compliance for the EDWPA project, and associated operations modeling, is currently underway.

- Bay-Delta Conservation Plan (BDCP): Comprehensive effort to develop a restoration program to improve Delta conditions for aquatic species and provide increased water supply reliability for CVP/SWP Delta export operations. Operations modeling and CEQA compliance is underway. At this time, it is not possible to predict what the final version of the BDCP will look like; it may or may not include a major new isolated conveyance facility (e.g., a "Peripheral Canal") intended to reduce the extent to which both the CVP and the SWP will have to continue relying on pumps in the south Delta, and thereby increasing the reliability of water supplies and reducing the harm to the Delta smelt and other threatened or endangered species. At present, the BDCP Steering Committee, a multi-party group of water users, non-profit environmental organizations, and others, has not yet completed its deliberations regarding the "project" to be proposed for inclusion in BDCP and associated CEQA and NEPA documentation. Implementation of BDCP may require additional USFWS and NMFS consultation and revised biological opinions for effects to ESA fisheries species, which are discussed below.

- Contra Costa Water District (CCWD) Expanded Los Vaqueros Reservoir: Proposed increase in storage capacity from an existing 100,000 acre feet (af) up to a maximum of 275,000 af for the purpose of improving water quality delivered to CCWD customers and adjusting the timing of its Delta diversions to accommodate the life cycles of aquatic species, thus reducing species impact and providing a net benefit to the Delta environment. CCWD completed its CEQA-NEPA environmental review and approved an initial expansion project to 160,000 af in March 2010 with construction to begin in 2011 (CCWD 2010).

- City of Stockton Delta Water Supply Project (DWSP): Proposed new surface water diversion (up to 126,000 af) from the Delta to meet Stockton M&I demand through 2050 (City of Stockton 2005). In early 2006, the State Water Resources Control Board approved a water rights permit for the first phase (33,600 afy) that is anticipated to serve water demands through approximately 2035. Construction of the project is underway and is scheduled to be completed in 2012. Additional action by the SWRCB, probably shortly before 2035, will be necessary to obtain the rest of the 126,000 afy envisioned for the fully developed DWSP.

- USFWS 2008 Biological Opinion and NMFS 2009 Biological Opinions for OCAP: Prepared for the protection of the delta smelt, the USFWS Biological Opinion contains an RPA that would restrict Delta pumping operations, impose additional criteria for allowable reverse Old and Middle River (OMR) flows, and require additional flows in fall months for estuarine salinity habitat management. The NMFS Biological Opinion addresses protection for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon and steelhead, Southern Resident North American green sturgeon, and Southern Resident killer whales. The RPAs would restrict Delta pumping operations, impose Shasta Reservoir storage targets to achieve water temperature requirements in the Sacramento River below Keswick Dam, impose lower American River flow standards, require modified Delta Cross Channel operations, and limit reverse OMR flows.

    - Wanger Decisions: Both of these Biological Opinions are the subjects of litigation filed in federal court by water users unhappy with the restrictions imposed. As described in Chapter 3, "Water Supply," of this Revised DEIR, the ultimate resolution of the litigation is speculative, including potential revisions to the Biological Opinions or appeals through higher courts that could take several years. However, given that

the most recent (May 2010 and December 2010) actions in the litigation resulted in Judge Wanger enjoining to some extent the restrictions imposed following the more recent Biological Opinions, the ultimate result could very well be to ease the existing restrictions, thereby providing additional water supplies for development and agriculture. Alternatively, if the Ninth Circuit Court of Appeals is eventually asked to hear one or both of these matters, that appellate body could possibly overturn the lower court and uphold the Biological Opinions and the restrictions imposed in reliance on those opinions, resulting in more permanent limitations on the amount of water available from Delta pumping operations. Review by the United States Supreme Court is also a possibility.

- 2009 Comprehensive Water Package Legislation: At the end of the 2009 legislative session, the California legislature adopted a comprehensive water package comprised of four policy bills and an $11.14 billion bond. The package establishes a Delta Stewardship Council, sets ambitious water conservation policy, ensures better groundwater monitoring, and provides funds for the SWRCB for increased enforcement of illegal water diversions. If passed by the voters, the bond, originally scheduled for a vote in November 2010 but now scheduled for a vote in November 2012, will fund (with local cost-sharing), drought relief, water supply reliability, Delta sustainability, statewide water system operational improvements, conservation and watershed protection, groundwater protection, and water recycling and water conservation programs.

The cumulative impacts assessed in the Zone 40 WSMP EIR, the Water Forum EIR, and FRWP EIR/EIS considered SCWA's full diversion of up to 78,000 afy of Sacramento River water along with the other cumulative water demands and system CVP/SWP operations known at the time the EIRs were prepared. Because the SDCP/SRSP demand would be met by supplies previously allocated and assessed under these EIRs, the EIRs provide reasonable assessments of the incremental indirect impacts of meeting the project's water demands under the future cumulative condition. Although 2030 conditions will likely differ from those projected in these previous EIRs, many of the future actions that will change the 2030 conditions (e.g., full implementation of the USFWS and NMFS Biological Opinions for OCAP, BDCP implementation, and EDWPA implementation) cannot be accurately characterized today, notwithstanding best efforts of professional experts working on California water issues on a day-to-day basis (i.e., Robertson-Bryan, Inc., which assisted the City with the preparation of this analysis, and which is intimately involved in numerous water projects, including the ongoing BDCP evaluations). In light of such uncertainty, the City and its expert consultants have concluded that the previous EIRs continue to provide a meaningful characterization of 2030 conditions for the purposes of assessing cumulative impacts, and the contribution to such cumulative impacts resulting from implementation of SDCP-SRSP, and therefore this analysis incorporates by reference substantial portions of those prior analyses, as indicated below where applicable.

4.7.2 Analysis of Cumulative Fisheries and Aquatic Resources Impacts of the Related Projects

As noted in detail in Chapter 3, "Water Supply," of this Revised DEIR, the City of Roseville (Roseville) recently completed a draft EIR for the Sierra Vista Specific Plan (City of Roseville 2009) in which it qualitatively evaluated the reliability of CVP operations to meet the future water demands of Water Forum purveyors in the American River basin and associated potential for cumulative impacts. Roseville's analysis is informative for the purposes of this assessment in that: (a) the majority of water to be delivered by SCWA via the FRWP is CVP contract water; (b) Roseville's analysis considers the most current version of CALSIMII modeling code, related cumulative actions, and potential changes in the effects of water demands to hydrology and fisheries resources effects under changed baseline conditions compared to the effects assessed in the Water Forum EIR; and, (c) Roseville's analysis re-evaluates the effects of total Water Forum demands and thus encompasses SCWA's diversions that would provide water for SDCP/SRSP. Roseville's analysis considered the anticipated changes in water supply management and hydrologic conditions (summarized in Section 3.1.2 of this DEIR) and re-evaluated all of the individual fisheries and aquatic resources impacts in the Water Forum EIR. Roseville's analysis found that current integrated CVP/SWP water supply operations modeling does not exist for several of the future projects/actions addressed above. Therefore, quantification of their effects on CVP/SWP operations under the

future cumulative conditions is not currently possible. Although the related future projects could have impacts on CVP/SWP operations and resulting system hydrology, these impacts remain unclear at this time; therefore, the future cumulative hydrologic conditions remain speculative at this time.

The Zone 40 WSMP EIR, FRWP EIR/EIS and Water Forum EIR addressed potential cumulative water supply-related impacts to fisheries and aquatic resources and relevant information for this assessment that were presented in these EIRs is incorporated by reference herein. Because the subject EIRs were not challenged in court, the certified documents constitute legally satisfactory analyses of all the issues addressed therein, including cumulative impacts (see Public Resources Code Section 21167.2). The following sections summarize the cumulative fisheries and aquatic resources impacts determined in the previous EIRs, and an assessment of potential cumulative impacts of SDCP/SRSP implementation.

4.7.3 SDCP/SRSP Cumulative Contribution to Groundwater Pumping Impacts on Fisheries and Aquatic Resources

The SDCP/SRSP would obtain its water through Zone 40. The Zone 40 WSMP EIR evaluated the additional groundwater pumping that could occur in southern Sacramento County to meet regional water demands projected to occur by 2030, and thus reflected the future cumulative conditions for potential impacts to fisheries resources in the Cosumnes River.

Groundwater modeling conducted for the Zone 40 WSMP EIR indicated that extensive historical groundwater pumping rates in South Sacramento County are the primary cause of long-term lowering of groundwater elevations to the point that streamflow in the Cosumnes River channel is no longer supported by groundwater for much of the year. As noted in Chapter 3, "Water Supply," of this Revised DEIR, the lower reaches of the Cosumnes River channel are dewatered for much of the year, resulting in adverse impacts to fisheries resources; in particular, the capability for providing suitable habitat conditions for fall-run Chinook salmon and steelhead has been reduced. The adverse impacts to fall-run Chinook salmon and steelhead are expected to be the same in the cumulative condition. Thus, the current and foreseeable future conditions for fisheries and aquatic resources in the lower Cosumnes River channel based on surface water flows for the related projects are considered a significant adverse cumulative impact.

Also noted in Chapter 3, "Water Supply," of this Revised DEIR, the refined SacIGSM modeling conducted for the Zone 40 WSMP FEIR confirmed that there would be no substantial changes in average groundwater levels at simulated locations near the river as a result of the additional groundwater pumping. Because of the hydraulic disconnection between the aquifer and the channel along much of the valley floor reach of the Cosumnes River channel, any project-related changes in groundwater levels would not result in direct losses or changes in surface flows in these already disconnected reaches. Moreover, average annual streamflows would increase slightly under the cumulative condition as a result of conjunctive use operations that result in reduced groundwater reliance during wet year types relative to the base condition, thus resulting in greater conservation of the groundwater supplies than would otherwise occur without conjunctive use. Additionally, SacIGSM modeling showed there would be minimal to no changes in average groundwater levels or river flows at locations near the river where hydraulic connections to the aquifer remain. Because the adverse hydrologic conditions have existed historically and because groundwater pumping, as assessed in the Zone 40 WSMP EIR, would result in minimal changes in average groundwater levels and not otherwise affect hydraulically disconnected reaches, SDCP/SRSP implementation would not result in a cumulatively considerable incremental contribution to the significant cumulative impact on fisheries and aquatic resources of the Cosumnes River.

4.7.4 SDCP/SRSP Cumulative Contribution to Surface Water Supply Impacts on Fisheries and Aquatic Resources

The assessment of cumulative impacts to regional fisheries and aquatic resources associated with surface water diversions from the Sacramento River, and resulting conclusions reached, differ in the FRWP EIR/EIS and Water Forum EIR documentation. The FRWP EIR/EIS assessment considered the incremental contribution of only SCWA's demand, whereas the Water Forum EIR assessed the contribution of demands for all Water Forum purveyors. The FRWP EIR/EIS found that SCWA's contribution to cumulative fisheries resources impacts would not be considerable. In contrast, the assessment of cumulative fisheries and aquatic resources in the Water Forum EIR identified the following contributions to significant cumulative impacts, which represents the impacts that would occur as a result of cumulative development in the region:

- Habitat availability for Folsom Reservoir's warm water fisheries.
- Flow and temperature-related impacts to Lower American River fall-run Chinook salmon (including associated impacts on SRA habitat).
- Flow and temperature-related impacts to Lower American River splittail (including associated impacts on SRA habitat).
- Habitat availability for Shasta and Trinity Reservoirs' warmwater fisheries.
- Temperature-related impacts to Sacramento River salmonid fishery resources (i.e., fall-, late fall-, winter-, and spring-run Chinook salmon).
- Habitat availability for Delta fish populations. (Note: the Delta species potentially affected by the project-related contribution to shifts in the X2 salinity position in the western Delta were not specified in the Water Forum EIR. However, the X2 standard was primarily established for Delta resident pelagic organisms of primary management concern such as Delta smelt, longfin smelt, and striped bass.)

While mitigation measures were developed in the Water Forum EIR for these cumulatively considerable impacts, the potential impacts were found to remain significant and unavoidable after all feasible mitigation measures would be applied because of uncertainty regarding future hydrologic and resource conditions, and uncertainty regarding implementation of mitigation. Reclamation and the Water Forum purveyors have been implementing the adopted mitigation measures including, but not limited to, improved reservoir cold water pool management procedures, use of temperature control devices, and development of a Lower American River flow standard, and thus have reduced the uncertainty regarding mitigation implementation. However, as noted above, there is considerable uncertainty regarding future hydrologic and fisheries resources conditions. Therefore, for the purposes of this analysis, the City assumes that with respect to the changed hydrological and water supply conditions, the future cumulative fisheries resources conditions identified for the related projects in the Water Forum EIR are considered to remain significant.

The SDCP-SRSP water demand of approximately 15,844 afy and deliveries of surface water that would be derived from SCWA's Freeport diversion, would have little measureable impact to the overall cumulative impacts assessed in the Water Forum EIR that were determined to potentially result from meeting water demands up to approximately 380,000 afy. Even so, the City conservatively assumes herein that the SDCP/SRSP's incremental contributions to the cumulatively significant impacts in the bulleted list above are themselves cumulatively considerable and thus significant. Thus, although the Water Forum EIR found no project-specific effects on Delta fish populations or on late fall-, winter-, and spring-run Chinook salmon, that document did find that the Water Forum would cause cumulatively considerable incremental contributions to significant cumulative effects to these species. The City reaches these same conclusions with respect to the amount of water needed to serve the SDCP/SRSP. Based on the assessment above, moreover, the contribution of SDCP/SRSP water supply operations

to future cumulative impacts to longfin smelt is similarly considered to be cumulatively considerable. However, it should be noted that while the requirements of the USFWS and NMFS Biological Opinions for OCAP have not been fully integrated into CVP/SWP operations, the respective RPAs are designed to prevent the extinction and aid recovery of special-status fish populations in the Delta and upper watersheds. Therefore, it is expected that the future cumulative conditions for fisheries populations and habitat for these species would be improved relative to the current baseline condition, though the uncertainties created by recent decisions by Judge Wanger make it impossible to predict whether all of the RPAs revealed in the two Biological Opinions will ever be implemented in their original forms.

As noted above, the previous environmental documents (i.e., FRWP EIR/EIS and Water Forum EIR) do not identify or address the potential future cumulative conditions for North American green sturgeon. Based on the species' relatively recent designation as threatened under the ESA, and uncertainties regarding the implementation of RPA actions under the USFWS OCAP BO to facilitate recovery of the species, the City conservatively assumes for the purpose of this assessment that stressors to the species may remain in the future, resulting in a significant adverse cumulative condition related to North American green sturgeon.

The Water Forum EIR identified that the project-specific mitigation measures developed to reduce impacts to warmwater fisheries in Folsom Reservoir and fall-run Chinook salmon and splittail in the lower American River would also serve to lessen or mitigate for the contribution to future cumulative impacts. However, unless additional water supplies were to be developed, diversions reduced, or measures were implemented to reduce the impacts of water supply operations, there would still be remaining significant cumulative impacts to regional fisheries resources. The primary responsibility to address the regional fisheries conditions lies with federal and state agencies with jurisdiction over the affected resources, such as USFWS, NMFS, and DFG. The Water Forum EIR identified that the number and range of potential policy decisions and actions to reduce adverse impacts to fisheries and aquatic resources are considerable, and it is not feasible to predict which measures could and should be implemented. Decision-making about system water resource management policies, programs, and mitigation actions is ongoing through Reclamation's implementation of the Central Valley Improvement Project Act, coordinated CVP/SWP operations under OCAP, implementation of the USFWS and NMFS Biological Opinions, actions ultimately undertaken for the BDCP, and other related efforts. These decisions and actions are beyond the control of the Water Forum organization, any single Water Forum participant, the City, or the SDCP/SRSP project applicants. Therefore, the City finds that mitigation measures to reduce these regional impacts are in the responsibility and jurisdiction of other agencies. The development of specific mitigation measures as part of this EIR also is not feasible given the current uncertainties regarding actions by responsible regulatory agencies.

5 CLIMATE CHANGE

5.1 AFFECTED ENVIRONMENT

5.1.1 THE PHYSICAL SCIENTIFIC BASIS OF CLIMATE CHANGE

Certain gases in the earth's atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface, and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth. Without the greenhouse effect, earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and high global warming potential (high-GWP) GHGs. High-GWP GHGs include ozone depleting substances (ODSs), chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and halons, in addition to their replacements, hydrofluorocarbons (HFCs). Other high-GWP GHGs include perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Anthropogenic (i.e., caused by humans) emissions of these GHGs leading to atmospheric levels in excess of natural ambient concentrations are responsible for intensifying the greenhouse effect and have led to a trend of unnatural warming of the earth's atmosphere and oceans, with corresponding effects on global circulation patterns and climate (United Nations Intergovernmental Panel on Climate Change [IPCC] 2007:665). Carbon dioxide emissions associated with fossil fuel combustion are the primary contributors to human-induced climate change (EPA 2010). Following CO_2, emissions of CH_4 and N_2O associated with human activities are the next largest contributors to climate change (IPCC 2007:135; U.S. Environmental Protection Agency [USEPA] 2010:ES-4–ES-10).

Climate change is a global problem because GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants (TACs), which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one year to several thousand years). GHGs persist in the atmosphere for a long enough time to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule depends on multiple variables and cannot be pinpointed, more CO_2 is currently emitted into the atmosphere than is sequestered. Carbon dioxide sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through photosynthesis and dissolution, respectively. These are two of the most common processes of CO_2 sequestration. Of the total annual human-caused CO_2 emissions, approximately 54% is sequestered through ocean uptake, northern hemisphere forest regrowth, and other terrestrial sinks within a year, whereas the remaining 46% of human-caused CO_2 emissions remain stored in the atmosphere (Seinfeld and Pandis 1998:1091).

Similarly, impacts of GHGs are borne globally, as opposed to localized air quality effects of criteria air pollutants and TACs. The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; suffice it to say, the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature, or to the global, local, or micro climate. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative. Therefore, they are analyzed as a cumulative impact in this chapter.

GREENHOUSE GAS EMISSION SOURCES

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the transportation, industrial/manufacturing, utility, residential, commercial and agricultural

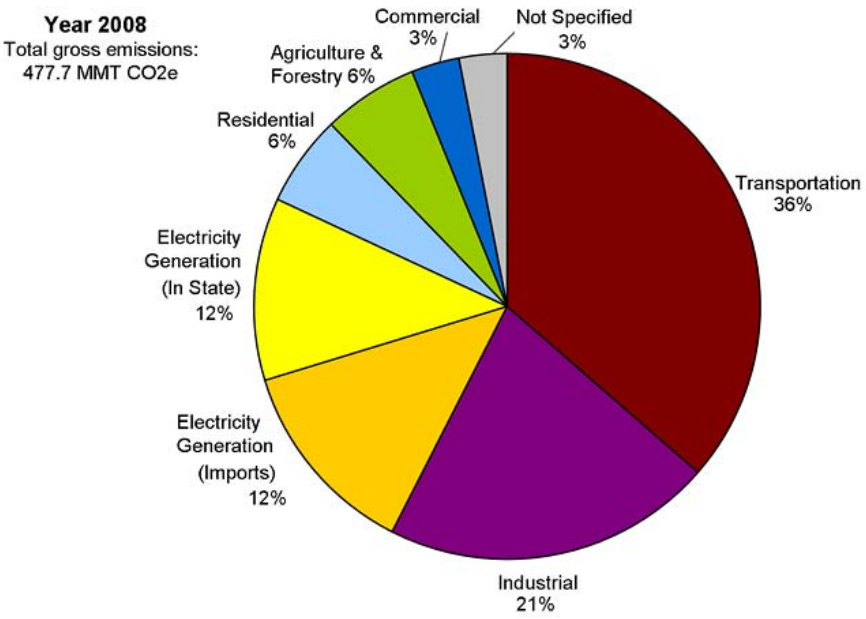
emissions sectors (California Air Resources Board [ARB] 2010). In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation (ARB 2010).

Emissions of CO_2 are byproducts of fossil fuel combustion. Methane, a highly potent GHG, results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. Nitrous oxide is also largely attributable to agricultural practices and soil management. Carbon dioxide sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution, respectively, two of the most common processes of CO_2 sequestration.

Land use decisions and development projects are not themselves GHG emissions sectors. In other words, land use development projects can generate GHG emissions from several sectors (e.g., transportation, electricity, and waste), as described in more detail below. Land use decisions and development projects can affect the generation of GHG emissions from multiple sectors that result from their implementation. Development projects can result in direct or indirect GHG emissions that would occur on- or off-site. For example, electricity consumed in structures within a project would indirectly cause GHGs to be emitted at a utility provider. The residents of and the visitors to a development project would drive vehicles that generate on-site GHG emissions, which are associated with the transportation sector. The following sections describe the major GHG emission sectors and their associated emissions at the state and local level.

STATE GREENHOUSE GAS EMISSIONS INVENTORY

As the second largest emitter of GHG emissions in the United States and twelfth to sixteenth largest in the world, California contributes a substantial quantity of GHGs to the atmosphere (California Energy Commission [CEC] 2006b:i). Emissions of CO_2 are byproducts of fossil-fuel combustion and are attributable in large part to human activities associated with transportation, industry/manufacturing, electricity and natural gas consumption, and agriculture (ARB 2010). In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation (ARB 2010) (see Exhibit 5-1, below).



Source: ARB 2010

2008 California GHG emissions by Sector (2000–2008 Emission Inventory) **Exhibit 5-1**

GHGs with lower emissions rates than CO_2 may still contribute to climate change because they are more effective at absorbing outgoing infrared radiation than CO_2. The concept of CO_2-equivalency (CO_2e) is used to account for the different potentials of GHGs to absorb infrared radiation. This potential, known as the global warming potential (GWP) of a GHG, is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

Emissions of CH_4 and N_2O are generally much lower than those of CO_2, and are associated with anaerobic microbial activity resulting from agricultural practices, flooded soils, and landfills. These two compounds, CH_4 and N_2O, have approximately 23 and 296 times the GWP of CO_2, respectively.

Local Inventory

A GHG emissions inventory was conducted for each incorporated city in Sacramento County, including the City of Rancho Cordova (City), and the unincorporated area of Sacramento County (County) for the year 2009 (Sacramento County 2009a). The City's communitywide GHG Emissions totaled approximately 557,943 metric tons of CO_2e in 2005, or about 4% of the GHG emissions generated in Sacramento County. On-road transportation emissions accounted for 45% of the City's GHG emissions, followed by 24% from commercial/industrial land uses, and 17% from residential uses (Sacramento County 2009a:7-3).

Sacramento County's communitywide GHG Emissions totaled approximately 13,938,537 metric tons of CO2e in 2005; on-road transportation emissions accounted for 48% of the County's GHG emissions, followed by 18% from residential land uses and 16% from commercial/industrial land uses (Sacramento County 2009a:ES-5).

5.1.2 CLIMATE CHANGE AND WATER SUPPLY/DEMAND

Several recent studies have shown that existing water supply systems are sensitive to climate change (Wood 1997). Potential impacts of climate change on water supply and availability could directly and indirectly affect a wide range of institutional, economic, and societal factors (Gleick 1997). Residential, industrial, and agricultural land uses all are affected by the cost and security of water supply. Much uncertainty remains, however, with respect to the overall impact of global climate change on future water supplies. For example, models that predict drier conditions (i.e., parallel climate model [PCM]) suggest decreased reservoir inflows and storage and decreased river flows, relative to current conditions. By comparison, models that predict wetter conditions (i.e., HadCM2) project increased reservoir inflows and storage, and increased river flows (Brekke et al. 2004). Both projections are equally probable based on which model is chosen for the analyses (Ibid.). Much uncertainty also exists with respect to how climate change will affect future demand on water supply (California Department of Water Resources [DWR] 2006). Still, changes in water supply are expected to occur and many regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in inflows (Kiparsky and Gleick 2005; see also Cayan et al. 2006).

Some work has been performed on the effects of climate change on specific groundwater basins or groundwater recharge characteristics (Kiparsky and Gleick 2005). Changes in rainfall and changes in the timing of the groundwater recharge season would result in changes in recharge. Warmer temperatures could lead to higher evaporation or shorter rainfall seasons, which could mean that soil deficits would persist for longer time periods, shortening recharge seasons. Warmer, wetter winters would increase the amount of runoff available for groundwater recharge. This additional winter runoff, however, would be occurring at a time when some basins, particularly in Northern California, are being recharged at their maximum capacity. Reductions in spring runoff and higher evapotranspiration, on the other hand, could reduce the amount of water available for recharge. However, the specific extent to which various meteorological conditions will change and the impact of that change on groundwater are both unknown. A reduced snowpack, coupled with increased rainfall, could require a change in the operating procedures for California's existing dams and conveyance facilities (Kiparsky and Gleick 2005).

DWR's *Progress on Incorporating Climate Change into Management of California's Water Resources, Technical Memorandum Report* (2006) focused on climate change impacts on Central Valley Project (CVP) and State Water Project (SWP) operations and on the Sacramento-San Joaquin Delta (Delta). The results of that analysis suggest several impacts of climate change on overall CVP and SWP operations and deliveries. In three of the four climate scenarios simulated, CVP reservoirs north of the Delta experienced shortages during droughts. DWR (2006) recommends that future studies examine operational changes that could avoid these shortages. At present, DWR concludes, it is not clear whether such operational changes would be insignificant or substantial. Changes in annual average CVP deliveries south of the Delta ranged from increases of about 2.5% for the wetter scenario to decreases of up to 10% for drier scenarios. Future studies will have to address how shortages north of the Delta could affect CVP deliveries south of the Delta. Carryover storage (i.e., water from one year stored into the next year) for the CVP was negatively affected in the drier scenarios and beneficially affected (slightly increased) in the wetter scenario.

The modeling conducted by Gleick and Chalecki (1999) on the Sacramento River Basin strongly suggests that annual levels of water moving through the Sacramento River watershed would increase. While annual volumes of water would increase, summer flows would decrease as a result of projected reductions in snowpack and earlier seasonal melting. Absent any intervention this would result in lower summer surface water flows and higher winter flows. Groundwater recharge may be adversely impacted by lower summer flows, without a commensurate increase because winter recharge rates are already at maximum. Upstream water management structures such as reservoirs could mitigate this by retaining greater winter flows to be released during the summer, thus making for a more constant level of surface water in the Sacramento. The need for adaptive changes in water management infrastructure use suggested by Gleick and Chalecki is confirmed by more recent research.

Tanaka et al. (2006) explored the ability of California's water supply system to adapt to long-term climatic and demographic changes using the California Value Integrated Network (CALVIN), a statewide economic-engineering optimization model of water supply management. The results show agricultural water users in the Central Valley are the most sensitive to climate change, particularly under the driest and warmest scenario (i.e., PCM 2100) predicting a 37% reduction of Central Valley agricultural water deliveries and a rise in Central Valley water scarcity costs by $1.7 billion. Although the results of the study are only preliminary, they suggest that California's water supply system appears "physically capable of adapting to significant changes in climate and population, albeit at a significant cost" (Tanaka et al. 2006). Such adaptation would entail changes in California's groundwater storage capacity, water transfers, and adoption of new technology.

VanRheenen et al. (2004) studied the potential effects of climate change on the hydrology and water resources of the Sacramento-San Joaquin River Basin using five PCM scenarios. The study concluded that most mitigation alternatives examined satisfied only 87 to 96% of environmental targets in the Sacramento system, and less than 80% in the San Joaquin system. Therefore, system infrastructure modifications and improvements could be necessary to accommodate the volumetric and temporal shifts in flows predicted to occur with future climates in the Sacramento-San Joaquin River Basins.

Zhu et al. (2005) studied climate warming impacts on water availability derived from modeled climate and warming streamflow estimates for six index California basins and distributed statewide temperature shift and precipitations changes for 12 climate scenarios. The index basins provide broad information for spatial estimates of the overall response of California's water supply and the potential range of impacts. The results identify a statewide trend of increased winter and spring runoff and decreased summer runoff, as previously indicated by Gleick and Chalecki (1999). Approximate changes in water availability are estimated for each scenario, though without operations modeling. Even most scenarios with increased precipitation result in a decrease in available water. This result is due to the inability of current storage systems to catch increased winter streamflow to offset reduced summer runoff.

Medellin et al. (2006) used the CALVIN model under a high emissions "worst case" scenario, called a dry-warming scenario. The study found that climate change would reduce water deliveries by 17% in 2050.

The reduction in deliveries was not equally distributed, however, between urban and agricultural areas. Agricultural areas would see their water deliveries drop by 24% while urban areas would only see a reduction of 1%. There was also a geographic difference: urban scarcity was almost absent outside of southern California.

In 2003, CEC's Public Interest Energy Research (PIER) program established the California Climate Change Center (CCCC) to conduct climate change research relevant to the state. Executive Order S-3-05 called for the California Environmental Protection Agency (CalEPA) to prepare biennial science reports on the potential impact of continued climate change on certain sectors of California's economy. CalEPA entrusted PIER and its CCCC to lead this effort. The climate change analysis contained in its first biennial science report concluded that major changes in water management and allocation systems could be required in order to adapt to the change. As less winter precipitation falls as snow, and more as rain, water managers would have to balance the need to construct reservoirs for water supply with the need to maintain reservoir storage for winter flood control. Additional storage could be developed, but at high environmental and economic costs.

Lund et al. (2003) examined the effects of a range of climate warming estimates on the long-term performance and management of California's water system. The study estimated changes in California's water availability, including effects of forecasted changes in 2100 urban and agricultural water demands using a modified version of the CALVIN model. The main conclusions are summarized below.

- A broad range of climate warming scenarios show significant increase in wet season flows and significant decreases in spring snowmelt. The magnitude of climate change effects on water supplies is comparable to water demand increases from population growth in 21st century.

- California's water system would be able to adapt to the severe population growth and climate change modeled. This adaptation would be costly, but it would not threaten the fundamental prosperity of the state, although it could have major impacts on the agricultural sector. The water management costs represent only a small proportion of California's current economy.

- Under the driest climate warming scenarios, Central Valley agricultural users could be especially vulnerable to climate change. Wetter hydrologies could increase water availability for these users. The agricultural community would not be compensated for much of its loss under the dry scenario. The balance of climate change effects on agricultural yield and water use is unclear. While higher temperatures could increase evapotranspiration, longer growing seasons and higher carbon dioxide concentrations could increase crop yield.

- Population growth is expected to be more problematic than climate change in Southern California. Population growth, conveyance limits on imports, and high economic value of water in Southern California, could lead to high use of wastewater reuse and substantial use of seawater desalination along the coast. Due to the integrated nature of water management and competition for water resources this could impact water supply in the Sacramento region.

- Under some wet warming climate scenarios, flooding problems could be substantial. In certain cases, major expansions of downstream floodways and alterations in floodplain land use could become desirable.

California's water system could economically adapt to all the climate warming scenarios examined in the study. New technologies for water supply, treatment, and water use efficiency, implementation of water transfers and conjunctive use, coordinated operation of reservoirs, improved flow forecasting, and the cooperation of local regional, state and Federal government can help California adapt to population growth and global climate change. However, if these strategies are implemented, the costs of water management are expected to be high and there is likely to be less "slack" in the system compared to current operations and expectations.

5.2 REGULATORY FRAMEWORK

5.2.1 FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

UNITED STATES SUPREME COURT RULING

The EPA is the federal agency responsible for implementing the Federal Clean Air Act (CAA). The Supreme Court of the United States ruled on April 2, 2007 in *Massachusetts v. Environmental Protection Agency* (549 U.S. 497) that CO_2 is an air pollutant as defined under the CAA, and that EPA has the authority to regulate emissions of GHGs. However, as of June 2010, there are no federal regulations or policies regarding GHG emissions applicable to the Sunrise Douglas Community Plan/SunRidge Specific Plan (SDCP/SRSP).

ENVIRONMENTAL PROTECTION AGENCY: MANDATORY GREENHOUSE GAS REPORTING RULE

EPA has taken actions to regulate, monitor, and potentially reduce GHG emissions. On October 30, 2009., EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States (40 CFR Part 98, Docket ID No. EPA-HQ-OAR-2008-0508). Numerous technical corrections, clarifying, and other amendments were published in 2010. Generally, facilities and suppliers must begin collecting data and complying with all requirements of the rule starting on January 1, 2010. However, the rule contains some provisions for flexibility for the 2010 reporting year. These provisions mean that certain facilities or suppliers will not have to meet some of the requirements during part or all of 2010. The national reporting requirement will provide EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO_2 per year. Much of the data will be publicly available, will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial greenhouse gases along with vehicle and engine manufacturers will report at the corporate level. An estimated 85% of the total United States GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

5.2.2 STATE PLANS, POLICIES, REGULATIONS, AND LAWS

The California Air Resources Board (ARB) is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA), which was adopted in 1988. Various statewide and local initiatives to reduce the state's contribution to GHG emissions have raised awareness that, even though the various contributors to and consequences of global climate change are not yet fully understood, global climate change is under way, and there is a real potential for severe adverse environmental, social, and economic effects in the long term.

EXECUTIVE ORDER S-3-05

Executive Order S-3-05, which was signed by Governor Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total greenhouse gas emission targets. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80% below the 1990 level by 2050.

ASSEMBLY BILL 32, THE CALIFORNIA GLOBAL WARMING SOLUTIONS ACT OF 2006

In September 2006, Governor Arnold Schwarzenegger signed Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide

GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs ARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then ARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires that ARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state achieves the reductions in GHG emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

AB 32 CLIMATE CHANGE SCOPING PLAN

In December 2008, ARB adopted its Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 169 million metric tons (MMT) of CO_2e, or approximately 30% from the state's projected 2020 emission level of 596 MMT of CO_2e under a business-as-usual scenario (this is a reduction of 42 MMT CO_2e, or almost 10%, from 2002-2004 average emissions). The Scoping Plan also includes ARB-recommended GHG reductions for each emissions sector of the state's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO_2e),
- the Low-Carbon Fuel Standard (15.0 MMT CO_2e),
- energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO_2e), and
- a renewable portfolio standard for electricity production (21.3 MMT CO_2e).

ARB has not yet determined what amount of GHG reductions it recommends from local government operations; however, the Scoping Plan does state that land use planning and urban growth decisions will play an important role in the state's GHG reductions because local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions. (Meanwhile, ARB is also developing an additional protocol for community emissions.) ARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. The Scoping Plan states that the ultimate GHG reductions assigned to local government operations are to be determined; however, ARB recommends a greenhouse gas reduction goal for local governments of 15% below today's levels by 2020 to ensure that their municipal and community-wide emissions match the State's reduction target. (ARB 2008: ES-5,17.) With regard to land use planning, the Scoping Plan expects approximately 5.0 MMT CO_2e will be achieved associated with implementation of Senate Bill (SB) 375, which is discussed further below.

AB 32 Scoping Plan: Water-Related Measures

Approximately one-fifth of the electricity and one-third of the non-power plant natural gas consumed in the State are associated with water delivery, treatment, and use (ARB 2008:65).

Six greenhouse gas emissions reduction strategies measures were proposed for the water sector in the Scoping Plan, three of which target the reduction of energy requirements associated with providing reliable water supplies.

Table 5-1 Scoping Plan-Recommended Measures for Water ($MMTCO_2E$ in 2020)		
Measure Number	Measure Description	Reductions
W-1	Water Use Efficiency	1.4
W-2	Water Recycling	0.3
W-3	Water System Energy Efficiency	2.0
W-4	Reuse Urban Runoff	0.2
W-5	Increase Renewable Energy Production	0.9
W-6	Public Goods Charge	TBD

Notes: $MMTCO_2e$ = million metric tons of carbon dioxide equivalent.
Source: ARB 2008

Two measures are aimed at reducing the amount of non-renewable electricity associated with conveying and treating water. The final measure focuses on providing sustainable funding for implementing these actions. The greenhouse gas emissions reductions from these measures are indirectly realized through reduced energy requirements and are accounted for in the electricity and natural gas sector (ARB 2008:66).

In addition, a mechanism to make allowances available in a cap-and-trade program could be used to provide additional incentives for local governments, water suppliers, and third-party providers to bundle water and energy efficiency improvements. This type of allowance set-aside will be evaluated during the rulemaking for the cap-and trade program (ARB 2008:66).

ARB recommends a public goods charge for funding investments in water management actions that improve water and energy efficiency and reduce GHG emissions. The public goods charge on water could be collected on water bills and used to fund end-use water efficiency improvements, system-wide efficiency projects, water recycling, and other actions that improve water and energy efficiency, reduce GHG emissions, and improve water quality and supply reliability for customers (ARB 2008:66).

The greenhouse gas emission reductions from the water sector are not currently counted toward the 2020 goal. ARB anticipates that a portion of these reductions will be added to the identified reductions in the electricity sector and is working with the appropriate agencies to refine the electricity/water emissions inventory.

Under the ARB's recently proposed rulemaking to implement a cap-and-trade program, electrical utilities will be given allowances but will be required to sell those allowances and dedicate the revenue generated for the benefit of their ratepayers to help achieve AB 32 goals. (Proposed for inclusion at Title 17 of the California Code of Regulation, as sections 95800-96022, entitled "California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms.") The allocation of allowances within the electricity sector must still be developed, however. Staff has recommended that a set number of allowances be set aside each year for the electricity sector, starting with the 2012 allocation at 90% of 2008 electricity sector emissions and declining linearly to 85% of that value by 2020; 90% would be 89 MMT. The recommended 2012 allowance allocation to the electric sector is 97.7 MMT, declining to 83 MMT in 2020. (See ARB Draft Resolution 10-42, Appendix 1 [Staff Proposal for 15-day Changes to Address Electricity Sector Allowance Allocation].) The details of the final allocation system will be developed following additional comment, data review, and analysis.

EXECUTIVE ORDER S-1-07

Executive Order S-1-07, which was signed by Governor Schwarzenegger in 2007, proclaims that the transportation sector is the main source of GHG emissions in California, at over 40% of statewide emissions. It

establishes a goal that the carbon intensity of transportation fuels sold in California should be reduced by a minimum of 10% by 2020. This order also directed ARB to determine if this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early action measure after meeting the mandates in AB 32. ARB adopted the LCFS on April 23, 2009.

SENATE BILL 1368

SB 1368 is the companion bill of AB 32 and was signed by Governor Schwarzenegger in September 2006. SB 1368 requires the California Public Utilities Commission (PUC) to establish a greenhouse gas emission performance standard for baseload generation from investor owned utilities by February 1, 2007. The CEC must establish a similar standard for local publicly owned utilities by June 30, 2007. These standards cannot exceed the greenhouse gas emission rate from a baseload combined-cycle natural gas fired plant. The legislation further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the PUC and CEC.

SENATE BILLS 1078 AND 107 AND EXECUTIVE ORDER S-14-08

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20% of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008, Governor Schwarzenegger signed Executive Order S-14-08, which expands the state's Renewable Energy Standard to 33% renewable power by 2020.

SENATE BILL 375

Senate Bill 375 (SB 375, Steinberg, Statutes of 2008) enhances California's ability to reach its AB 32 goals by promoting good planning with the goal of more sustainable communities.

SB 375 requires ARB to develop regional greenhouse gas emission reduction targets for passenger vehicles. ARB is to establish targets for 2020 and 2035 for each region covered by one of the State's 18 metropolitan planning organizations (MPOs).

Each of California's MPOs then prepare a "sustainable communities strategy (SCS)" that demonstrates how the region will meet its greenhouse gas reduction target through integrated land use, housing and transportation planning. Once adopted by the MPO, the SCS will be incorporated into that region's federally enforceable regional transportation plan (RTP). ARB is also required to review each final SCS to determine whether it would, if implemented, achieve the greenhouse gas emission reduction target for its region. If the combination of measures in the SCS will not meet the region's target, the MPO must prepare a separate "alternative planning strategy (APS)" to meet the target. The APS is not a part of the RTP.

SB 375 also establishes incentives to encourage implementation of the SCS and APS. Developers can get relief from certain environmental review requirements under the California Environmental Quality Act (CEQA) if their new residential and mixed-use projects are consistent with a region's SCS (or APS) that meets the target.

The ARB released its staff report on proposed regional GHG reduction targets for passenger cars and light trucks as well as its CEQA Functional Equivalent Document on August 9, 2010, and adopted final targets on September 23, 2010.

5.2.3 REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

Sacramento Area Council of Governments (SACOG)

In May 2010, SACOG evaluated seven policy options, in concert with other large metropolitan planning organizations around the state involved in greenhouse gas target setting as required by SB 375.

The most basic option is the adopted Metropolitan Transportation Plan (MTP) for 2035 ("A Creative New Vision for Transportation in the Sacramento Region," adopted in 2008). The adopted MTP was the first long-range transportation plan which the region developed after the Blueprint process was complete. Six other options are being evaluated, each of which expands and enhances implementation of various policies over-and-above the adopted MTP. SACOG will consult with local agencies in the region as the SB 375 target-setting process progresses, and will evaluate the costs, cost-effectiveness, and implementation potential of the various MTP scenarios.

Sacramento County

Sacramento County's Board of Supervisors has approved the first phase of a climate action plan that will provide a framework for reducing GHG emissions. The first phase focuses on the County's overall strategy and goals for addressing climate change (Sacramento County 2009b). Key goals in the first phase include a reduction in vehicle miles traveled (VMT) per capita in the region; improving energy efficiency of all existing and new buildings; emphasizing water use efficiency as a way to reduce energy consumption; maximizing waste diversion, composting, and recycling through residential and commercial programs; and protecting important farmlands and open space from conversion and encroachment and maintaining connectivity of protected areas.

City of Rancho Cordova

The City of Rancho Cordova has not developed a climate action plan or similar GHG emissions reduction plan for GHG emission-generating activity in its jurisdiction. The City of Rancho Cordova's General Plan does not contain any goals or policies that specifically relate to climate change or GHGs (City of Rancho Cordova 2006a). However, there are many policies in the City General Plan that were adopted for other purposes, but have the co-benefit of reducing GHG emissions.

5.3 THRESHOLDS OF SIGNIFICANCE

Under AB 32 as well as legislative actions described above, the state of California has identified the effects of GHG emissions as an adverse environmental problem, and has defined GHG reduction goals to mitigate the effects of global climate change. While the emissions of one single project will not cause global climate change, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change.

The Office of Planning and Research (OPR) has provided amendments to the state CEQA Guidelines, including Appendix G, to address impacts of GHG emissions, as directed by Senate Bill 97 (2007). The proposed amendments were approved by the California Natural Resources Agency (CRNA) on December 30, 2009 and they became effective on March 18, 2010 (CRNA 2010). The amendments include the following additions to Appendix G of the CEQA Guidelines. An impact related to global climate change is considered significant if the project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or,

- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The City of Rancho Cordova has not adopted a Climate Action Plan with a numeric GHG emission level threshold for projects, nor has the Sacramento Metropolitan Air Quality Management District (SMAQMD) adopted significance thresholds or analysis methods for project- or plan-level GHG emissions.

For the purposes of this Revised DEIR, a sector-based GHG threshold of significance was calculated using the 2005 GHG emissions associated with water pumping, treatment, and distribution in the City. The 2005 GHG emissions were reduced by 15% to be consistent with the local government target of at least a 15% reduction in GHG levels by 2020 (ARB 2008:ES-5). The reduced baseline GHG emissions from water use were then divided by the projected service population of the City in 2020. The resulting GHG significance threshold is **0.0288 MT CO_2e/service population/year**. See Appendix A for detailed calculations.

5.4 ANALYSIS METHODOLOGY

The methodology used in this Revised DEIR to analyze the potential effect of the SDCP/SRSP long-term water supply on climate change includes a calculation of a 2030 GHG efficiency metric, which is CO_2e emissions associated with water demand/supply to the SDCP/SRSP divided by the service population of the SDCP/SRSP.

The SDCP/SRSP efficiency metric was based on current surface water electricity demand factors (because future numbers were unavailable) as well as a future CO_2 emission factor for local electricity use, from Sacramento Municipal Utility District (SMUD), the primary provider of electric service in Rancho Cordova. The estimate of annual operational water-related GHG emissions was obtained by multiplying future water demand (15,844 acre-feet per year of surface water and groundwater) by the average surface water electricity consumption factor for northern California (which includes pumping, treatment, and distribution) (CEC 2006c:22), and the GHG emission factor for electricity use in 2030 (Bartholomy, pers. comm., 2010). The annual emissions were reduced by 20% in the year 2030 per Citywide Recycled Distribution Ordinance (Resolution No. 11-2006) and General Plan Policies NR.5.1 and NR.5.2 and associated actions (20% reduction per capita on water consumption from 2006 conditions). Lastly, the reduced GHG emissions were divided by the service population of the SDCP/SRSP, in order to determine the annual estimated GHG emissions efficiency metric. See Appendix A for the detailed calculations.

The purpose of calculating a GHG efficiency metric associated with supplying long-term water to the SDCP/SRSP is to determine whether the efficiency metric would exceed the sector-based GHG threshold of significance (0.0288 MT CO_2e/service population/year) and potentially conflict with the State's ability to attain the goals identified in AB 32 and its associated Scoping Plan (i.e., reduction of statewide GHG emissions to 1990 levels by 2020).

The impacts of GHGs are borne globally, as opposed to locally. The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature, or to the global, local, or micro climate. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative. Therefore, they are analyzed as cumulative impacts in this chapter.

5.5 IMPACT ANALYSIS AND MITIGATION MEASURES

IMPACT 5-1: Generation of Greenhouse Gas Emissions Due to the SDCP/SRSP Long-Term Water Supply. *Project implementation would generate operation-related GHG emissions associated with energy consumption from surface and groundwater treatment and conveyance facilities. To a lesser extent, GHG emissions would also be associated with the construction of water conveyance facilities identified in the Zone 40 Water Supply Master Plan (i.e., the Vineyard Surface Water Treatment Plant, the North Service Area Pipeline Project, the North Vineyard Well Field, and the Sunrise Douglas 2*

water storage tanks) required to convey water to the SDCP/SRSP. The annual estimated GHG emissions efficiency metric associated with operation of water supply facilities to serve long-term water to SDCP/SRSP would be 0.0273 MT CO_2/service population/year. Because operation-related emissions from delivery of long-term water supplies to the SDCP/SRSP would be below the threshold of significance of 0.0288 MT CO_2e/service population/year, the project's water consumption-related GHG emissions would ***not result in a cumulatively considerable contribution*** *to global GHG emissions.*

Provision of water to the SDCP/SRSP would generate emissions of GHGs associated with energy consumption from pumping, treatment, conveyance, and distribution. To a lesser extent, GHG emissions would also be associated with the construction of water conveyance facilities identified in the Zone 40 Water Supply Master Plan (i.e., the Vineyard Surface Water Treatment Plant, the North Service Area Pipeline Project, the North Vineyard Well Field [NVWF], and Sunrise Douglas 2 water storage tanks) required to convey surface water to serve SDCP/SRSP. Due to the temporary nature of construction activities, construction of water supply infrastructure that would serve the SDCP/SRSP would generate a finite quantity of GHG emissions. This is opposed to operational emissions associated with provision of water to the SDCP/SRSP, which would occur over the lifetime of the project. Thus, construction would contribute GHG emissions to a lesser extent than operation of the water supply facilities to serve long-term water to SDCP/SRSP for which emissions occur annually over the lifetime of the project.

This estimate of GHG emissions is based on the provision of 15,844 acre-feet per year of water to SDCP/SRSP provided by Sacramento County Water Agency's (SCWA) Zone 40 through its conjunctive-use water supply system. As discussed in Chapter 3, "Water Supply," SCWA has existing secured surface-water supplies, groundwater, and recycled water and is currently pursuing purchase and transfer agreements (i.e., future planned water supplies). It is anticipated that the SDCP/SRSP's water supply would be provided by groundwater from the NVWF and surface water from the Sacramento River. Based on the SDCP/SRSP project being served by Zone 40's conjunctive-use water supply, the estimated long-term water-supply service-generated GHG emissions would be approximately 2,230 MT CO_2e/year, as shown in Table 5-2. After taking the 20% reduction for 2030 and dividing by the 2030 SDCP/SRSP service population, the annual estimated GHG emissions efficiency metric associated with operation of water supply facilities to serve long-term water to SDCP/SRSP was calculated to be 0.0273 MT CO_2/service population/year (see Table 5-2). This does not exceed the threshold of significance (0.0288 MT CO_2e/service population/year) (see Appendix A for detailed calculations).

Table 5-2
Summary of Modeled Greenhouse Gas (CO_2e) Emissions Associated with SDCP/SRSP Consumption of Zone 40 Conjunctive-Use Water

Source	CO_2e Emissions (metric tons/year)
Operational GHG Emissions	
Surface Water Conveyance	2,230
Total Annual GHG Emissions	2,230
20% Reduction in 2030	0.8 x 2,230 = 1,784
SDCP/SRSP 2030 Service Population	65,233
SDCP/SRSP 2030 GHG Efficiency Metric for Water Use	1,784/65,233 = **0.0273** MT CO_2e/service population/year
Water Supply-Based GHG Threshold of Significance	**0.0288** MT CO_2e/service population/year

Notes: CO_2e = carbon dioxide equivalent, GHG = greenhouse gas.
Refer to Appendix A for detailed assumptions and modeling output files.
Source: Data modeled by AECOM in 2010.

Although it is anticipated that the SDCP/SRSP's water supply would be provided by groundwater from the NVWF and surface water from the Sacramento River, SCWA exercises its discretion in operating the Zone 40 conjunctive water supplies and the potential exists for 100% of the SDCP/SRSP water supply to be provided by Zone 40 surface water. Therefore, it should be noted that if the SDCP/SRSP were served solely by Zone 40 surface waters, the estimated upper bound of long-term water-supply service-generated GHG emissions would be approximately 2,517 MT CO_2e/year.

Because operation-related emissions from delivery of long-term water to meet the SDCP/SRSP water demand would be below the GHG threshold of significance of 0.0288 MT CO_2e/service population/year, the SDCP/SRSP water consumption-related GHG emissions would **not result in a cumulatively considerable incremental contribution** to the cumulatively significant global impact of climate change.

Mitigation Measure: No mitigation measures are required.

IMPACT 5-2: Impacts of Climate Change on Long-Term Water Supply. *Project implementation would increase demand for water. Supplies of surface water and groundwater in California could be affected by global climate change. SCWA intends to continue pumping groundwater, has secured most of its surface-water rights, and is proceeding with development of several water-supply treatment and conveyance facilities; therefore, SCWA's water supplies are considered to have a high reliability of being delivered, even considering the potential impacts on California's water supplies that may be caused by global climate change. Therefore, the impact of climate change on the SDCP/SRSP's long-term water supply would not be a cumulatively considerable impact.*

The current state of the science of global climate change as related to water supply is presented above in Section 5.1, "Affected Environment." Based on the conclusions of current literature regarding California's ability to adapt to global climate change, it is reasonably expected that, over time, the state's water system would be modified to be able to handle the projected climate changes, even under dry and/or warm climate scenarios (DWR 2006). Coping with climate change effects on California's water supply could come at a considerable cost; however, based on a thorough investigation of the issue, it is reasonably expected that statewide implementation of some, if not several, of the wide variety of adaptation measures available to the state will likely enable California's water system to reliably meet future water demands.

The project's water demands would be met through the conjunctive use of surface-water and groundwater supplies identified in the Zone 40 Water Supply Master Plan (WSMP) or Zone 41 2005 Urban Water Management Plan (UWMP). Although the Zone 40 WSMP and Zone 41 2005 UWMP does not address the effects of global climate change on the project's water supply, the Zone 40 WSMP and Zone 41 2005 UWMP represent the best available information regarding the effects of single-dry, multiple-dry, and critically dry years on the project's water supply. For that reason, this analysis relies on the Zone 40 WSMP and Zone 41 2005 UWMP in addition to the climate change studies described in Section 5.1, "Affected Environment," above.

Zone 40 is located within the Central Basin (groundwater). Preliminary studies indicate that the Sacramento Valley would experience only a small decline in groundwater levels as a result of global climate change, which would likely have little to no effect on available groundwater supplies that can be pumped from the Central Basin. Groundwater may be used to supplement surface water supply to meet the needs of all Zone 40 water users, including the SDCP/SRSP, during multiple dry years; however, such future groundwater pumping is not likely to exceed sustainable yield. Moreover, as a signatory to the Water Forum Agreement (WFA), SCWA is committed to adhering to the long-term average sustainable yield of the Central Basin (i.e., 273,000 acre-feet per year [afy]) recommended in the Water Forum Agreement (WFA). Total groundwater pumping (i.e., urban and agricultural pumping) within the Central Basin is approximately 248,500 afy, of which approximately 59,700 afy is currently pumped within Zone 40 (agricultural demand, 21,900 afy; urban demand, 37,800 afy). In wet and normal water years, SCWA would divert surface water from the American and Sacramento Rivers, consistent with CVP surface-water entitlement contracts. The underlying groundwater basin would be replenished in wet years as a result of this

reliance on surface water. In dry and critically dry water years, SCWA's surface water could be reduced based on recommended dry-year cutback volumes outlined in the WFA.

The Sacramento County Integrated Groundwater Surface Water Model (IGSM) modeling evaluated projected groundwater pumping by SCWA and all water users within the groundwater basin, including those for agriculture. The results of the groundwater model indicate that in 2030, approximately 74,000 afy of groundwater is expected to be pumped by SCWA and private urban and agricultural water users for use in Zone 40's 2030 Study Area. This volume, combined with other pumping in the Central Basin (including pumping for groundwater remediation), would be below the WFA sustainable-yield recommendation of 273,000 afy for all modeled scenarios that assume some level of reuse of remediated groundwater. Assuming such reuse, average groundwater levels in northern Zone 40 would increase by about 4 feet, while those in southern Zone 40 area would decrease by about 1 foot under the Zone 40 WSMP. Stabilized groundwater elevations at the Central Basin's cone of depression under the modeled scenarios would range from approximately 50 feet below mean sea level (msl) to 84 feet below msl, substantially higher than the WFA's projected level of 116–130 feet below msl. Groundwater pumping associated with the Zone 40 WSMP would not cause sustainable-yield recommendations to be exceeded. Therefore, groundwater levels at the Central Basin's cone of depression are projected to be higher than those determined to be acceptable to the Water Forum, and this impact was considered to be less than significant in the EIR for the Zone 40 WSMP (Impact 5.7-6).

California could potentially experience an increased number of single-dry, multiple-dry, and critically dry years as a result of global climate change. There is a great deal of uncertainty about impacts of climate change on future water availability in California, in terms of whether and where effects will occur and what the timing and severity of any such potential effect will be. This uncertainty makes it impossible to draw a meaningful conclusion about significance without substantial speculation. However, because of SCWA's extensive planning efforts in implementing the WFA, preparing the Zone 40 WSMP and Zone 41 2005 UWMP, and participating in the Central Sacramento County Groundwater Forum, SCWA has demonstrated that it has planned for both sufficient water supplies and the infrastructure necessary to meet Zone 40's buildout water demand through the year 2030. The projected Zone 40 demand is estimated to be 113,063 afy, including the water demand associated with the SDCP/SRSP. SCWA is a groundwater appropriator and intends to continue to extract groundwater to meet its customers' demands, within the limits of the negotiated sustainable yield of the Central Basin. SCWA has CVP surface-water contracts and is securing additional appropriative entitlements to surface water and wholesale water agreements that would allow SCWA to meet its projected 2030 water demands.

As described above, SCWA intends to continue pumping groundwater, has secured most of its surface-water rights, and is proceeding with development of several water-supply treatment and conveyance facilities; therefore, SCWA's water supplies are considered to have a high reliability of being delivered, even considering the potential impacts on California's water supplies that may be caused by global climate change.

Furthermore, the SDCP/SRSP water supply entitlements are unlikely to be affected by climate change because, as indicated by preliminary results from DWR (2006), impacts of climate change on water supply would be largely reflected in reduced exports south of the Delta, while existing Delta water-quality requirements would continue to be satisfied. It is therefore reasonable to consider that climate change may have relatively less effect on the SDCP/SRSP water supply because the project's supplies of surface water from SCWA are based on existing surface-water entitlements and contract entitlements for in-basin use above the Delta. Therefore, the impact of climate change on the reliability of water supply for the SDCP/SRSP project is considered to be **less than significant**.

Mitigation Measure: No mitigation measures are required.

5.6 RESIDUAL SIGNIFICANT IMPACTS

The SDCP/SRSP's long-term water supply and water consumption-related GHG emissions would not result in a cumulatively considerable contribution to GHG emissions and global climate change. Therefore, the SDCP/SRSP would not result in residual significant impacts related to GHG emissions and global climate change.

SCWA's water supplies are considered to have a high reliability of being delivered to the SDCP/SRSP project, even considering the potential impacts on California's water supplies that may be caused by global climate change.

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6 EXCELSIOR WELL FIELD (NORTH VINEYARD WELL FIELD) AND WATER TRANSMISSION PIPELINE PROJECT ENVIRONMENTAL ANALYSIS

(This chapter was prepared by the City of Rancho Cordova)

6.1 BACKGROUND AND STATEMENT OF PURPOSE AND NEED

This chapter provides reanalysis of the impacts and mitigation measures associated with the Excelsior Well Field (EWF) (also referred to as the North Vineyard Well Field [NVWF]) and Water Transmission Pipeline (WTP) Project (EWFWTPP) for wells 1–3 of the NVWF and the raw water transmission pipeline. The project (initially called the Sunridge Mather Water Supply Facilities Project) was proposed by SCWA in 2003 and consisted of the construction of major capital facilities for water production and conveyance initially to the SDCP/SRSP area, but to eventually be utilized for service for the overall SCWA Zone 40 area.

The Sacramento County Department of Environmental Review and Assessment (DERA) prepared an initial study and mitigated negative declaration (IS/MND) (SCH #2003082095) for SCWA, the CEQA lead agency for the EWFWTPP, in 2003 (Sacramento County 2003). According to that original IS/MND, project components initially included the NVWF wells 1–3, capable of producing water at a rate of approximately 3,600 acre-feet annually (afy), a 30-inch raw water transmission main that conveys raw water approximately 5 miles, the proposed Sunridge Mather Water Treatment Plant, three alternatives for treatment process generated waste water disposal, and a water transmission main to the Sunridge development area. The MND and Mitigation Monitoring and Reporting Program (MMRP) for the EWFWTPP were adopted on December 10, 2003, and the project was approved by SWCA under Resolution No. WA-2517.

Prior to project approval, SCWA had removed the WTP portion of the project due to the environmental sensitivity of the proposed location (near a vernal pool complex on the old Mather Air Force Base property) and changed the project name from Sunridge Mather Water Supply Facilities Project to the EWFWTPP. The Sunridge Mather Water Treatment Plant, a substitute water treatment plant located at a less sensitive location within the SRSP area, was addressed separately in the 2004 Anatolia Water Treatment Plant IS/MND (Sacramento County Control Number 03-PWE-0811) (Sacramento County 2004a). Mitigation measures included in the original IS/MND involving the Sunridge Mather Water Treatment Plant were also deleted from the approved MND for the EWFWTPP.

NVWF wells 1–3 and the raw water transmission pipeline were constructed in 2004 and 2005 and are currently in operation. See Exhibit 2-5 of the EIR for well facilities and pipeline locations. DERA conducted the mitigation monitoring for SCWA to ensure compliance with adopted MMRP for project construction between January 2004 and March 2005.

The EWFWTPP IS/MND relied in part upon the analysis of the NVWF in the SDCP/SRSP EIR (specifically the revised recirculated DEIR), which was prepared by the County and certified in 2001, but which was invalidated by the decision of the California Supreme Court in *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412. After the certification of the SDCP/SRSP EIR in 2001, but before the Supreme Court's decision in 2007, DERA prepared, and SCWA approved, the IS/MND for the EWFWTPP, as noted above. The IS/MND for the EWFWTPP was the subject of a petition for writ of mandate filed by the same litigants in Sacramento County Superior Court (*Vineyard Area Citizens for Responsible Growth, et al., v. Sacramento County Water Agency, et al*. [Case No. 04CS00031]). The litigation challenging the MND was abated by stipulation of the parties while a final resolution in the SDCP/SRSP EIR litigation was pending. Because the SDCP/SRSP EIR was invalidated, the abated litigation over the EWFWTPP MND was revived, even though by that time the facilities analyzed in the latter document had been constructed and were fully operational. SCWA opted to work as a responsible agency with the City of Rancho Cordova while the latter modified the SDCP/SRSP

EIR to comply with the directives of the California Supreme Court. Because of this background as well as the fact that the two projects are closely related, the City has included the following reanalysis of the EWFWTPP facilities in this Revised DEIR for the SDCP/SRSP. If and when the Rancho Cordova City Council has certified this new EIR and has taken actions to reapprove the SDCP and SRSP, the Board of Directors of SCWA, acting as a responsible agency under CEQA, may initiate proceedings to consider re-approval of the EWFWTPP based on this EIR.

As discussed in Chapter 1, "Introduction," of this document, SCWA is a responsible agency for the SDCP/SRSP project. Therefore, SCWA has discretionary authority over aspects of the project (involving water supplies and facilities) (California Public Resources Code Section 21069) and SCWA will review this Revised DEIR, comment as necessary, and use this CEQA document when making decisions related to the SDCP/SRSP project as well as the EWFWTPP.

6.2 AFFECTED ENVIRONMENT

Land uses surrounding the EWFWTPP facilities consist of open space and recreational uses to the north and northeast, residential housing to the northwest, and undeveloped land to the west. Land immediately to the south of the NVWF is owned by the Sacramento Rendering Company and is designated as Extensive Industrial by the Sacramento County General Plan. The original WTP site is owned by the County of Sacramento and is designated as Recreation. The NVWF is designated as General Agriculture (AG-20). The zoning of these areas is Industrial (M-1), Special Planning Area (SPA), and Agriculture (AG-160) respectively.

The NVWF consists primarily of an open and mostly treeless landscape composed of annual grasses and broad-leafed herbaceous species. The surrounding area is also comprised primarily of annual grassland habitat, which contains wetland resources. Several tributaries of Morrison Creek traverse the areas adjacent to the EWFWTPP facilities. The pipeline route contains approximately 70 wetlands, vernal pools and seasonal marshes. The proposed pipeline route also crosses several tributaries of Elder Creek and Morrison Creek. Pipelines crossing the tributaries were bored and jacked to avoid impacting the waterways.

The pipeline route along a portion of Kiefer Boulevard from Excelsior Road to Eagles Nest Road is unpaved. Along that portion of Kiefer Boulevard, there are eight (8) vernal pools and two (2) Morrison Creek tributary crossings. Seven out of the eight vernal pools along the unpaved portion of Kiefer Boulevard are located directly in the roadway and appear to be degraded due to vehicle traffic, previous grading and stockpiled debris. One vernal pool located approximately 15 feet north of the pipeline route at station 165+90 of the Excelsior Pipeline Project does not appear to be degraded.

The MND identified that the following special-status wildlife species could occur in the project area (based on the Wetland Research Associates analysis supporting the MND):

- American badger (*Taxidea taxus*) – Identified on the "special animal" list maintained by California Department of Fish and Game (CDFG).
- Western spadefoot toad (*Scaphiopu hammondii*) – Identified as a U.S. Fish and Wildlife (USFWS) Species of Special Concern and a CDFG Species of Special Concern.
- White-tailed kite (*Elanus caeruleus*) – Identified as a CDFG Species of Special Concern and a California fully protected species.
- Northern harrier (*Circus cyaneus*) – Identified as a CDFG Species of Special Concern.
- Swainson's hawk (*Buteo swainsoni*) – Identified as a state listed "threatened" species under the California Endangered Species Act.

- Western burrowing owl (*Athene cunicularia hypugea*) – Identified as a USFWS Species of Special Concern and a CDFG Species of Special Concern.
- Golden eagle (*Aquila chrysaetos*) – Identified as a CDFG Species of Special Concern and a California fully protected species.
- Short-eared owl (*Asio flammeus*) – Identified as a CDFG Species of Special Concern.
- Loggerhead shrike (*Lanius ludovicianus*) – Identified as a USFWS Species of Special Concern and a CDFG Species of Special Concern.
- Tricolored blackbird (*Agelaius tricolor*) – Identified as a USFWS Species of Special Concern and a CDFG Species of Special Concern.
- Grasshopper sparrow (*Ammadramus savannarum*) – Identified as a USFWS Species of Special Concern
- Vernal pool fairy and tadpole shrimp (*Branchinecta lynchi* and *Lepidurus packardi*) – Identified as federally listed "threatened" and "endangered" species under the Federal Endangered Species Act.

Chapter 3, "Water Supply," of this Revised DEIR provides information on updated conditions for water supplies, including groundwater conditions.

6.3 REGULATORY FRAMEWORK

6.3.1 FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

FEDERAL ENDANGERED SPECIES ACT OF 1973

Section 3 of the Federal Endangered Species Act (FESA) defines an endangered species as any species or subspecies "in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as any species or subspecies of fish, wildlife, or plants "likely to become an endangered species within the unforeseeable future throughout all or a significant portion of its range." Threatened or endangered species and their critical habitat are designated through publication of a final rule in the Federal Register. Designated endangered and threatened animal species are fully protected from "take" unless an applicant has an incidental take permit issued by the USFWS under Section 10 or incidental take statement issued under Section 7 of the FESA. A take is defined as the killing, capturing, harming, or harassing of a species. Proposed endangered or threatened species or proposed critical habitats are those for which a proposed regulation, but not final rule, has been published in the Federal Register.

Section 7 of the FESA requires that federal agencies ensure that their actions are not likely to jeopardize the continued existence of a listed species or destroy or adversely modify the associated designated critical habitat. This obligation requires federal agencies to consult (formally or informally) with the USFWS on any actions that may affect listed species (including approving or authorizing Federal projects, allocating federal funding for federal or private projects, or issuing permits for private projects). If it is determined that the federal action will adversely affect federally listed species or associated critical habitat, the USFWS will issue a Biological Opinion (either a "no jeopardy" or a "jeopardy" opinion) indicating whether the proposed agency action will likely jeopardize the continued existence of a listed species or result in the destruction of modification of its critical habitat. A no jeopardy Biological Opinion also provides an incidental take statement that identifies the anticipated amount or extent of incidental take that will occur as a result of the proposed action or an action modified by reasonable and prudent measures.

Section 10 incidental take permits provide incidental take coverage for non-federal projects or actions. Issuance of a Section 10 incidental take permit may require the applicant to prepare a Habitat Conservation Plan (HCP) that specifies the measures that will be implemented to minimize and mitigate impacts from incidental take. Federally-listed plants occurring on private land with no other federal jurisdiction are not subject to the Section 9 take provisions. Section 10 (a)(1)(B), however, ensures that the actions of an approved HCP will not lead to jeopardy of any federally listed species.

MIGRATORY BIRD TREATY ACT OF 1918

The Migratory Bird Treaty Act makes it unlawful to "take" (kill, harm, harass, etc.) any migratory bird listed in 50 CFR 10, including their nests, eggs, or products. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, and many other species.

SECTION 404 OF THE CLEAN WATER ACT OF 1977

The U.S. Army Corps of Engineers (Corps) regulates discharge of dredged or fill material into waters of the United States under Section 404 of the Clean Water Act (CWA). "Discharges of fill material" is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)]. Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows.

SECTION 401 OF THE CLEAN WATER ACT OF 1977

Sections 401 of the Clean Water Act requires any applicant for a federal license or permit to obtain a certification that any discharge into waters of the US will comply with the applicable effluent limitations and water quality standards if the permit or license action may result in a discharge of a pollutant into waters of the United States. The appropriate Regional Water Quality Control Board (in California) regulates section 401 requirements.

6.3.2 STATE PLANS, POLICIES, REGULATIONS, AND LAWS

STATE

California Endangered Species Act

The California Endangered Species Act (CESA) establishes that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats. Plant and animal species may be formally designated as rare, threatened, or endangered through official listing by the California Fish and Game Commission.

Incidental Take Permits are required from the CDFG for projects that may result in the incidental take of species listed by the State of California as endangered, threatened, or candidate species. The permits require that impacts to protected species be minimized to the fullest extent possible.

California Fish and Game Code Sections 1600-1607

State and local public agencies are subject to Section 1602 of the California Fish and Game Code, which governs construction activities that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the CDFG. Under Section 1602, a discretionary Stream Alteration Agreement permit from the CDFG (Region 2 for the proposed Project) must be issued by the

CDFG to the project developer prior to the initiation of construction activities within lands under CDFG jurisdiction.

California Fish and Game Code Sections 3503, 3503.5, 3800

These sections of the Fish and Game Code prohibit the take, possession, or destruction of birds, including their nests and eggs. Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered a "take."

6.3.3 REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS

SACRAMENTO COUNTY GENERAL PLAN

The Sacramento County General Plan is used as the "blueprint" to guide future development in unincorporated portions of the County; it will continue to be the blueprint for those sections of the Planning Area that are outside the current city limits, unless and until such areas are annexed into the City, sometime during the planning horizon of the proposed General Plan. The Sacramento County General Plan Land Use Map was created to form an efficient community, focusing on the elimination of low density, auto-dependent land use patterns. The map's intention was to concentrate growth in specific areas to preserve open space, and to reduce air pollutant emissions, commute times, and vehicle miles traveled.

Sacramento County is required to maintain a supply of land within the Urban Policy Area (UPA) to accommodate urban activity and growth for the unincorporated areas, which includes the portion of the Planning Area located outside the existing city limits. The UPA is sub-area of the ultimate growth area - the Urban Services Boundary (USB) where the majority of growth is anticipated to occur and is designated for urbanized uses. The UPA encompasses those areas in the County, which are most likely to be developed during the current planning horizon of the County's General Plan (2010). The intent of the UPA is to provide a 20-year supply of developable land sufficient to accommodate projected growth.

The Conservation Element of the County's General Plan provides specific policies to protect natural resources within the County. Specific applicable policies provide for the conservation of stream corridors; wildlife, plant and fishery resources; native and landmark trees; and vernal pool, marsh and riparian wetland habitats.

Sacramento County is currently in the process of updating its General Plan (Sacramento County 2010). This will be the first update since it was last adopted in 1993. According to Sacramento County's website, "the General Plan update is necessary to plan for growth in the next planning cycle (2005–2030) as well as to address new emerging planning issues." The County General Plan Update will focus on an Open Space Vision Map to protect important open space that can serve multiple uses including habitat protection, and policies that will support the implementation of an adopted Habitat Conservation Plan including policies regarding preserving of resources and annexations.

PROPOSED SOUTH SACRAMENTO HABITAT CONSERVATION PLAN

The proposed South Sacramento County Habitat Conservation Plan (SSHCP), which is managed by the Sacramento County Planning and Community Development Department, is a long-term conservation plan that seeks strategies that allow commercial, residential, and other development, while balancing the needs of sensitive plant and animal species and the preservation of agricultural operations. The SSHCP is currently being developed by several public agencies and other interested stakeholders. The proposed geographic scope of the SSHCP includes approximately 340,000 acres in the unincorporated County area bounded by U.S. 50 to the north, the County line to the east and south; excluding the Delta, and Interstate 5 to the west.

The SSHCP is intended to consolidate environmental efforts to protect and enhance wetlands (primarily vernal pools) and upland habitats to provide ecologically viable conservation areas. The SSHCP will also minimize regulatory hurdles and streamline the development permit process for projects that are consistent with the HCP. The SSHCP will be an agreement between state/federal wildlife and wetland regulators (e.g., USFWS and the USACE) and the plan participants to allow land owners to engage in "incidental take" of listed species (i.e., destruction or degradation of habitat in connection with economic based activities) in return for conservation commitments of the plan participants. Funding for the SSHCP is expected to come from a per-acre fee levied on new developments to mitigate associated habitat impacts.

SACRAMENTO COUNTY SWAINSON'S HAWK ORDINANCE

The Sacramento County Swainson's Hawk Ordinance, Chapter 16.130 of Title 16 of the County Code, establishes certain requirements and guidelines for the mitigation of Swainson's hawk foraging habitat that may be impacted due to a project. The Ordinance applies only to projects of 5 acres or greater within the unincorporated area of the County that are not within an approved Habitat Conservation Plan area and have been determined through the CEQA process to result in a significant impact or significant cumulative impact to Swainson's hawk foraging habitat. The Ordinance establishes an in-lieu fee option for mitigation of projects that are 40 acres or less, but disallows use of the fee as mitigation for projects that are greater than 40 acres. The Ordinance specifies that the fee will be used for the specific acquisition of lands in the unincorporated area of the County outside the Urban Services Boundary, to be preserved in perpetuity as Swainson's hawk foraging habitat, and states that fees shall be established and periodically updated by resolution. The current fee amount for the County was broken down as follows: $16,000 per acre for land purchase, $2,375 per acre for operations and maintenance, and $500 per project for administrative processing. The alternative mitigation option established by the ordinance, which can be used by projects of any size, is the direct purchase (through fee title or easement) of land by the project applicant. Use of this option requires approval of the land acquisition by the County and payment of an operations and maintenance fee to the County. As stated in the Ordinance, the establishment of mitigation measures by the Ordinance does not preclude the approval of other measures that are determined to mitigate impacts to Swainson's hawk foraging habitat, nor does it expressly allow all projects to utilize mitigation options established within.

SACRAMENTO COUNTRY AND CITY OF RANCHO CORDOVA TREE ORDINANCE AND TREE PRESERVATION ORDINANCE

The Sacramento County Tree Ordinance, Chapter 19.04 of Title 19 of the County Code, establishes requirements for the planting and removal of public trees, and protection of public trees, as well as heritage and landmark trees. This Ordinance defines a heritage tree as: "a California oak tree growing on any land in Sacramento County, including privately owned land, with a trunk sixty inches or greater in girth measured four and one-half feet above the ground", and defines a landmark tree as "an especially prominent or stately tree on any land in Sacramento County, including privately owned land". This Ordinance calls for the Public Works Director to develop a Master Tree (planting) Plan for the County, and for project applicants to convey planting easements on private projects to the County. The manipulation of any public tree without a permit is prohibited, and special protection of landmark and heritage trees, specifically in relation to variance applications and road projects is required by this Ordinance.

The Sacramento County Tree Preservation Ordinance, Chapter 19.12 of Title 19, establishes requirements for the protection and removal of oak trees that do not fall within the scope of a discretionary project as well as guidelines for the protection and mitigation of trees that do fall within the scope of a discretionary project. This Ordinance requires protection of all native oak trees having a single trunk of 6" diameter at breast height (dbh, measured 4.5 feet above ground level) or greater, or with multiple trunks having an aggregate diameter of 10" dbh or greater. Removal of these trees must be authorized by an approving body as designated by the Ordinance, through a tree removal permitting process. Penalties, including stop work orders, monetary fines, and jail time are specified for violations of the Ordinance. In addition, this Ordinance allows the collection of a security deposit for

projects that may impact oak trees and may, therefore, require mitigation. This Ordinance also requires limitation of grading beneath oak trees and establishes mitigation for damage to oak trees during construction.

6.4 THRESHOLDS OF SIGNIFICANCE AND ANALYSIS

Based on Appendix G of the State CEQA Guidelines, construction and operation of EWFWTPP would have significant impacts if it would:

AGRICULTURAL RESOURCES:

1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.

2) Conflict with existing zoning for agricultural use, or a Williamson Act Contract.

3) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).

4) Result in the loss of forest land or conversion of forest land to non-forest use.

5) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

AIR QUALITY:

1) Conflict with or obstruct implementation of the applicable air quality plan;

2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project is non-attainment under applicable federal or state ambient air quality standards;

4) Expose sensitive receptors to substantial pollutant concentrations; or

5) Create objectionable odors affecting a substantial number of people.

BIOLOGICAL RESOURCES:

1) 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 CDFG or USFWS.

2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFG or USFWS.

3) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

4) 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.

5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

7) Reduce the number or restrict the range of an endangered, rare, or threatened plant or animal species.

8) Substantially reduce the habitat of a fish or wildlife species.

9) Cause a fish or wildlife population to drop below self-sustaining levels.

10) Threaten to eliminate a plant or animal community.

CULTURAL AND PALEONTOLOGICAL RESOURCES:

1) Cause a substantial adverse change in the significance of a historical resource as defined in Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.5, respectively;

2) Cause a substantial adverse change in the significance of an archaeological resource as defined in Public Resources Code Sections 21083.2 and 21084.1, and CEQA Guidelines Section 15064.5, respectively;

3) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature; or

4) Disturb any human remains, including those interred outside of formal cemeteries.

GEOLOGY AND SOILS:

1) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving:

    a. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42.

    b. Strong seismic ground shaking.

    c. Seismic-related ground failure, including liquefaction.

    d. Landslides.

2) Result in substantial soil erosion or the loss of topsoil.

3) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

4) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

5) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

GREENHOUSE GAS EMISSIONS:

1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

2) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

HAZARDS AND HAZARDOUS MATERIALS:

1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

2) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

3) Emit hazardous emissions, substances, or waste within one-quarter mile of an existing or proposed school.

4) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.

5) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area.

6) For a project within the vicinity of a private airstrip, result in a safety hazard for people residing in the project area.

7) Impair implementation of or physically interfere with an adopted emergency response plan.

8) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

HYDROLOGY AND WATER QUALITY:

1) Violate any water quality standards or waste discharge requirements.

2) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.

3) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

4) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

5) Otherwise substantially degrade water quality.

6) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary of Flood Insurance Rate Map or other flood hazard delineation map.

7) Place within a 100-year flood hazard area structures which would impede or redirect flood flows.

8) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

9) Inundation by seiche, tsunami, or mudflow.

LAND USE:

1) Physically divide an established community.

2) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

3) Conflict with any applicable habitat conservation plan or natural community conservation plan.

MINERAL RESOURCES:

1) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

2) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

NOISE:

1) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or of applicable standards of other agencies.

2) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

3) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

4) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

5) For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, exposure of people residing or working in the project area to excessive noise levels.

6) For a project within the vicinity of a private airstrip, exposure of people residing or working in the project area to excessive noise levels.

POPULATION/HOUSING:

1) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

2) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

3) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure).

PUBLIC SERVICES:

1) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:

   a) Fire protection.

   b) Police protection.

   c) Schools.

   d) Parks.

   e) Other public facilities.

RECREATION:

1) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration and the facility would occur or be accelerated.

2) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

TRAFFIC AND CIRCULATION:

1) 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); or

2) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways; or

3) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks; or

4) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or

5) Result in inadequate emergency access; or

6) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

UTILITIES:

1) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

2) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

3) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

4) Require new or expanded entitlements in order to have sufficient water supplies available to serve the project.

5) Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

6) Is not served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

7) Does not comply with federal, state, and local statutes and regulations related to solid waste.

VISUAL RESOURCES:

1) Have a substantial adverse effect on a scenic vista;

2) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;

3) Substantially degrade the existing visual character or quality of the site and its surroundings; or

4) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

ANALYSIS METHODOLOGY

This chapter provides an analysis of the environmental effects associated with the construction and operation of the EWFWTPP facilities based on review the project's IS/MND, review of the mitigation monitoring documentation completed by DERA, and subsequent field review by City of Rancho Cordova staff. While the NVWF and WTPP facilities currently exist and are operational, this analysis reanalyzes the conclusions of the IS/MND to determine if potential environmental impacts due to construction and operation of the EWFWTPP were adequately addressed. Therefore, the following impacts discuss what impacts occurred (due to construction) and if any impacts may continue to occur (due to operations).

The impacts associated with two resource areas are uniquely cumulative and have been best analyzed in Chapters 4 and 5 of this Revised DEIR: groundwater supply and aquatic resource impacts and greenhouse gas emissions. As required by the California Supreme Court in *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, Chapter 3 of this Revised DEIR provides the revised analysis of the

long-term water supply for the SDCP/SRSP. The EWFWTPP are part of the Zone 40 facilities that serve the SDCP/SRSP area. Therefore, the revised analysis of the potential environmental effects of the long-term water supply in Chapter 3 of this Revised DEIR encompasses and properly analyzes the potential impacts of the withdrawal of groundwater from NVWF wells 1-3. Chapter 4 of this Revised DEIR provides a discussion of the potential impacts of groundwater withdrawal from the NVWF, including wells 1-3, on Cosumnes River fisheries. Additionally, the analysis of climate change and greenhouse gas (GHG) emissions due to the SCWA Zone 40 conjunctive use water supply for SCDP/SRSP includes the emissions from the EWFWTPP. Therefore, this reanalysis of the EWFWTPP IS/MND refers to Chapters 3, "Water Supply," Chapter 4 "Fisheries and Aquatic Resources", and Chapter 5, "Climate Change," of this Revised DEIR for groundwater supply and aquatic resource impacts and GHG emissions and climate change impacts.

6.5 IMPACT ANALYSIS AND MITIGATION MEASURES

AGRICULTURAL RESOURCES

IMPACT 6.1 *Construction of the EWFWTPP did not convert or result in the loss of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, conflict with existing zoning for agricultural use or conflict with existing zoning for, or cause rezoning of, forest land, timberland or timberland zoned Timberland Production. Operation of the EWFWTPP would not result in any additional direct conversion of land, including agricultural land. Thus,* ***no impact*** *occurred nor would occur due to continued operations.*

The NVWF is located on Grazing Land and not Prime Farmland, Unique Farmland, or Farmland of Statewide or Local Importance (based on review of California Department of Conservation Important Farmland Mapping) and the pipeline is located within roadway right-of-way associated with Excelsior Road, Kiefer Boulevard and Sunrise Boulevard. Sacramento County does not contain any land zoned for forest land, timberland, or Timberland Production. Thus, no impact occurred due to construction of the EWFWTPP, nor would any further agricultural impacts occur due to continued operation of the facilities, as no additional land would be converted.

AIR QUALITY

IMPACT 6.2 *Construction and operation of the EWFWTPP had the potential to result in the generation of pollutants and toxic air contaminants during construction of the wells and water conveyance pipeline, as well as increases in long-term operational emissions. However, SCWA adopted and implemented Mitigation Measure B that mitigated this impact to* ***less than significant****.*

The MND states that Sacramento County is designated as serious non-attainment for the state and federal O_3 standard and PM_{10} standard. The MND concluded that the major source of emissions related to the proposed project as originally envisioned was associated with construction of the project (MND page IS-15). Temporary construction emissions resulted directly from grading and site preparation activities and indirectly from construction equipment emissions and construction worker commuting patterns. Construction-related air pollutant emissions were studied generally in the SDCP/SRSP EIR. Pollutant emissions from construction-related activities varied from day to day depending on the level of activity, the specific operations, and the prevailing weather. The MND does not quantify the emissions from the SDCP/SRSP EIR, but states that construction and operation would produce ROG, NO_X, CO and PM_{10} that could result in a significant impact.

The following mitigation measure addressing air quality was adopted by SCWA for the EWFWTPP:

B. SMAQMD has adopted the following mitigation measure, which would reduce project construction NOx emission to less-than-significant levels.

- **Reduce NO_X**. The project applicant or representative shall provide a plan for approval by SMAQMD demonstrating that the heavy-duty (>50 hp) off-road equipment used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average for NO_X of 85 lbs/day or less. This means that prior to project construction the project applicant will need to demonstrate a reduction of NO_X emissions during trenching, boring and grading activities. Reductions are necessary to reduce NO_X emissions to meet or fall below the SMAQMD threshold of 85 lbs/day. Provide Sacramento County DERA with a copy of the SMAQMD-approved plan. To reduce NO_X emissions to 85 lbs/day or less, the applicant may employ a several options approved by the SMAQMD. These options include:

  - Using Purinox fuel in lieu of diesel fuel;
  - Installing high-pressure injectors on all vehicles;
  - Using Caterpillar prechamber diesel engines or equivalent, together with proper maintenance and operation;
  - Using electric equipment;
  - Maintaining equipment according to manufacturers' specifications;
  - Restricting the idling of construction equipment to ten minutes;
  - Installing catalytic converters on gasoline-powered equipment; and
  - Using only diesel equipment or diesel vehicles with engines built in 1996 or later;
  - Retrofit all machinery with Alliance Lean-NO_X Catalysts to reduce NO_X emissions where feasible (based on information provided by SMAQMD, use of Alliance Lean-NO_X Catalysts is expected to result in NO_X reductions of 30% [Christensen, Peter. Associate Air Quality Planner. Sacramento Metropolitan Air Quality Management District, Sacramento, CA. April 25, 2002- email message to Phil Stafford, Sacramento Metropolitan Air Quality Management District.]);
  - Utilize SMAQMD's Community Bank – Priority Reserve Bank, as addressed in Rule 205 of the SMAQMD Rule Book, by participating in the credit transaction procedure to mitigate project related construction emissions;
  - Other measures that effectively mitigate NOx emissions, over the prescribed threshold that are mutually agreed upon by the Air District and the Sacramento Department of Water Resources.

- **Equipment Inventory.** In concert with the above requirement, the project applicant or representative shall submit to SMAQMD and the County of Sacramento, DERA, a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower that will be used during the construction project. The inventory shall include the horsepower rating, engine production year, estimated hours of use, and fuel type for each piece of equipment. At least 48 hours prior to the use of subject heavy-duty off-road equipment, the project applicant or representative shall provide SMAQMD and DERA with an anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman.

- **Opacity.** In concert with the above requirements, the project applicant or representative shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity shall be repaired immediately, and the County of Sacramento, DERA, and SMAQMD shall be notified within 48 hours of identification of non-compliant equipment. A visual inspection of all in-operation

equipment shall be made at least weekly by a California Air Resources Board certified technician, and a monthly summary of the visual survey results shall be submitted to DERA and SRCSD throughout the duration of the project, except for those months where no construction occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. Nothing in this section shall supersede other SMAQMD or state rules or regulations.

SCWA adopted the above mitigation measure and implemented it through the project's Mitigation Monitoring and Reporting Program (MMRP). Page 8 of the MMRP file states that the implementation of this mitigation measure was verified and included verbatim on improvement plans for the Excelsior Pipeline project. The MMRP file then cites an email from SMAQMD (Peter Christensen dated June 22, 2004) that approves of the equipment list for the pipeline project. The file then states that at the completion of well construction, observation of equipment in use during site visits indicates that the opacity limits were not exceeded. Therefore, this measure was complied with. Furthermore, there is no record of any complaints or violations of air quality standard during the project's operation in the MMRP file. Thus, no significant impacts related to air quality have occurred or are likely to occur with implementation of the above mitigation measure.

BIOLOGICAL RESOURCES

IMPACT 6.3 *The EWFWTPP does not affect the viability or the ability to prepare a management plan consistent with the Department of the Air Force November 21, 1994 Supplemental Record of Decision on the disposal and reuse of Mather AFB (SROD), and the conditions of the Biological Opinion/Incidental Take Statement for the Surface Water Contracts with SCWA, San Juan Water District, and City of Folsom. Furthermore, construction of the EWFWTPP did not result in direct or indirect loss of plant species identified by the California Native Plant Society with a rating of List 1B (i.e. rare, threatened or endangered plants).*

However, construction and operation of the EWFWTPP had the potential to result in direct and indirect loss of habitat and individuals of endangered, threatened, rare, proposed, and candidate status as well as animal and plant species of concern and other non-listed special status species. Foraging habitat for raptors, migratory birds, and other wildlife may also be lost, as well as native and landmark trees. The EWFWTPP has the potential to have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act through hydrological interruption. However, SCWA adopted and implemented Mitigation Measures C, D, E and F, as well as the mitigation measures titled "Burrowing Owl", "Nesting Raptors" and "Swainson's Hawk" that mitigated these potential impacts to ***less than significant****.*

WETLANDS

The pipeline route crosses several tributaries of Elder Creek and Morrison Creek. The portions of the pipeline crossing the tributaries were bored and jacked to avoid impacting the waterways (MND, page IS-17). The MND explained that the project as originally proposed would have required a Streambed Alteration Agreement ("1600 permit") from the California Department of Fish and Game (MND, p. IS-12) and a Section 404 permit under the federal Clean Water Act (MND, page IS-27), due to the potential impacts arising from the construction of an access road to the proposed water treatment plant facility. As noted above, that component of the project had been withdrawn from consideration by SCWA by the time of project approval. Therefore, the impacts would not occur and those permits were no longer necessary to mitigate the potential impacts.

Foothill and Associates conducted a wetland delineation for the pipeline route. The pipeline route contained approximately 70 wetlands, vernal pools, and seasonal marshes (MND, page IS-17). The pipeline route along a portion of Kiefer Boulevard from Excelsior Road to Eagles Nest Road was unpaved. Along that portion of Kiefer Boulevard, there were eight vernal pools. Seven out of the eight vernal pools along the unpaved portion of Kiefer Boulevard were located directly in the roadway and were degraded due to vehicle traffic, previous grading, and

stockpiled debris. One vernal pool located approximately 15 feet north of the pipeline route at station 165+90 of the Excelsior Pipeline Project did not appear to be degraded.

The MND proposed, and SCWA adopted, mitigation measures that ensured that any potential impacts to any of the creek tributaries along the pipeline route would be fully mitigated (See MND, pp. IS-31-IS-32). That mitigation provided that coordination with the Department of Transportation, US Army Corps of Engineers, and Department of Fish and Game was be required in order to obtain all necessary permits prior to the start of construction (MND, pages IS-28, 32). SCWA adopted the following mitigation measures and implemented them during construction.

C. *Wetlands*

1. *To avoid potential impacts to any of the wetland resources located along the proposed raw water pipeline along Excelsior Road or the proposed treated water pipeline along Sunrise Boulevard, the project applicant shall implement the following:*

    a) *Place protective orange mesh fencing and silt fencing along the length of all roadside wetland resources adjacent to construction site.*

2. *To reduce potential impacts to any of the wetland resources located along the proposed raw water pipeline or treated water pipeline along the unimproved portion of Kiefer Boulevard, the project applicant shall implement the following:*

    a *Bore and jack water lines beneath the wetlands at a depth sufficient to avoid perforation of the claypan,*

    Or:

    b) *Prior to construction of any pipeline or the proposed access road culvert, the project applicant shall obtain all applicable permits from the State Department of Fish and Game (CDFG) and the U.S. Army Corps of Engineers (USACOE) and shall pay to the County of Sacramento an amount based on a rate of $35,000 per acre if less than 1:1 replacement/compensation occurs through the Federal permitting process. Payment in the amount of $2,695.00 for compensation of 0.077 acres of wetland impacts affected by the pipeline construction. Payment shall be collected by the Department of Planning and Community Development and deposited in the County Wetlands Restoration Trust Fund. A copy of any/all required USACOE and DFG permits and verification of any required payment shall be submitted to the Department of Environmental Review and Assessment.*

3. *Prior to construction of the proposed access road and culvert, the project applicant shall obtain all applicable permits from the State Department of Fish and Game (CDFG) and the U.S. Army Corps of Engineers (USACOE) and shall pay to the County of Sacramento an amount based on a rate of $35,000.00 per acre if less than 1:1 replacement/compensation occurs through the Federal permitting process. Payment in the amount of $315.00 for compensation of 0.009 acres of wetlands affected by culvert (access) construction. Payment shall be collected by the Department of Planning and Community Development and deposited in the County Wetlands Restoration Trust Fund. A copy of any/all required USACOE and DFG permits and verification of any required payment shall be submitted to the Department of Environmental Review and Assessment. Therefore, this measure was complied with. No significant impacts related to wetlands occurred with implementation of the above mitigation measure.*

E. *Wetlands*

To prevent encroachment into the vernal pools and/or seasonal wetlands, buffers shall be established around all wetlands on site. Those vernal pools that contain special status species shall be protected by minimum 250-foot wide buffers. The buffers around wetlands that lack special status species shall not be less than 50 feet. All buffer areas shall be protected. Any reduction in buffer area shall be permitted only after consultation with the USFWS and/or California Department of Fish and Game (CDFG), as applicable. No structures, water wells, septic systems, landscaping or other disturbances shall occur within the wetland buffers. The operation of vehicles or equipment within the wetland buffers shall be strictly prohibited. The buffer areas shall not be used for any activities inconsistent with preservation of the wetlands or their watersheds.

Review of the MMRP for the project files show that these mitigation measures were implemented and were included verbatim on improvement plans for the project. The notes state that during site visits, appropriate silt fencing at all wetlands was observed, and that bore pits were at an appropriate depth under wetlands (or located outside of wetlands altogether.) Page 16 of the MMRP file states that site visits showed wetland buffers were established at the three well sites approximately 200, 200, and 80 feet from the nearest wetland areas respectively. Therefore, since these three buffers are over 50 feet, they are of an adequate width because these wetlands lacked special status species. A further site visit revealed that silt fencing remained in place and wetlands areas had not been adversely impacted by construction activity. Therefore, these measures were complied with. Furthermore, the continued operation of the project poses no further risk to the wetlands, as no further physical modifications to the environment in or near the wetlands are necessary. Therefore, no significant impacts related to wetlands occurred or will occur with implementation of the above mitigation measures.

SPECIAL STATUS SPECIES

The SDCP/SRSP EIR determined that potentially significant impacts to special status species could result from the construction of water supply facilities to serve the planning areas. The Board of Supervisors determined, however, that such impacts would be mitigated to a less-than-significant level by the implementation of mitigation measures requiring project-specific reviews under CEQA for potential impacts to burrowing owls, Swainson's hawks, other raptors, and sensitive habitat. (See Findings, pages 72-74.) The MND discloses that those project-specific surveys have, in fact, been performed (MND, page IS-18).

SCWA adopted the following mitigation measures and implemented them through the project's construction. It was concluded that implementation of the following mitigation measures would reduce special status species impacts to a less-than-significant level (MND, pages IS-19, 20, 21, 24).

Burrowing Owl

Prior to construction activity, focused surveys shall be conducted for burrowing owls. Surveys shall be conducted no less than 14 days and no more than 30 days prior to commencement of construction activities. Surveys shall be conducted in accordance with CDFG protocol.

Note: If no occupied burrows are found in the survey area, a letter report prepared by a qualified biologist documenting survey methods and findings shall be submitted to the County and CDFG for review and approval, and no further mitigation is necessary.

No occupied burrows shall be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist verifies through non-invasive methods that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

All occupied burrows shall be avoided until the owls inhabiting the burrows have been relocated using passive exclusion techniques approved by CDFG.

Review of MMRP files documents that no burrowing owls or owl burrows were observed on site. Included in the MMRP packet are burrowing owl survey results from biological consultants Foothill Associates, dated January 27, May 12, May 17, September 14, 2004, stating that no burrowing owls or active nests were observed on site.

Nesting Raptors

Should construction occur during the nesting season (March 1 to September 15), a raptor survey shall be conducted by a qualified biologist during the nesting season to identify active nests within 500 feet of the project area. The surveys shall be conducted ne less than 14 days and no more than 40 days prior to the beginning of construction.

Note: If no construction shall occur during the raptor nesting season, no further mitigation shall be necessary.

The MMRP files include a January 27, 2004 letter from Foothill Associates, identifying that some raptors were observed roosting on utility poles and in nearby trees, but no active nests were in the project area. Included in the MMRP files are nesting raptor survey results from Foothill Associates, dated January 27, May 13, May 14, May 17, and September 14, 2004. Also included in the file is email correspondence between DERA and the applicant between June 14 and June 18, 2004 giving permission to proceed with tree removal per approved plans during nesting season. While three potential active nests (two nests potentially white-tailed kite nests) were identified in May 13, 2004 surveys, no active nests were identified during the September 2004 survey. No trees were removed that contained active nests based on the survey results as documented in the MMRP files.

Swainson's Hawk

Should construction occur during the nesting season (March 1 to September 15), surveys shall be conducted for active Swainson's hawk nest sites within 0.25 miles of the proposed construction area. Surveys shall be conducted at the beginning of the nesting season (April 15–April 30). All identified nest sites shall be revisited during the post-hatching stage (June 1–June 30) to determine if the nest is still active and to record the number of juveniles present. A final nest site visit shall occur during the fledging period (July 1–July 30) to determine the number of juveniles that have fledged.

If an active nest exists within 0.25 miles of the construction site, the nest site shall be identified with a marker and mapped on a USGS topographic quad map. A visible exclusion zone shall be established around the portion of the construction area that occurs within 0.25 miles of the nest tree. No project construction activity shall commence within the exclusion zone between March 1 and September 15.

Note: If no active nest exists within 0.25 miles of the construction area during the nesting season, no further mitigation is necessary.

A mitigation measure related to foraging habitat for Swainson's hawk lost due to the construction of the WTP was included in the original MND, but was not included in the MMRP packet, since the WTP component was removed from the project before approval.

The MMRP files include a January 27, 2004 letter from Foothill Associates, saying that the letter states that some raptors were observed roosting on utility poles and in nearby trees, but no active nests were on site. Included in the MMRP files are Swainson's hawk survey results from Foothill Associates, dated January 27, May 13, May 14, May 17, and September 14, 2004. No Swainson's hawks were identified.

As shown in the above discussions, these measures were all complied with. No significant impacts related to special status species (including burrowing owls, nesting raptors, and Swainson's hawk) occurred with implementation of the above mitigation measures.

LANDMARK TREES

A portion of the raw water pipeline (improvement plans - station 210+00 to station 227+ 10) passes through a row of landmark eucalyptus trees on Kiefer Boulevard. While it is unknown when these trees were planted, the size of the largest specimens suggest an age of greater than 100 years. There are 49 trees lining Kiefer Boulevard at this location. The trees have diameters that range from 24" to 76" dbh. The trees provide a visual screen of the rendering plant to the south from residents north of the project site. The trees also provide visual relief to an otherwise nearly featureless area, and provide nesting habitat for raptors and other birds.

According to the MND, rerouting the pipeline outside the trees' root zone or boring this section of pipeline would reduce this impact to a less-than-significant level (MND, pages IS-26 and 27). Therefore, SCWA adopted the following mitigation measures and implemented them during project construction.

F. *Landmark Trees:*

1. *To avoid removal or impacts to the landmark Eucalyptus trees adjacent to the Sunridge Mather WTP site, the raw water pipeline and the treated water pipeline shall be either:*

    a) *Rerouted to be located outside of the tree root zone*

    Or:

    b) *Bored and jacked beneath the tree root zone*

2. *To avoid removal or impacts to the landmark Eucalyptus trees adjacent to the Sunridge Mather WTP site, the access road shall be relocated outside the tree root zone if necessary.*

Review of MMRP files shows that these mitigation measures were implemented and included verbatim on improvement plans for the project. The file also shows that revised improvement plans for the project have the pipeline located outside of the drip lines, and show that the route of the pipelines is consistent with the locations shown on the improvement plans. The MMRP packet includes a memo sent to River West Investments from a certified arborist at Foothill Associates dated February 2, 2004 regarding protection zones for on-site eucalyptus trees. The letter provides justification for the proposed tree protection zones, and states that the zones provide an adequate buffer from construction activities. Therefore, this measure was complied with. No significant impacts related landmark trees occurred with implementation of the above mitigation measure.

CULTURAL AND PALEONTOLOGICAL RESOURCES

IMPACT 6.4 *Implementation of the EWFWTPP might have resulted in the potential disturbance of previously undiscovered cultural or paleontological resources (i.e., prehistoric sites, historic sites, isolated artifacts and features, fossils and fossil formations) and human remains. However, SCWA adopted and implemented Mitigation Measure G that mitigated this impact to* ***less than significant****.*

The MND concluded that because prior consultation processes resulted in negative results for cultural resources, the project was unlikely to create significant adverse impacts on cultural resources (MND, page. IS-29). The MND concluded, however, that in the event that buried sites were discovered, compliance with the mitigation measure described below would ensure that potential impacts are reduced to a less-than-significant level.

The following mitigation measure addressing cultural and paleontological resources was adopted and implemented:

G. Should any cultural resources, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains be encountered during any development activities, work shall be suspended and the Department of Environmental Review and Assessment shall be immediately notified at (916) 874-7914. At that time, the Department of Environmental Review and Assessment will coordinate any necessary investigation of the find with appropriate specialists as needed. The project proponent shall be required to implement any mitigation deemed necessary for the protection of the cultural resources. In addition, pursuant to Section 5097.97 of the State Public Resources code and Section 7050.5 of the State Health and Safety Code, in the event of the discovery of human remains, all work is to stop and the County Coroner shall be immediately notified. If the remains are determined to be Native American, adhere to the guidelines of the Native American Heritage Commission in the treatment and disposition of the remains.

Review of the MMRP files identifies that this mitigation measure was implemented and included verbatim on improvement plans for the project. Further, it is stated in the MMRP files that no cultural resources were reported as being observed during construction activities. Therefore, this measure was complied with. No significant impacts related to cultural and paleontological resources occurred with implementation of the above mitigation measure, nor are any significant impacts likely to result from continued operation of the built project.

GEOLOGY AND SOILS

IMPACT 6.5 *The EWFWTPP is not located on land that is subject to substantial seismic ground shaking, rupture or landslides. It is not located on expansive soil or an unstable geologic unit that could impact the facilities. There the potential for substantial soil erosion during project construction. However, implementation of Best Management Practices (BMPs) in compliance with the Sacramento County Land Grading and Erosion Control Ordinance for construction addressed this impact resulting in a* ***less-than-significant*** *impact.*

Chapter 15.12 of the Sacramento County Stormwater Management and Discharge Control Ordinance states that the County of Sacramento is a co-permittee under the Waste Discharge Requirements for the County of Sacramento, which also serves as a National Pollutant Discharge Elimination System Permit (NPDES) under the Federal Clean Water Act (NODES No. CA0082597). As a co-permittee, the County is required to possess the necessary legal authority, and to implement appropriate procedures, to regulate the entry of pollutants and non-stormwater discharges into the County stormwater conveyance system.

Implementation of BMPs in compliance with the Sacramento County Land Grading and Erosion Control Ordinance for construction- and operational-related erosion minimizes pollutant effects within the project construction area and curbs grading and erosion-related impacts to water quality and adjacent residents. Erosion control measures include seeding, mulching, vegetative buffer strips, sod, plastic covering, burlap covering, water, and other actions that control movement of the ground surface or soil. Sediment control measures include dikes, sediment detention traps, sediment detention basins, filters, fences, barriers, swales, bergs, drains, check dams, and other measures that control the deposit of soil or earth material (MND, page IS-17.).

The Land Grading and Erosion Control Ordinance identifies the application of BMPs to help curb erosion, as specified in the Sacramento County Erosion and Sediment Control Guidelines (2000). The project used the BMPs outlined in the manual and were specifically noted in the construction plans for the project (based on review of the MMRP file). Given that the appropriate BMPs were applied, significant grading and erosion-related impacts to water quality and adjacent residents did not occur. Erosion impacts are considered less than significant (MND, page IS-17).

No mitigation measures were identified in the EWFWTPP IS/MND addressing geology or soils, and no geology and soils impacts occurred as a result of project implementation. Moreover, as the project's operation does not

involve any further ground disturbance or construction, no geology and soils impacts are considered likely to occur with continued operation of the project.

HAZARDS AND HAZARDOUS MATERIALS

IMPACT 6.6 *The EWFWTPP does not have the potential to create a significant hazard to the public and the environment given that the project does not involve the use of hazardous materials. The EWFWTPP is not located on a hazardous materials site or within an airport land use plan. It is within the vicinity of the Mather Airport, but does not result in a safety hazard for people residing in the project area. The EWFWTPP does not impair implementation of or physically interfere with an adopted emergency response plan or expose people or structures to wildland fires. Thus, no impact would occur.*

While the MND had evaluated potential hazards associated with the operation of the water treatment plant, that portion of the project was eliminated by SCWA prior to adoption of the MND and approval of the remainder of the project components. Thus, the project would not involve the use of hazardous materials. In addition, the well facilities and underground pipeline do not result in hazards to the operation of the Mather Airport or expose people or structures to wildland fire hazards. No hazard impacts would occur.

HYDROLOGY AND WATER QUALITY

IMPACT 6.7 *The EWFWTPP does not violate any water standards or waste discharge requirements or substantially alter the existing drainage pattern of the site or area. The project does not alter surface runoff patterns or volumes. The project did not place housing or structures which would impede or redirect flood flows within a 100-year flood hazard area, nor does it expose people or structures to substantial risks involving flooding, seiche, tsunami or mudflow. Therefore, impacts to the area's hydrology due to drainage are considered less than significant.*

Project features were largely placed underground and do not alter surface water quality, patterns or flows. Project construction plans included requirements and details on water quality protection measures (BMPs) that were implemented during construction activities (based on review of the MMRP file).

No mitigation measures were identified in the MND addressing hydrology or water quality, and no hydrology impacts occurred as a result of project implementation.

LAND USE

IMPACT 6.8 *The EWFWTPP does not conflict with Sacramento County General Plan or County zoning designations. The General Plan Land Use Diagram shows that the WTP site and Well Field site allow for "Public Utilities and Public Service Facilities". Furthermore, the project did not result in incompatibilities or conflicts between existing land uses in the vicinity of the project area. A Conditional Use Permit was not required for the project pursuant to Sacramento County Zoning Code Section 301-13. Finally, implementation of the EWFWTPP did not result in any conflicts with any habitat conservation or natural community conservation plans. This impact is deemed less than significant.*

The MND examined the Project's land use impacts and concluded that the proposed water treatment plant and well field were consistent with the land use designations of the respective sites and the adjacent land uses, and therefore, land use impacts would be less than significant (MND, pages. IS-11, 12). The EWFWTPP did not physically divide an established community, as no residential development existed on the project site. No habitat conservation plans have been adopted that apply to the project. Because the MND identified no adverse land use

impacts associated with the well field and underground transmission pipeline components of the EWFWTPP, and, as noted above, SCWA had withdrawn the water treatment plant site from consideration, there are no adverse land use impacts.

MINERAL RESOURCES

IMPACT 6.9 *The EWFWTPP did not result in the loss of a known mineral resource that would be of value to the region and the residents of the state or of a delineated locally-important mineral resource recovery site. Thus, no impact occurred.*

No significant mineral resources were identified in the MND associated with the EWFWTPP features or conflicts with mineral resource extraction in the project area and therefore no significant mineral resources were lost as a result of the project. No mitigation measures were identified in the EWFWTPP IS addressing mineral resources, and no mineral resource impacts occurred as a result of project implementation.

NOISE

IMPACT 6.10 *The EWFWTPP did not expose people to noise levels or groundborne vibrations/noise in excess of established standards. Ambient noise levels were not significantly increased in the project vicinity associated with project operation. While the project is the vicinity of Mather Airport, but does not expose people residing or working in the project area to excessive noise levels. Thus, no impact occurred.*

The EWFWTPP generated noise from construction activities and long term operation of associated machinery, specifically a booster pump station and emergency generator. Project construction resulted in a temporary increase in ambient noise levels in the project vicinity. The nearest sensitive receptor to the project features is located ¾ of a mile to the north and was not exposed excessive construction noise. Pump equipment are enclosed that attenuates the noise from their operation. These increases in noise levels were not deemed substantial, and the noise ordinance standards were not exceeded. Moreover, there is no record of any complaints or measurements indicating exceedances of noise standards have occurred. Therefore, no impact would be expected to occur with respect to noise from the continued operation of the project.

POPULATION AND HOUSING

IMPACT 6.11 *The EWFWTPP did not displace people or housing or induce substantial population growth in the area. Environmental effects of the growth supported by these facilities were addressed in the Sunrise Douglas Community Plan/SunRidge Specific Plan EIR (State Clearinghouse No. 97022055) as well as the Zone 40 Water Supply Master Plan EIR (State Clearinghouse No. 95082041). This impact is less than significant.*

The EWFWTPP did not directly propose any residential development or any development that would induce substantial population increases. Environmental effects of the growth supported by these facilities were addressed in the SDCP/SRSP EIR (State Clearinghouse No. 97022055) as well as the Zone 40 Water Supply Master Plan EIR (State Clearinghouse No. 95082041). While some portions of the SDCP/SRSP EIR relating to water supplies were invalidated by the California Supreme Court in the *Vineyard* decision, the Court did not disturb the remainder of the document, including its analysis of environmental effects associated with the growth that the EWFWTPP facilitates. Furthermore, o residential development was displaced in association with implementation of the project that necessitated construction of replacement housing elsewhere, and no housing displacement would be expected to occur with the continued operation of the project.

PUBLIC SERVICES

IMPACT 6.12 *The EWFWTPP did not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities (fire and police protection, schools, parks, etc.) or the need for new or physically altered governmental facilities. Thus, **no impact** occurred.*

The EWFWTPP did not propose any residential development, and did not add a substantial amount of people to the previously undeveloped site. Therefore, there was no associated increase in demand for public facilities or services that would trigger a physical effect on the environment.

RECREATION

IMPACT 6.13 *The EWFWTPP did not increase the use of existing neighborhood and regional recreational facilities, and did not include or require the construction or expansion of recreational facilities. Thus, **no impact** occurred.*

The EWFWTPP did not include a residential or recreational component that would increase population in the project area and therefore did not result in an increase in demand for recreational facilities.

TRANSPORTATION AND CIRCULATION

IMPACT 6.14 *The EWFWTPP did not cause a significant increase in traffic, cause an exceedance in any level of service standards, result in a change in air traffic patterns, substantially increase hazards due to a design feature, result in inadequate emergency access or conflict with adopted policies, plans or programs supporting alternative transportation. Compliance with applicable access and circulation requirements of the County Improvement Standards and the Uniform Fire Code ensured that this was a **less-than-significant** impact.*

The pipeline route required construction within the right-of-way on Excelsior Road just north of Florin Road to Kiefer Boulevard, Kiefer Boulevard from Excelsior Road to Sunrise Boulevard, and Sunrise Boulevard from Kiefer Boulevard north to the Sunridge development area. The pipeline was installed within one lane of traffic and periodically shifts to the opposite lane to remain within the existing right-of-way. The Project was required to comply with applicable access and circulation requirements of the County Improvement Standards and the Uniform Fire Code. Upon compliance, impacts were considered less than significant (MND, pages 12-13).

UTILITIES

IMPACT 6.15 *Construction and operation of the EWFWTPP did not exceed wastewater treatment requirements of the Central Valley Regional Water Control Board, and did not necessitate construction or expansion of new water, wastewater treatment or storm drainage facilities. No new or expanded entitlements were required to have sufficient water supplies available to serve the EWFWTPP. Furthermore, adequate wastewater capacity exists to serve the project's demand. Finally, the project does not generate solid waste or the need for solid waste services. This impact is **less than significant**.*

The SDCP/SRSP EIR addressed the effects of providing new development within the planning area with an initial water supply from the North Vineyard Well Field (MND page IS-9). The impacts associated groundwater production were addressed in the SDCP/SRSP EIR and are further addressed in Chapter 3, "Water Supply," of this document.

Project features were largely placed underground and do not alter existing utilities and infrastructure, or drainage features or require wastewater or solid waste service. Project construction plans included details that identified the location of existing utilities to be avoided (based on review of the MMRP file). Thus, this impact was determined to be less than significant.

VISUAL RESOURCES/LIGHT AND GLARE

IMPACT 6.16 *The EWFWTPP is not near, and does not have a substantial adverse effect on, a scenic vista, and does not substantially damage scenic resources. The light poles proposed for the project have the potential to result in light and glare impacts to surrounding land uses. However, SCWA adopted and implemented Mitigation Measure A that mitigated this impact to* ***less than significant****.*

The MND addressed the project's aesthetic impacts and determined that the industrial character of the facility could be seen as aesthetically unpleasant.

The following mitigation measure addressing visual resources was adopted by SCWA:

A. The following aesthetics mitigation shall be implemented:

- *Lighting for the extraction wells shall be directed away from potential and existing residential areas so as not to produce a glare. The bulb in the new security light poles shall be sodium vapor (yellow light), or equivalent, instead of mercury vapor (blue light). The height of the light pole shall not exceed 24 feet above the ground.*

It was concluded that implementation of the above mitigation measure would reduce visual resources impacts to a less-than-significant level.

Review of the project's MMRP file identified that this measure is not applicable to the pipeline portion of the project. The MMRP file states that lights at the well sites are installed approximately 9 feet above the ground. No information is given regarding the type of light or direction the lights are facing. It is not clear based on the MMRP if the remaining portions of this mitigation measure were complied with. However, based on a telephone conversation with DERA staff that enforced the MMRP, yellow bulbs were used on security lights, and notes on construction plans showed the walls of the security lights as pointed downward, away from surrounding residences (Smith 2010). Therefore, this evidence supports a conclusion that this measure was complied with and that no significant impacts related to visual resources occurred with implementation of the above mitigation measure. Furthermore, the continued operation of the project is not considered to pose any risk of aesthetic impacts associated with light and glare, as no changes to the security lighting are proposed.

7 CUMULATIVE AND GROWTH-INDUCING IMPACTS

7.1 INTRODUCTION

This EIR provides an analysis of overall cumulative impacts of the Sunrise Douglas Community Plan/SunRidge Specific Plan (SDCP/SRSP) project considered together with the impacts of other past, present, and probable future projects, as required by the State CEQA Guidelines (14 California Code of Regulations [CCR] Section 15130). The purpose of this analysis is twofold: first, to determine whether the overall long-term impacts of all such projects would be cumulatively significant and second, to determine whether the SDCP/SRSP project itself would cause a "cumulatively considerable" (and thus significant) *incremental* contribution to any such cumulatively significant impacts. (See the State CEQA Guidelines [CCR Sections 15064(h), 15065(c), 15130(a), 15130(b), and 15355(b)].) In other words, the required analysis first creates a broad context in which to assess the project's incremental contribution to anticipated cumulative impacts, viewed on a geographic scale well beyond the project site itself. The analysis then determines whether the project's incremental contribution to any significant cumulative impacts from all projects is itself significant (i.e., "cumulatively considerable" in CEQA parlance).

Cumulative impacts are defined in the State CEQA Guidelines (CCR Section 15355) as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." A cumulative impact occurs from "the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (CCR Section 15355[b]).

Consistent with the State CEQA Guidelines (CCR Section 15130[a]), the discussion of cumulative impacts in this EIR focuses on significant and potentially significant cumulative impacts. The State CEQA Guidelines (CCR Section 15130[b]) state that:

> The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

The State CEQA Guidelines identify two basic methods for establishing the cumulative environment in which the project is to be considered: the use of a list of past, present, and probable future projects (the "list approach") or the use of adopted projections from a general plan, other regional planning document, or certified EIR for such a planning document that is designed to evaluate regional or areawide conditions (the "plan approach"). For this DEIR, the plan approach has been utilized to evaluate cumulative conditions in the Zone 40 2030 Study Area.

7.2 CUMULATIVE CONTEXT

The Sacramento County Water Agency (SCWA) would provide water supplies to the SDCP/SRSP through its Zone 40 conjunctive-use water supply system. The SDCP/SRSP is located in a subarea within Zone 40 known as the 2030 Study Area. The 2030 Study Area encompasses approximately 46,600 acres (including portions of the cities of Elk Grove and Rancho Cordova) where development of industrial, commercial, office, and residential land uses is expected to occur and where demand for water is expected to be concentrated during the planning horizon (i.e., 2030) of the *2005 Zone 40 Water Supply Master Plan* (WSMP) (SCWA 2005a) (see Exhibit 3-1 in Chapter 3, "Water Supply").

The Zone 40 2030 Study Area has been divided into three major subareas for planning purposes. From east to west, these areas are identified as: the North Service Area (NSA), the Central Service Area (CSA), and the South Service Area (SSA), respectively. The discussion that follows summarizes information about these planning areas that is contained within the *Zone 40 Water Supply Infrastructure Plan* (WSIP) prepared by SCWA in 2006, following adoption of its WSMP EIR in 2005.

The NSA is located in the northern portion of Zone 40 and consists of a portion of the City of Rancho Cordova's planning area and the areas identified as Mather Field, Sunrise Corridor, Sunrise Douglas Community Plan (which includes the SDCP/SRSP), and Rio del Oro (including the Cal-Am portion of the planning area where wholesale Zone 40 water supplies would be delivered) (SCWA 2006:2-5).

The CSA is located in the central portion of Zone 40 and consists of the areas identified as North Vineyard Station Specific Plan, Florin Vineyard Community Plan, Vineyard Springs Comprehensive Plan, East Elk Grove Specific Plan, the Elk Grove Triangle Comprehensive Plan, the Vineyard Surface WTP property, and an area designated for near-term development. A portion of the CSA is also covered by a wholesale agreement with the Florin Resource Conservation District/ Elk Grove Water District (previously the Elk Grove Water Service), which requires these districts to purchase wholesale conjunctive-use water from SCWA to retail to their customers. (SCWA 2006:2-12.)

The SSA is located in the southern portion of Zone 40 and consists of 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 (SCWA 2006:2-15).

Table 7-1 identifies the proposed development in the NSA, CSA, and SSA (i.e., "the related projects") along with their associated water demands. The total year 2030 water demands are estimated in the Zone 40 WSIP to be 104,110 AFY within SCWA's Zone 40 2030 Study Area. (SCWA 2006:3-5.)

Table 7-1
Projected Future Water Supply and Demand in the 2030 Study Area

Service Area	Demand Region	Annual Average Demand (afy)	Maximum Day Demand (mgd)
NSA	Mather Field	7,624	13.61
	Rio del Oro – Cal-Am	3,917	6.99
	Rio del Oro – Zone 40	4,920	8.79
	Sunrise Corridor	1,077	1.92
	Sunrise Douglas Community Plan[1]	15,844	27.66
	Total NSA Demand	**33,382**	**58.97**
CSA	North Vineyard Station Specific Plan	3,971	7.09
	Florin Vineyard Community Plan	8,243	14.72
	Vineyard Springs Comprehensive Plan	12,163	21.72
	East Elk Grove Specific Plan/ Elk Grove Triangle Comprehensive Plan	1,338	2.39
	Vineyard Surface Water Treatment Plant	113	0.20
	Near-Term Development Area	5,946	10.62
	Florin Resource Conservation District/ Elk Grove Water District	7,321	13.07
	Total CSA Demand	**39,095**	**69.81**
SSA	Laguna	14,289	25.52
	Franklin	17,344	30.97
	Total SSA Demand	**31,633**	**56.49**
Total Demand		**104,110**	**185.27**
Total Supply		**121,051**	

Note: afy = acre-feet per year; mgd = million gallons per day; NSA = North Service Area; CSA = Central Service Area; SSA = South Service Area.

[1] The SDCP/SRSP is located within the Sunrise Douglas Community Plan demand region.

Source: SCWA 2006:3-3; SCWA 2005b:2-12.

The impacts associated with long-term water supplies are uniquely cumulative. Because the Zone 40 water supplies and conveyance facilities would need to be constructed to serve SDCP/SRSP and other development in the 2030 Study Area as a whole, the SDCP/SRSP project incrementally contributes to the environmental impacts associated with the construction and operation of these facilities. However, the construction and operations impacts of the Zone 40 water supply system would also occur without development of the SDCP/SRSP because Zone 40 facilities are required to serve development in the 2030 Study Area and would be needed whether or not SDCP/SRSP is developed. This chapter analyzes the potential for the SDCP/SRSP and related projects in the 2030 Study Area to result in a cumulatively considerable incremental contribution to significant and unavoidable impacts related to increased demands for long-term water supplies and conveyance facilities.

7.3 GEOGRAPHIC SCOPE

The geographic area that could be affected by the SDCP/SRSP varies depending on the type of environmental resource being considered within the 2030 Study Area. When the impacts of the project are considered in combination with other past, present, and future projects to identify cumulative impacts, the other projects considered may also vary depending on the type of environmental impacts being assessed. Table 7-2 presents the general geographic areas associated with the different resources addressed in this cumulative analysis.

Table 7-2
Geographic Scope of Cumulative Impacts

Resource Issue	Geographic Area
Land Use and Agricultural Resources	Southeastern Sacramento County and the Cities of Rancho Cordova and Elk Grove within the 2030 Study Area
Aesthetics	Southeastern Sacramento County and the Cities of Rancho Cordova and Elk Grove within the 2030 Study Area
Air Quality	Sacramento Federal Ozone Nonattainment Area (includes Sacramento County, Yolo County, the western portion of El Dorado County, and portions of Placer and Solano Counties)
Cultural and Paleontological Resources	2030 Study Area
Fisheries and Aquatic Resources	Upper Sacramento River, Cosumnes River, Delta
Geology and Soils	SDCP/SRSP and immediate vicinity
Noise	Immediate SDCP/SRSP project vicinity where effects are localized
Public Health and Safety	SDCP/SRSP and nearby roadways
Public Services and Utilities	Sacramento Regional County Sanitation District, Sacramento Metropolitan Utility District, and PG&E
Terrestrial Biological Resources	Habitats and watersheds within the 2030 Study Area
Transportation	Regional and local facilities

Source: Data compiled by AECOM in 2010

7.4 REGIONAL PLANNING ENVIRONMENT

The 2030 Study Area covers unincorporated areas of Sacramento County, the City of Rancho Cordova, and portions of the City of Elk Grove. This analysis includes an evaluation of the *Sacramento County General Plan* (Sacramento County 1993), the *City of Rancho Cordova General Plan* (2006a), and *City of Elk Grove General Plan* (2003). In addition, there are three primary planning documents that work together to form the planning basis for the Zone 40 service area: the *2005 Zone 40 Water Supply Master Plan* (SCWA 2005a), the *2005 Zone 41*

Urban Water Management Plan (Zone 41 UWMP) (SCWA 2005b), and the *Zone 40 Water System Infrastructure Plan* (SCWA 2006) (Zone 40 WSIP). A summary of the planning environment that is used for this cumulative impact analysis is provided below.

7.4.1 SACRAMENTO COUNTY GENERAL PLAN

1993 SACRAMENTO COUNTY GENERAL PLAN

The Sacramento County General Plan provides for growth and development in the unincorporated area through 2010. Portions of the Sacramento County General Plan contain policies for urban development including urban communities and the infrastructure necessary to serve them. Other sections of the Sacramento County General Plan describe strategies to recognize and preserve areas of open space and natural resources. As a whole, the general plan reflects a balance between the amount and location of land uses in urban areas and those to remain in a rural or natural setting.

Community plans reflect the goals and policies of individual communities and guide land use and development of specific communities on a more detailed basis than the general plan. Sacramento County has adopted the following community plans: Antelope, Arden-Arcade, Carmichael, Cordova, Delta, Fair Oaks, North Highlands/Foothill Farms, Orangevale, Rio Linda/Elverta, Southeast, South Sacramento, and Vineyard. Specific plans are detailed policy plans that identify allowable land uses and infrastructure needs for a specific geographic area and are most often used to comprehensively plan for development of new growth areas. Sacramento County has adopted the following specific plans: East Antelope, Elverta, Mather, and North Vineyard Station. (Sacramento County 2009c:3-13.)

In addition to community and specific plans, the Sacramento County General Plan identifies Commercial Corridor Plans that focus on planning for future improvements within specified commercial and transportation corridors on a more detailed basis than the general plan; Special Planning Areas that impose a "special" set of development standards for select areas that have unique qualities; and Neighborhood Preservation Areas, which are special zoning regulations that are adopted to preserve the unique qualities and characteristics of a neighborhood (Sacramento County 2007:4-5).

The Sacramento County General Plan designates two boundaries that guide policies for growth within the county. The USB is the boundary of the urban area in the unincorporated County. It is a permanent boundary that will not be modified except under extraordinary circumstances and will be used as a planning tool for urban infrastructure providers for developing very long-range master plans that would accompany future urbanization. (Sacramento County 2009c:3-11.)

The Urban Policy Area (UPA) defines the area expected to receive urban levels of public infrastructure and services within the 20-year planning period of the Sacramento County General Plan. The UPA provides the geographic basis for infrastructure master plans, particularly for public water and sewage, which require large capital investments and relatively long lead times for the installation of capital improvements. (Sacramento County 2009c:3-11.)

SACRAMENTO COUNTY GENERAL PLAN UPDATE

The existing horizon of the Sacramento County General Plan ends in 2010, and the process to update the Sacramento County General Plan was initiated in 2002. In June 2007, Sacramento County prepared a draft general plan and began conducting an environmental review of the Sacramento County General Plan update. An NOP was prepared and circulated for public review in August 2007 (State Clearinghouse Number 2007082086). The DEIR for the general plan update was released on May 1, 2009, for a 45-day public review period. Adoption of the updated general plan is anticipated in early 2011 (Sacramento County 2010).

The Sacramento County General Plan update will have a planning horizon of 2030, which is consistent with the planning horizons of SACOG's Sacramento Region Blueprint. The Sacramento County General Plan update contains objectives and policies that are intended to guide the County toward a more compact urban character by concentrating growth within existing urbanized areas and strategically located new growth areas, thereby using land resources as efficiently as possible (Sacramento County 2010).

7.4.2 CITY OF RANCHO CORDOVA GENERAL PLAN

The City of Rancho Cordova General Plan (2006a) serves as a compass to guide planners, the general public, and decision makers on the desired pattern of development in Rancho Cordova. It describes both existing and future land use activity, the latter of which was designed to achieve the city's long-range goals for physical development. The General Plan identifies the distribution, location, and intensity of all land use types throughout the city.

The City of Rancho Cordova General Plan addresses all land both within the City limits and an area beyond the City that bears relation to the City's planning efforts. This area is referred to as the General Plan Planning Area and is generally defined as the City plus the developed areas of Rosemont, Larchment, and Gold River, and the undeveloped areas south of Jackson Highway and east of Grant Line Road. The area outside of the current City limits represents an area that the City of Rancho Cordova has an interest in guiding land use and circulation decisions for and is envisioned as the area into which the incorporated City boundaries may eventually expand.

The City General Plan contains 16 Planning Areas. The City has included Conceptual Land Plans to show general locations of natural resource areas, areas constrained by the Mather overflight zone, sites for additional employment opportunities, and desirable locations for retail development. As the name suggests, the densities, land uses, and boundaries are intended to be conceptual. Final land uses and locations are intended to be determined in conjunction with subsequent mater planning of these areas. Conceptual Land Plans are provided to reflect the City's building block concepts and relevant goals, policies, and actions. Some of the Planning Areas included in the City General Plan are located outside of the Rancho Cordova city limits. Because the City does not have jurisdiction in areas outside of the city limits, they are intended to be considered to be advisory in nature. Planning Areas in the vicinity of the SDCP/SRSP are described below.

- The **Grant Line North Planning Area** is located to the south of the SDCP/SRSP. This area is planned to be developed into five or six neighborhoods to support a population of 16,601 people, and would contain at least one village center that would provide employment opportunities. The Grant Line North Planning Area would include recreational trails and facilities, public transit services, and open space. It consists of 1,846 acres, and would be developed to provide 6,916 dwelling units and 3,634 jobs.

- The **Jackson Planning Area**, located southeast of the SDCP/SRSP, is outside of the existing city limits. The conceptual plan includes residential, commercial, office, and light industrial uses over 8,602 acres. Much of the Jackson Planning Area would remain undeveloped and contain floodplains, creeks, vernal pools, and open space, and would be bordered by surface mining and heavy industrial uses. The area is expected to support a population of 15,457 people within 5,806 dwelling units, and provide 10,753 jobs.

- The **Mather Planning Area** is located northeast of the SDCP/SRSP, outside of the existing city limits. Consisting of 6,306 acres, this area is planned to accommodate 1,982 dwelling units to support a population of 5,175 people, and provide 15,841 employment opportunities. The majority of the Mather Planning Area would remain undeveloped, and approximately 450 acres would be used as the Legionaires of Christ College. Areas north of Kiefer Boulevard would be developed as residential, office, and commercial uses.

- The 7,353-acre **East Planning Area** is outside of the existing city limits, northwest of the SDCP/SRSP. This area is planned for residential, office, parks, and open space. Nine neighborhoods and an employment center

are anticipated to be developed with 10,390 dwelling units for a population of 27,781 people and provide 5,644 jobs (City of Rancho Cordova 2006a).

These four adjacent Planning Areas would account for development of 24,107 acres of land, would result in an estimated 25,094 new dwelling units, would support an estimated population of 65,014, and would generate approximately 35,872 employment opportunities.

7.4.3 CITY OF ELK GROVE GENERAL PLAN

The City of Elk Grove General Plan (2003), adopted in 2003 includes goals, objectives, and policies for the city and areas outside the city limits that may ultimately be included either in a Sphere of Influence or in the incorporated city limits through the year 2023.

The General Plan is intended to guide the City Council and Planning Commission in decision-making activities, guide the City staff in development programs and projects, guide the development community in preparing development proposals, and inform residents and citizens of the type of development that may occur in the future.

The General Plan establishes several "Land Use Policy Areas," which have been designated to reflect existing and pending major project approvals, or to reflect the need for more detailed land use planning at a future date. Policy areas are discussed in the General Plan consist of the Sheldon Area, East Franklin, East Elk Grove, Laguna Ridge, Old Town Elk Grove, South Pointe, and the Southeast Area.

7.4.4 SCWA WATER SUPPLY MASTER PLAN

SCWA is a signatory to the Water Forum Agreement (WFA), which is a plan that provides for the effective long-term management of the Sacramento region's water resources. The WFA was formulated based on the two coequal objectives of the Water Forum: (1) provide a reliable and safe water supply for the region's economic health and planned development through the year 2030; and (2) preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River. (Sacramento City-County Office of Metropolitan Water Planning 1999, Water Forum 2000)

As a signatory to the WFA, SCWA undertook a comprehensive update of its water supply planning process in response to the requirements of the WFA through the Zone 40 WSMP, which was adopted in February 2005. SCWA has agreed to ensure that a series of actions and commitments related to surface-water diversions, dry-year supply, water conservation, and groundwater management—necessary steps to achieve WFA objectives—are integrated into future growth and water planning activities in its service area. The Zone 40 WSMP provides a flexible plan of water management options that can be implemented and modified if conditions that affect the availability and feasibility of water supply sources change in the future. The goal of the Zone 40 WSMP is to carry out a conjunctive-use program, which is defined as the coordinated management of surface water and groundwater supplies to maximize the yield of available water resources. The conjunctive-use program for Zone 40 includes the use of groundwater, surface water, remediated water, and recycled water supplies. It also includes a financing program for the construction of a new surface-water diversion structure; a surface-water treatment plant; water conveyance pipelines; and groundwater extraction, treatment, and distribution facilities.

7.4.5 2005 ZONE 41 URBAN WATER MANAGEMENT PLAN

The Zone 41 UWMP addresses water supply and demand issues, water supply reliability, water conservation, water shortage contingencies, and recycled-water usage for the areas within Sacramento County where Zone 41 provides retail water services, including the Zone 40 service area and other areas outside of Zone 40 where Zone 41 has contracts to provide water (e.g., Zone 50, Sacramento Suburban Water District) (see Exhibit 3-1 in Chapter 3, "Water Supply"). Zone 41 is responsible for the operations and maintenance of all the water supply facilities within the defined service area and retails and wholesales water to its defined service area and to agencies where

agreements are in place to purchase water from SCWA. The water demands for the Zone 40 2030 Study Area (including the SDCP/SRSP), which were identified in the Zone 40 WSMP, are included in the Zone 41 UWMP.

Because SCWA's conjunctive-use groundwater program would be implemented only within Zone 40, the Zone 41 UWMP presents information about projected water supply and demand separately for areas within Zone 40 and areas outside of Zone 40. However, the Zone 41 UWMP does not specifically describe how projected future water supplies would be allocated within the Zone 40 region (e.g., how water would be allocated to the City of Rancho Cordova).

7.4.6 ZONE 40 WATER SYSTEM INFRASTRUCTURE PLAN

As a follow up to the 2005 Zone 40 WSMP, SCWA prepared the Zone 40 WSIP, which addresses how identified 2030 water supplies addressed in both the Zone 41 UWMP and the Zone 40 WSMP would be allocated among users within its service area. The purposes of this WSIP are to describe and quantify the facilities necessary to extract, treat, and convey groundwater to the Zone 40 service area; to provide water purchased from the City of Sacramento to the portion of Zone 40 within the City of Sacramento American River Place of Use; to convey surface water for treatment at the Vineyard Surface WTP; and to deliver wholesale treated groundwater and surface water to retail water purveyors outside of the Zone 40 service area. (SCWA 2006:1-3.)

The WSIP provides the most up-to-date information on Zone 40's water supplies, demands, and infrastructure; provides project-level detail that is necessary for implementation of the preferred pipeline alignment alternatives that were identified in the 2005 Zone 40 WSMP; and it fills in the gaps of associated smaller infrastructure requirements, including a description of facility construction and phasing as well as operational requirements from existing conditions through ultimate buildout of the water system.

7.5 ANALYSIS OF CUMULATIVE IMPACTS

The cumulative impacts anticipated to result from implementation of the SDCP/SRSP project, together with the related projects, are evaluated in this Revised DEIR, and presented below by topic area. However, because this Revised DEIR was prepared for the purpose of evaluating the project's long-term water supply, the cumulative impacts of that water supply are the subject of the analysis contained in this chapter. Therefore, there is no "water supply" topic heading in the analysis presented below. The analysis conforms with CCR Section 15130 of the State CEQA Guidelines, which specifies that the "discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great a detail as is provided of the effects attributable to the project alone."

Project-level CEQA reviews were completed for all Zone 40 WSMP infrastructure facilities that are necessary to serve the SDCP/SRSP. These include: NVWF Wells 1 through 3 (see Chapter 6 of this document); the IS/MNDs for Well 4, Well 5, and Well 6; the IS/MND for the Anatolia WTP; the IS/MND for the Vineyard Surface WTP: and the IS/MND for the NSAP. Some of these facilities are constructed and are already serving the SDCP/SRSP (such as NVWF Wells 1 through 3 and the Anatolia WTP). Therefore, these IS/MNDs and the re-analysis of NVWF Wells 1 through 3 in Chapter 6 of this Revised DEIR reviewed the project-specific infrastructure impacts.

However, implementation of the Zone 40 WSMP, which serves the broader cumulative context of the Zone 40 2030 Study Area, would require different infrastructure facilities to serve water to the City of Elk Grove and other locations within the Zone 40 2030 Study Area. At the time the Zone 40 WSMP was prepared, the size, location, and design of specific Zone 40 infrastructure had not been determined and was therefore analyzed at a programmatic level. Because some Zone 40 WSMP facilities have still not been sited, analyzed, or constructed, the Zone 40 EIR provides an important programmatic analysis of the Zone 40 WSMP's potential environmental impacts from construction of the related projects.

Therefore, the following analysis of the cumulative impacts of the SDCP/SRSP long-term water supply plan is addressed for each topic area by presenting: (1) a statement of the geographic scope, (2) the project-level environmental impact analyses of the specific Zone 40 WSMP facilities serving the SDCP/SRSP site, (3) the broader programmatic environmental impact analysis of all other WSMP facilities necessary to serve the related projects in the 2030 Study Area, as presented in the Zone 40 WSMP EIR, and (4) a conclusion as to whether the impacts of the project, when considered together with the impacts of the related projects, would result in a cumulatively considerable impact. As stated above in Section 7.2, the certified and adopted CEQA documents for all of these projects have been incorporated by reference and are available for review at the City of Rancho Cordova Planning Department, located at 2729 Prospect Park Drive, Rancho Cordova, CA 95670.

Land Use and Agricultural Resources

The Zone 40 2030 Study Area encompasses approximately 46,600 acres (including portions of the cities of Elk Grove and Rancho Cordova, including the SDCP/SRP project site) where development of industrial, commercial, office, and residential land uses is expected to occur. Issues involving consistency of adopted land use plans or policies and zoning generally do not constitute physical impacts on the environment unless there are direct conflicts with policies or regulation adopted specifically to avoid physical environmental impacts. Furthermore, they are site-specific and therefore would not combine to result in cumulative impacts. The determination of significance for impacts related to these issues, as described in Appendix G of the State CEQA Guidelines, is whether a project would conflict with any applicable land use plan or policy adopted for the purpose of avoiding or mitigating environmental impacts. Such a conflict is site-specific; it is addressed on a project-by-project basis.

The project-level IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, NVWF Wells 1 through 3 (see Chapter 6 of this document), Well 4, Well 5, and Well 6; the Anatolia WTP; the Vineyard Surface WTP; and the NSAP determined that there would be no conflicts with Sacramento General Plan policies; therefore, impacts on land use were determined to be less than significant. In addition, these project-level IS/MNDs determined that the facilities would not result in the conversion of prime or statewide important farmlands to nonagricultural uses; therefore, impacts on agricultural resources were determined to be less than significant.

Impact 4.1-1 (pages 4.1-24 and 4.1-25) in Section 4.1, “Land Use and Growth Inducing Impacts,” of the Zone 40 WSMP EIR determined that development of new Zone 40 facilities necessary to serve the related projects would be consistent with general plan policies and goals related to land use, public facilities, and preservation of local resources and would result in a less-than-significant impact. In addition, Impact 4.1-2 (pages 4.1-25 and 4.1-26) of the Zone 40 WSMP EIR determined that, with implementation of Mitigation Measure 4.1-2 (page 4.1-28), potentially significant land use consistency impacts of development of new Zone 40 facilities necessary to serve the related projects would be reduced to a less-than-significant level through development of facility siting criteria that would avoid land use compatibility impacts, including measures that address facility designs and location, provision of buffer areas between facilities and surrounding land uses, visual screening, and reduced facility size. As addressed in Impact 4.1-4 (Zone 40 SWMP EIR pages 4.1-27 and 4.1-28), even with implementation of Mitigation Measure 4.1-4 (page 4.1-29) to site and design infrastructure facilities to avoid conversion of prime farmland or farmland of statewide importance, the programmatic analysis of impacts associated with conversion of prime farmland or farmland of statewide importance from development of new Zone 40 facilities necessary to serve the related projects were determined to be significant and unavoidable.

Based on the project-specific IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, the land use impacts of the long-term water supply plan for the SDCP/SRSP would be less than significant, and would not result in a cumulatively considerable incremental contribution to less-than-significant land use impacts of the water supply facilities necessary to serve the related projects.

Based on the project-specific IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, the agricultural resource impacts of the long-term water supply plan for the SDCP/SRSP would be less than

significant, and since the project would not result in conversion of important farmland or cancellation of Williamson Act contract, the SDCP/SRSP would not result in a cumulatively considerable incremental contribution to significant agricultural resource impacts.

Aesthetics

The geographic context of aesthetic impacts consists of the above-ground facilities that would need to be constructed in order to provide water supply to the Zone 40 2030 Study Area, as shown on Exhibit 3-1 of this Revised DEIR.

The project-level IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, which consist of NVWF Wells 1 through 3 (see Chapter 6 of this document), Well 5, and Well 6, the Anatolia WTP, the Vineyard Surface WTP, and the NSAP determined that impacts on aesthetics would be potentially significant. However, mitigation identified in these IS/MNDs would reduce potentially significant impacts to a less-than-significant level through implementation of facility design and lighting standards. The project-level IS/MND for NVWF Well 4 identified impacts on aesthetics as less than significant.

As discussed in Impact 4.2-1 (pages 4.2-3 through 4.2-4) of the Zone 40 WSMP EIR, construction-related activities associated with the development of new Zone 40 facilities necessary to serve the related projects was evaluated at a program level and would substantially alter the visual character of the surrounding areas through the excavation of soil, operation of heavy machinery, stockpiling of materials, and the presence of work crews. However, these activities would be temporary and would cease once construction of the Zone 40 facilities are complete; therefore, the Zone 40 WSMP EIR determined impacts associated with degradation of visual character from construction activities would be less than significant. Impact 4.2-2 (Zone 40 WSMP EIR page 4.2-3) determined that operation of Zone 40 facilities necessary to serve the related projects, which would require lighting and could result in glare or sky glow, would be potentially significant. However, implementation of Mitigation Measure 4.2-2 (Zone 40 WSMP EIR pages 4.2-5 through 4.2-6) would reduce potentially significant impacts associated with effects from new sources of light and glare to a less-than-significant level through installation of hooded shields or other devices around permanent light sources. Impact 4.2-3 (Zone 40 WSMP EIR pages 4.2-4 through 4.2-5) determined that impacts associated with degradation of visual character from operation of Zone 40 facilities would be potentially significant. Mitigation Measure 4.2-3 (Zone 40 WSMP EIR page 4.2-6) requires SCWA to conduct project-level CEQA review to identify specific impacts and any required mitigation measures prior to the siting and construction of the Zone 40 WSMP facilities necessary to serve the related projects. However, it could not be determined if implementation of project-specific mitigation measures for the related projects would reduce visual impacts to a less-than-significant level and therefore, the Zone 40 WSMP EIR determined this impact would remain significant and unavoidable.

Based on the project-specific IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, the aesthetics impacts of the long-term water supply plan for the SDCP/SRSP would be less than significant, and therefore the SDCP/SRSP project would not result in a cumulatively considerable incremental contribution to significant cumulative aesthetic impacts (which could not be determined pending site-specific analyses).

Air Quality

The Zone 40 2030 Study Area is located in Sacramento County, in the Sacramento Valley Air Basin (SVAB), which is under the jurisdiction of the Sacramento Metropolitan Air Quality Management District (SMAQMD). Sacramento County is located at the southern end of the Sacramento Valley, which is bounded by the Coast and Diablo ranges on the west and the Sierra Nevada on the east.

The project-level IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, which includes NVWF Wells 4, 5, and 6, identified impacts related to short-term construction-generated emissions as less than significant. However, the IS/MNDs for NVWF Wells 1 through 3 (see Chapter 6 of this document), the Anatolia WTP, the Vineyard Surface WTP, and the NSAP identified this impact as potentially significant.

Mitigation identified in these IS/MNDs would reduce potentially significant impacts to a less-than-significant level through implementation of SMAQMD permitting requirements to reduce construction-generated emissions of nitrogen oxides (NOx). The IS/MNDs for NVWF Wells 1 through 3 (see Chapter 6 of this document), Wells 4, 5, and 6; the Anatolia WTP; the Vineyard Surface WTP; and the NSAP identified impacts related to long-term operational emissions as less than significant.

As discussed in Impact 4.3-1 (pages 4.3-6 and 4.3-7) of the Zone 40 WSMP EIR, short-term construction-generated emissions associated with heavy equipment operation and construction employee travel would result in fugitive dust and toxic air contaminants, which could potentially exceed SMAQMD daily emission thresholds and would be potentially significant. Implementation of Mitigation Measure 4.3-1 (pages 4.3-8 through 4.3-10) required SCWA to develop an air quality mitigation plan consistent with SMAQMD protocols to reduce construction-generated emissions from development of new Zone 40 facilities necessary to serve the related projects, including measures to control fugitive dust and reduce short-term emissions of diesel exhaust particulate matter. However, the Zone 40 WSMP EIR determined that development of a mitigation plan would not reduce impacts associated with short-term construction-related emissions to a less-than-significant level and this impact would remain significant and unavoidable. Impact 4.3-2 (pages 4.3-7 and 4.3-8) of the Zone 40 WSMP EIR also determined that operation of the Zone 40 WSMP water supply facilities necessary to serve the related projects would generate mobile-source emissions of reactive organic gases (ROG), NOx, and particulate matter of 10 microns or less (PM_{10}) associated with employees commuting to and from water supply facilities and maintenance and delivery trips, and stationary-source emissions. Mobile- and stationary-source emissions would result in only minor contributions to total regional emissions, and the Zone 40 WSMP mobile- and stationary-source emissions would be less than SMAQMD thresholds. Therefore, the Zone 40 WSMP EIR determined impacts associated with long-term operational source emissions would be less than significant. Impact 4.3-3 (page 4.3-8) of the Zone 40 WSMP EIR explained that operation of Zone 40 WSMP facilities (e.g., water treatment facilities) necessary to serve the related projects could involve chlorination and ozonation processes resulting in the generation of toxic chemical byproducts that could be released into the atmosphere. At the time the Zone 40 WSMP EIR was prepared, the size, location, and design of water treatment facilities and operations necessary to serve the related projects had not been determined and an accurate toxic air contaminant impact assessment was not possible. However, it was anticipated that water quality treatment facilities that would emit toxic air contaminants would require permitting from the SMAQMD, which would involve requirements to ensure that toxic air contaminant emissions impacts would be less than significant.

Based on the project-specific IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, the short-term construction-generated emissions from development of the long-term water supply plan for the SDCP/SRSP would be less than significant, and would not result in a cumulatively considerable incremental contribution to significant cumulative short-term construction-generated emissions from development of the water supply facilities necessary to serve the project and the related projects.

Based on the project-specific IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, the long-term operational emissions from the long-term water supply plan for the SDCP/SRSP would be less than significant, and since the operational emissions impacts of the infrastructure to serve the related projects were also determined to be less than significant, a cumulatively considerable impact would not occur.

Climate Change

Please refer to Chapter 5, “Climate Change” of this Revised DEIR for the analysis of greenhouse gas (GHG) emissions from the long-term water supply plan for the SDCP/SRSP and global climate change. Because GHG impacts are inherently cumulative, they are analyzed as separate cumulative impacts in Chapter 5.

Cultural Resources

The Zone 40 2030 Study Area is located in the immediate vicinity of two major waterways: the Sacramento and American rivers, and the presence of numerous smaller perennial and seasonal drainages (i.e., Deer Creek and Cosumnes River). These waterways made the area an important center for habitation in prehistoric time and several documented cultural resources and recorded sites lie within the 2030 Study Area.

The project-level IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, which consist of NVWF Wells 1 through 3 (see Chapter 6 of this document), 4, 5, and 6; the Anatolia WTP; the Vineyard WTP, and the NSAPP identified construction-related impacts related to disturbance of previously unidentified cultural resources and/or human remains to be potentially significant. However, implementation of mitigation in these project-level IS/MNDs would reduce potentially significant cultural resource impacts to a less-than-significant level.

As discussed in Impact 4.8-1 (Zone 40 WSMP EIR page 4.8-7), development of Zone 40 WSMP facilities necessary to serve the related projects could disturb previously unidentified cultural resources and/or human remains through the removal of vegetation and soil associated with grading and excavation activities, which would be a potentially significant impact. Implementation of Mitigation Measure 4.8-1 (Zone 40 WSMP EIR page 4.8-8) would reduce potentially significant impacts associated with disturbance of previously unidentified cultural resources to a less-than-significant level through a number of actions including compliance with regulations regarding the protection and preservation of cultural and paleontological resources, completion of project-specific cultural resources record searches and field surveys, development and implementation of an appropriate treatment plan to evaluate archaeological sites that cannot be avoided by construction, and development and implementation of a cultural and paleontological resources training program for construction personnel. As discussed in Impact 4.8-2 (Zone 40 WSMP EIR pages 4.8-7 and 4.8-8), river flows under the Zone 40 WSMP would only slightly differ from existing conditions, and flow variations are not of sufficient frequency or magnitude to cause either significant exposure or inundation of cultural resources and thus represent a less-than-significant impact on cultural resources along the Lower Sacramento River bank.

Based on the project-specific IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, the cultural resource impacts of the long-term water supply plan for the SDCP/SRSP would be less than significant, and would not result in a cumulatively considerable incremental contribution to the less-than-significant cumulative cultural resource impacts due to the construction of water supply facilities necessary to serve the related projects.

Fisheries and Aquatic Resources

Because the geographic context for impacts to fisheries and aquatic resources is substantially different from and encompasses a larger area than the Zone 40 2030 Study Area, the detailed analysis of cumulative impacts related to fisheries and aquatic resources is presented at the end of Chapter 4, “Fisheries and Aquatic Resources.”

Geology and Soils

The SDCP/SRSP project and the related projects within the Zone 40 2030 Study Area are located within the central and eastern portions of the Sacramento Valley. The geologic formations and soil types vary depending on project location, and therefore the potential geologic and soils hazards are site-specific rather than additive in nature. The 2030 Study Area is located in an area of low seismic activity.

The project-level IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, which consist of NVWF Wells 1 through 3 (see Chapter 6 of this document), 4, 5, and 6; the Anatolia WTP; the Vineyard WTP; and the NSAP, identified all impacts related to geology, soils, and seismicity to be less than significant.

As discussed in Impact 4.9-1 (Zone 40 WSMP EIR pages 4.9-3 and 4.9-4), construction activities associated with Zone 40 WSMP facilities necessary to serve the related projects would cause various forms of ground disturbance. Future facilities could expose operators and maintenance workers to both direct and indirect impacts of strong seismic ground shaking from earthquakes. However, new facilities would be required to be constructed in conformance with the applicable California Building Standards Code (CBC), and development and planning of facilities would require geotechnical studies and design guidelines that would identify and minimize any hazardous geologic changes to the underlying geologic substrata. Therefore, the Zone 40 WSMP EIR determined that potential human safety impacts associated with changes in geologic substructures would be less than significant.

As discussed in Impact 4.9-2 (Zone 40 WSMP EIR pages 4.9-4 and 4.9-5), seismic ground shaking would not be expected to cause significant building damage or lead to significant risk to human safety for the related projects. In addition, because the Zone 40 WSMP involves a conjunctive water supply plan that allows groundwater levels to recharge during wet years, groundwater level declines associated with implementation of the Zone 40 WSMP could result in land subsidence of up to approximately 0.14 foot, which would be less than conditions without the project. Also, the Zone 40 area is relatively flat and would not be expected to involve landslides. Given the relative stability of the geologic subsurface environment in the Zone 40 WSMP area and the geotechnical/soils studies and proper design practices that would be required for all future facilities in compliance with the CBC, the Zone 40 WSMP EIR determined impacts associated with exposure to geologic hazards would be less than significant.

As discussed in Impact 4.9-3 (Zone 40 WSMP EIR page 4.9-5), construction of Zone 40 WSMP facilities necessary to serve the related projects would result in short-term soil-disturbing activities including cut and fill, grading, trenching, boring, and vegetation removal, which could result in increased soil erosion by wind or water. Because soils could be exposed to wind and water erosion, and construction activities could result in the sedimentation of local waterways and the Sacramento River, the Zone 40 WSMP EIR determined this impact would be significant. Implementation of Mitigation Measure 4.9-3 (Zone 40 WSMP EIR pages 4.9-5 and 4.9-6) would reduce construction-related soil erosion impacts to a less-than-significant level through compliance with Central Valley Regional Water Quality Control Board requirements for discharges from general construction activity and dewatering in accordance with NPDES requirements, implementation of a SWPPP and BMPs, and preparation of an Erosion Control Plan on a project-by-project basis that complies with the Sacramento County Erosion and Sedimentation Control Ordinance.

Based on the project-specific IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, the geology, soils, and seismic impacts from implementing the long-term water supply plan for the SDCP/SRSP and for the related projects would be less than significant. Because these impacts depend on site-specific conditions, they are not additive in nature, and therefore would not result in cumulative impacts. Therefore, the SDCP/SRSP would not result in a cumulatively considerable incremental contribution to a significant geology, soils, or seismic hazards impact.

Noise

When determining whether the overall noise (and vibration) impacts from related projects would be cumulatively significant and whether the project's incremental contribution to any significant cumulative impacts would be cumulatively considerable, it is important to note that noise and vibration are localized occurrences; as such, they decrease rapidly in magnitude as the distance from the source to the receptor increases. Therefore, only those related projects that are in the direct vicinity of the planned water supply infrastructure locations within the Zone 40 2030 Study Area and those that are considered influential in regards to noise and vibration (e.g., not located where ambient conditions are dominated by traffic noise from major highways, and which are relatively large in size) would have the potential to be considered in a cumulative context with the project's incremental contribution.

The project-level IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, which consist of NVWF Wells 1 through 3 (see Chapter 6 of this document), Well 4, Well 5, and the Anatolia WTP, identified impacts related to short-term construction noise and long-term stationary-source noise as less than significant; however, the IS/MNDs for NVWF Well 6, the Vineyard Surface WTP, and the NSAP identified these impacts as potentially significant. Mitigation identified in the IS/MNDs for Well 6, the Vineyard Surface WTP, and the NSAP would reduce potentially significant impacts to a less-than-significant level through the use of noise-attenuating devices during nighttime construction and through the use of noise-attenuating devices on the Vineyard Surface WTP site.

As discussed in Impact 4.4-1 (pages 4.4-2 through 4.4-5) of the Zone 40 WSMP EIR, noise associated with construction of Zone 40 WSMP facilities necessary to serve the related projects could exceed Sacramento County noise thresholds and could adversely affect nearby noise sensitive receptors such as residential dwellings, schools, churches, and medical facilities, which would be a potentially significant impact. Implementation of Mitigation Measure 4.4-1 (page 4.4-7) would reduce potentially significant short-term construction noise impacts by limiting the hours of construction activities, reducing noise from construction equipment, and developing and implementing a construction noise attenuation plan on a project-by-project basis as needed. Although implementation of these mitigation measures would reduce construction-related noise impacts, impacts may not be reduced to a less-than-significant level because it is unknown whether construction contractors could comply with mitigation identified in Mitigation Measure 4.4-1, and the Zone 40 WSMP EIR determined this impact would remain potentially significant and unavoidable.

As discussed in Impact 4.4-2 (page 4.4-5) of the Zone 40 WSMP EIR, construction activities associated with Zone 40 WSMP facilities necessary to serve the related projects would generate heavy truck traffic and daily construction employee trips, but would not substantially increase the number of vehicles on area roadways in comparison to existing roadway volumes. Therefore, construction traffic volumes would not be anticipated to change traffic noise contours of area roadways, would not result in a substantial increase in average daily noise levels at nearby noise-sensitive receptors, and the impact would be less than significant.

Impact 4.4-3 (pages 4.4-5 through 4.4-6) of the Zone 40 WSMP EIR determined that operation of proposed Zone 40 WSMP facilities necessary to serve the related projects would result in a long-term increase in noise levels from use of motor vehicles, primarily associated with employees travelling to and from water treatment facilities and routine maintenance and inspection facilities. However, increases in traffic volumes associated with Zone 40 WSMP facilities necessary to serve the related projects would not substantially increase existing roadway volumes, and operation of the facilities would not result in a noticeable change in the traffic noise contours of area roadways and would not result in a substantial increase in average daily traffic noise levels at nearby receptors. Therefore, the Zone 40 WSMP EIR determined impacts associated with long-term increases in off-site traffic noise levels would be less than significant.

As discussed in Impact 4.4-4 (Zone 40 WSMP EIR page 4.4-6), operation of stationary noise sources could result in noise levels at nearby noise-sensitive receptors which could exceed Sacramento County noise ordinance standards, and the Zone 40 WSMP EIR determined this impact would be potentially significant. At the time the Zone 40 WSMP was prepared, the size, location, and design of Zone 40 WSMP facilities necessary to serve the related projects had not been determined, and therefore Impact 4.4-4 analyzed potential stationary-source noise levels at a programmatic level. Mitigation Measure 4.4-4 (Zone 40 WSMP EIR page 4.4-7) requires SCWA to conduct project-level CEQA review to identify specific impacts and any required mitigation measures prior to the siting and construction of Zone 40 WSMP facilities. In addition, stationary noise sources were required be designed to meet Sacramento County noise standards and were required to be located as far as possible from nearby noise-sensitive land uses. Because the final size, location, and design of Zone 40 WSMP facilities had not yet been defined, it could not be determined if implementation of mitigation measures identified for specific Zone 40 WSMP facilities necessary to serve the related projects would reduce stationary source noise impacts to a less-than-significant level, and the Zone 40 WSMP EIR determined this impact would remain potentially significant and unavoidable.

Based on the project-specific IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, the short-term construction-generated noise from implementation of the long-term water supply plan for the SDCP/SRSP would be less than significant, and would not result in a cumulatively considerable incremental contribution to significant cumulative short-term construction-generated noise from development of the water supply facilities necessary to serve the related projects.

Based on the project-specific IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, the long-term increases in traffic noise from implementation of the long-term water supply plan for the SDCP/SRSP would be less than significant; because the construction- and operation-related implementation of the facilities necessary to serve the related projects would not result in a significant impact, and because noise impacts are localized and only combine together in the immediate vicinity of the source, a cumulatively considerable impact would not occur.

Based on the project-specific IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, the long-term stationary-source noise from implementation of the long-term water supply plan for the SDCP/SRSP would be less than significant, and would not result in a cumulatively considerable incremental contribution to significant cumulative long-term stationary-source noise from the water supply facilities necessary to serve the related projects.

Public Health and Safety

This section focuses on public health and safety impacts associated with the use of recycled water in the Zone 40 2030 Study Area, and temporary and long-term use of hazardous materials associated with water treatment operations. Health and safety impacts associated with the past or current uses of a project site usually occur on a project-by-project basis, and are generally limited to the project site (in this case, the specific locations within the Zone 40 2030 Study Area where water facilities would be located) and the immediate vicinity and nearby roadways.

The project-level IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, which consist of NVWF Wells 1 through 3 (see Chapter 6 of this document), 4, 5, and 6; the Anatolia WTP; the Vineyard WTP; and the NSAP identified less-than-significant impacts related to use of recycled water and long-term use of hazardous materials related to water treatment plant operations.

The project-level IS/MNDs NVWF Wells 1 through 3 (see Chapter 6 of this document), and wells 4, 5, and 6, which are Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, identified impacts related to hazards and hazardous materials as less than significant. However, the IS/MNDs for the Vineyard Surface WTP, the Anatolia WTP, and the NSAP identified hazards and hazardous materials impacts as potentially significant. Implementation of mitigation measures identified in Vineyard Surface WTP, the Anatolia WTP, and the NSAP IS/MNDs would reduce potentially significant hazards and hazardous materials impacts to a less-than-significant level.

As discussed in Impact 4.10-1 (page 4.10-4) of the Zone 40 WSMP EIR, implementation of the Zone 40 WSMP would involve the use of recycled water to irrigate parks, schoolyards, roadway medians, and landscaped areas in portions of the 2030 Study Area. Zone 40 WSMP implementation would not involve the use of recycled water for residential landscaping. Recycled water usage would comply with Title 22 health requirements for unrestricted use including tertiary water treatment. Therefore, the Zone 40 WSMP EIR determined that significant adverse health effects associated with recycled water use would not occur and associated impacts would be less than significant.

Operation of Zone 40 WSMP water treatment plants necessary to serve the related projects would involve the use, storage, and transport of relatively large quantities of hazardous materials such as chlorine, caustic soda, and lime (Zone 40 WSMP EIR Impact 4.10-2, pages 4.10-4 and 4.10-5). In addition, water treatment plants would also use and store gasoline, diesel, oils, and lubricants. Because the use, storage, and transportation of hazardous materials

associated with Zone 40 WSMP water treatment plants would comply with applicable federal, state, and local hazardous materials laws and regulations, the Zone 40 WSMP EIR determined that impacts associated with use of hazardous materials during operation of the related Zone 40 facilities would be less than significant.

Based on the project-specific IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, the public health and safety impacts of the long-term water supply plan for the SDCP/SRSP would be less than significant, and the impacts of the related projects would also be less than significant. Because health and safety impacts would generally occur on a project-by-project basis, and would generally be limited to the project site and nearby local roadways, a significant cumulative impact would not occur, and the SDCP/SRSP would not result in a cumulatively considerable incremental contribution to a significant cumulative impact.

Public Services and Utilities

Future development in the Zone 40 2030 Study Area would increase the demand for utilities in the region. In terms of cumulative impacts, the appropriate service providers are responsible for ensuring adequate provision of public utilities within their jurisdictional boundaries. The necessary public utilities would be provided by the Sacramento Regional County Sanitation District (SRCSD), the Sacramento Municipal Utility District (SMUD), and Pacific Gas and Electric Company (PG&E).

The project-level IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, which consist of NVWF Wells 1 through 3 (see Chapter 6 of this document), 4, 5, and 6; the Anatolia WTP; the Vineyard WTP; and the NSAP, identified all impacts related to public services and utilities to be less than significant.

As discussed in Impact 4.11-2 (pages 4.11-3 and 4.11-4) of the Zone 40 WSMP EIR, the Zone 40 WSMP involves the implementation of necessary facilities to supply water to the 2030 Study Area. A portion of the Zone 40 water supplies would be recycled water that would be conveyed to the SRCSD's SRWTP thereby creating wastewater treatment demand. In addition, increased water supplies would result in an incremental increase in wastewater generated over the planning period as population and housing growth occurs in the 2030 Study Area. Therefore, implementation of the Zone 40 WSMP would increase the demand for wastewater treatment service. Because the SRCSD has accounted for future growth within the 2030 Study Area in the SRWTP 2020 Master Plan, and the SRWTP has capacity to accommodate wastewater treatment demands beyond the year 2020, the Zone 40 WSMP EIR determined that the SRWTP has adequate capacity to accommodate the wastewater treatment demands generated by future growth, and impacts would be less than significant. It should be noted that flows to the SRWTP have decreased from water conservation efforts over the last 10 years and it is anticipated that State legislation passed in 2009, which mandates further water conservation efforts, could substantially reduce the amount of wastewater in the future. In addition, the SRCSD has prioritized its goals to increase water recycling in the region as an element to support the comprehensive effort to promote water supply reliability and Delta sustainability. Therefore, the SRCSD has determined the SRWTP can provide capacity to future development beyond what was originally anticipated (SRCSD 2010).

Implementation of the Zone 40 WSMP facilities necessary to serve the related projects could also potentially disrupt existing utility facilities in the 2030 Study Area (Zone 40 WSMP EIR Impact 4.11-3, page 4.11-4). During the design phase, Sacramento County would consult with the local utility companies that operate utility facilities in the Zone 40 area to avoid potential disturbances where possible. Because Sacramento County would consult with the local utility companies prior to construction of Zone 40 WSMP facilities, the Zone 40 WSMP EIR determined that impacts associated with existing utility corridors would be less than significant.

Based on the project-specific IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, the wastewater, electricity, and natural gas impacts from implementing the long-term water supply plan for the SDCP/SRSP would be less than significant, and the impacts from the related projects would also be less than significant. Because the respective service providers have capacity to provide service to the project and the related

projects as a result of their respective regional planning efforts, the SDCP/SRSP would not result in a cumulatively considerable incremental contribution to a significant cumulative impact.

Terrestrial Biological Resources

The geographic extent of cumulative impacts on terrestrial biological resources is based on the Zone 40 2030 Study Area. Exhibit 4.6-1 of the Zone 40 WSMP EIR depicts the distribution of habitat types and water bodies within the Zone 40 2030 Study Area.

The project-level IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, which consist of NVWF Wells 1 through 3 (see Chapter 6 of this document), Well 4, Well 5, and Well 6, Vineyard Surface WTP, and NSAP identified impacts related to special-status wildlife species and sensitive habitats (i.e., riparian marsh, wetlands, and other waters of the State) as potentially significant. Mitigation identified in these IS/MNDs would reduce potentially significant impacts to a less-than-significant level by conducting surveys to identify special-status plant and wildlife species and sensitive habitats, establishing buffers to protect special-status species and sensitive habitats, complying with applicable state and federal agency permit requirements, restoring sensitive habitats, and paying mitigation fees for the loss of special-status species and sensitive habitats. The Anatolia WTP IS/MND identified impacts related to biological resources as less than significant.

At the time the Zone 40 WSMP was prepared, the size, location, and design of Zone 40 WSMP facilities that would be necessary to serve the related projects had not been determined. Impacts 4.6-1 (Zone 40 WSMP EIR pages 4.6-28 through 4.6-30) and 4.6-2 (Zone 40 WSMP EIR pages 4.6-30 and 4.6-31) analyzed the potential impacts to eight special-status plant and 26 special-status wildlife species and sensitive habitats (i.e., riparian marsh, wetlands, and other waters of the State), respectively, from implementation of the Zone 40 WSMP facilities necessary to serve the related projects at the programmatic level. Depending on the final size, location, and design of Zone 40 facilities, significant biological resources impacts could occur. Therefore, the Zone 40 WSMP EIR determined that impacts associated with loss or disturbance of special-status species and loss, alteration, and/or temporary disturbance of sensitive habitats from construction and maintenance of Zone 40 WSMP facilities necessary to serve the related projects would be potentially significant. Mitigation Measures 4.6-1 (Zone 40 WSMP EIR page 4.6-37) and 4.6-2 (Zone 40 WSMP EIR pages 4.6-37 and 4.6-38) require project-level CEQA review to identify specific impacts and any required mitigation measures prior to the siting and construction of Zone 40 WSMP facilities. Because of the uncertainty of environmental impacts associated with facilities that have not yet been designed or sited, it could not be determined if implementation of project-specific mitigation measures would reduce impacts on special-status plant and wildlife species and sensitive habitats to a less-than-significant level. Therefore, the Zone 40 WSMP EIR determined these terrestrial biology impacts would remain potentially significant and unavoidable.

As discussed in Impact 4.6-4 (Zone 40 WSMP EIR pages 4.6-35 and 4.6-36), the provision of water to the Zone 40 2030 Study Area would facilitate development that could, in turn, result in the potential loss of important habitat areas inside the urban services boundary (USB) that are potentially critical components of the SSHCP. The Zone 40 WSMP EIR determined this impact would be potentially significant. Mitigation Measure 4.6-4 (Zone 40 WSMP EIR page 4.6-38) requires SCWA to provide funding to facilitate and expedite completion and implementation of the SSHCP, which would further define the areas to be protected. However, because of the uncertainty of future land use decisions that could result in development of land outside of the 2030 Study Area, it could not be determined if implementation of this mitigation measure would reduce impacts to a less-than-significant level, and the Zone 40 WSMP EIR determined this impact would remain potentially significant and unavoidable.

Based on the project-specific IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, the biological resource impacts of the long-term water supply plan for the SDCP/SRSP would be less than significant, and would not result in a cumulatively considerable incremental contribution to significant cumulative

biological resource impacts due to the construction and operation of water supply facilities necessary to serve the related projects.

Transportation

Regional access to the Zone 40 2030 Study Area is provided by Interstate 5 (I-5) and State Route 99 (SR 99). Both I-5 and SR 99 extend in a north-south direction through Sacramento County, serving a mix of both local and regional commuter and heavy-truck traffic. In the 2030 Study Area, I-5 and SR 99 are four-lane divided freeways.

Table 4.5-1 of the Zone 40 WSMP EIR identifies the major north-south and east-west roadways that serve the Zone 40 2030 Study Area and existing traffic volumes, and Exhibit 4.5-1 of the Zone 40 WSMP EIR shows these roadways in relation to the Zone 40 boundaries.

The project-level IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, which consist of NVWF Wells 1 through 3 (see Chapter 6 of this document), 4, 5, and 6 and the Anatolia WTP, identified impacts related to temporary increases in traffic during construction as less than significant; however, the IS/MND for the Vineyard Surface WTP identified this impact as potentially significant. Mitigation identified in the Vineyard Surface WTP IS/MND would reduce potentially significant impacts to a less-than-significant level through preparation and implementation of a traffic control plan and by providing access to agricultural areas adjacent to the site. The NSAP IS/MND identified impacts related to traffic hazards, potential damage to roadways, and impede access to agricultural areas. Mitigation identified in the NSAP IS/MND would reduce these potentially significant traffic impacts to a less-than-significant level through preparation and implementation of a traffic control plan, repair of roadway damage following construction, and by providing access to agricultural areas adjacent to the site. The IS/MNDs for NVWF Wells 1 through 3 (see Chapter 6 of this document), 4, 5, and 6; the Anatolia WTP; the Vineyard WTP; and the NSAP identified impacts related to long-term increases in traffic as less than significant.

As discussed in Impact 4.5-1 (pages 4.5-3 and 4.5-4) and Impact 4.5-5 (page 4.5-5) of the Zone 40 WSMP EIR, implementation of the Zone 40 WSMP would increase the number of temporary construction-related vehicle trips on area roadways, and would slightly increase traffic volumes on area roadways from long-term operation of Zone 40 WSMP facilities. Construction-related vehicle trips represent a temporary, minor increase in traffic on area roadways and would not decrease existing levels of service, and trips associated with operation of Zone 40 WSMP facilities would represent less than 1% of existing traffic volumes on area roadways. Therefore, the Zone 40 WSMP EIR determined that increased vehicle trips from temporary construction-related activities and long-term operational traffic would not substantially increase roadway congestion and would not decrease levels of service on area roadways. Therefore, temporary construction and long-term operational traffic impacts due to the water supply facilities necessary to serve the related projects would be less than significant. The placement of water conveyance pipelines in existing roadway alignments could result in the partial obstruction of local roadways, road or lane closures, traffic delays, damage to property, increased traffic hazards, and increased roadway congestion. As discussed in Impact 4.5-2 (Zone 40 WSMP EIR page 4.5-4), construction of pipelines in area roadways could result in a temporary increase in roadway congestion, and the Zone 40 WSMP EIR determined this impact would be potentially significant. Implementation of Mitigation Measure 4.5-2 (Zone 40 WSMP EIR pages 4.5-5 and 4.5-6) would reduce potentially significant impacts associated with increased congestion during pipeline construction for the related projects to a less-than-significant level through the coordination of Zone 40 WSMP facility design and construction with relevant local agencies, notification of local residents and Regional Transit prior to construction, and preparation and approval of a transportation plan on a project-by-project basis.

As discussed in Impact 4.5-3 (page 4.5-4) of the Zone 40 WSMP EIR, because implementation of the Zone 40 WSMP would not permanently alter vehicular circulation within the Zone 40 area and would not involve the construction of any facilities that could be hazardous to vehicles or pedestrians, the impacts from the related

projects associated with increased hazards attributable to a Zone 40 WSMP facility design feature would be less than significant.

As discussed in Impact 4.5-4 (Zone 40 WSMP EIR pages 4.5-4 and 4.5-5), implementation of the Zone 40 WSMP facilities necessary to serve the related projects would involve construction along Zone 40 2030 Study Area roadways and increased truck traffic associated with construction activities would obstruct roadways and potentially increase response times for emergency vehicles such as fire protection, police, and ambulance services along affected roadways. The Zone 40 WSMP EIR determined this impact would be potentially significant. Implementation of Mitigation Measure 4.5-4 (Zone 40 WSMP EIR page 4.5-6) would reduce potentially significant impacts associated with inadequate emergency access to a less-than-significant level through preparation of an emergency access plan as part of the Zone 40 WSMP's overall transportation plan.

Based on the project-specific IS/MNDs for the Zone 40 WSMP infrastructure facilities serving the SDCP/SRSP, traffic impacts due to the construction and operation of the long-term water supply plan for the SDCP/SRSP would be less than significant; the temporary construction-related activities, long-term operational traffic, traffic hazards, traffic delays/congestion, and emergency access due to due to the water supply facilities necessary to serve the related projects were also determined to be less than significant. When considered together, the amount of traffic generated by the water facilities to serve the project and the related projects would not exceed LOS or result in a substantial permanent increase in daily traffic trips on local roadways. Therefore, the SDCP/SRSP project would not result in a cumulatively considerable incremental contribution to a significant cumulative impact.

7.6 GROWTH INDUCEMENT

Impact 4.1-3 (pages 4.1-26 and 4.1-27) of the Zone 40 WSMP EIR determined that implementation of the Zone 40 WSMP would result in the removal of one obstacle to growth (i.e., water supply) in the 2030 Study Area, and growth would result in the conversion of undeveloped areas to urban land uses resulting in impacts on biological resources, scenic resources, air quality, noise, traffic, and other effects of increased urbanization; therefore, the Zone 40 WSMP would be growth-inducing and the urbanization of land uses would lead to significant environmental impacts. Mitigation Measure 4.1-3 (pages 4.1-28 and 4.1-29) acknowledged that mitigation of growth-related environmental impacts is in the purview of Sacramento County and the cities of Elk Grove and Rancho Cordova through their existing land use authority, and SCWA has no such land use authority. Because land use decisions and associated development-related mitigation is the responsibility of the cities and the county, SCWA cannot ensure that growth-inducing environmental impacts can be reduced to a less-than-significant level, and the Zone 40 WSMP EIR determined this impact would remain significant and unavoidable.

Because SDCP/SRSP long-term water supply is provided by the SCWA Zone 40 system, the SDCP/SRSP water supply plan would result in a cumulatively considerable incremental contribution to the significant impact related to growth inducement and the associated environmental effects of increased urbanization. However, as identified in Chapter 3, "Water Supply," Chapter 4, "Fisheries and Aquatic Resources," and Chapter 5, "Climate Change," of this Revised DEIR, the City of Rancho Cordova would implement mitigation measures as necessary to reduce the potential environmental impacts of the SDCP/SRSP long-term water supply to the greatest degree feasible.

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APPENDIX A

Sector-Based GHG Threshold Methodology for Water Use in the Sunrise-Douglas Community Plan Area (CPA) at Full Buildout

APPENDIX A SECTOR-BASED GHG THRESHOLD METHODOLOGY FOR WATER USE IN THE SUNRISE-DOUGLAS COMMUNITY PLAN AREA (CPA) AT FULL BUILDOUT

The following sector-based approach was used to calculate a 2020 GHG significance threshold and performance standard for Sunrise-Douglas area.

1) Significance Threshold

To calculate a 2020 city-level GHG significance threshold that is consistent with the goals of the AB 32 Scoping Plan (15% reduction in GHG emissions from current levels by local governments [Scoping Plan, page ES-5]), current GHG emissions associated with water pumping, treatment, and distribution in the City of Rancho Cordova were calculated, reduced by 15% (per the Scoping Plan), and divided by the 2005 service population (SP) of the City. The year 2005 was used as the current baseline year, which results in a more conservative threshold than later years. The year 2020 was chosen as the target year because AB32 and the Scoping Plan does not extend beyond this time; as stated in the text of AB 32 "The state board shall make recommendations to the Governor and the Legislature on how to continue reductions of greenhouse gas emissions beyond 2020."

The GHG threshold was calculated to be **0.0288 MT CO_2e/SP/year** in 2020 (see the following page for detailed calculations).

2) 2030 GHG Performance Standard for Water Supply in the CPA

To calculate the 2030 GHG performance standard associated with water supply/use in the Sunrise-Douglas CPAs, the GHG emissions associated with water pumping, treatment, and distribution in the year 2030 were calculated (assuming that year will coincide with buildout water demand of 15,844 ac-ft/yr).

Next, the GHG emissions associated with the water supply were reduced by 20% at buildout per Citywide Recycled Distribution Ordinance (Resol. No. 11-2006) and General Plan Policies NR.5.1 and NR.5.2 and associated actions (20% reduction per capita on water consumption from 2006 conditions).

The reduced GHG emissions were then divided by the service population of the CPA in 2030.

The Service Population of the CPA is calculated below:

Residential: 22,441 units * 2.68 [residents/unit, the factor used for the Suncreek CPA used as a proxy, identical to SMUD's demographic projection available at: http://www.energy.ca.gov/2009publications/CEC-200-2009-012/index.html] = **60,142** residents

Commercial: 229 acres * 21.98 employees/acre (SCAOG 2001, Employment Density Study: Page 16, Table 2B, Row 2, Column 4) = **5,033** employees

School: 20 acres * 2.89 employees/acre (2006 average from http://www.cde.ca.gov/ls/fa/sf/completesch.asp) = **58** employees

Total service population = **65,233**
The 2030 GHG efficiency metric for water use in the CPA was calculated to be **0.0273 MT CO_2e/SP/year**, which is lower than the significance threshold.

Water Supply GHG Calculations:

City Water Demand in 2005: 21,573 ac-ft/yr
CPAWater Demand in 2030: 15,844 ac-ft/yr

CEC Water Pumping/Treatment/Distribution Electricity Demand Factor: 3,500 KWh/million gallons/year (northern California) - no future factors available
SMUD-Estimated 2005 Electricity Emission Factor: 616 lb CO_2/MWh
SMUD-Estimated 2030 Electricity Emission Factor: 269 lb CO_2/MWh
City SP in 2020: 204,167
CPA SP in 2030: 65,233

KWh/million gallons/year*	KWh/acre-ft/year	acre-ft/year	Total KWh	MWh	Region	Emission Factor (lb CO_2/MWh)	GWP	Emission Factor (lb CH_4/MWh)	GWP	Emission Factor (lb N_2O/MWh)	GWP	Total CO_2e (Metric Tons/year)
2030												
Indirect Emissions from Water Use (includes conveyance, treatment, distribution)												
3,500	1140	15,844.0	18,069,078	18,069	CAMX	269	1	0.0302	23	0.0081	296	**2,230**
											Total	**2,230**
Surface Water											Subtract 20%	1,784
Assumes that all 15844 ac-ft would be provided to the project from Zone 40 surface water supplies											SP	65,233
											GHG/SP	**0.02734897**
2005												
City of Rancho Cordova Indirect Emissions from Water Use (includes conveyance, treatment, distribution)												
3,500	1140	21,572.9	24,602,559	24,603	CAMX	616	1	0.0302	23	0.0081	296	**6,909**
											Total	**6,909**
											Subtract 15%	5,872
											2020 City Population	105,000
											2020 City Employment	99,167
											Threshold/SP	**0.028763071**

Assumptions:
3.069 acre-ft = 1 Million gallon
Service Population (SP) = population + employment
2005 Water Demand:
13,825,67 AF water used by residences
7,747.26 AF water used by commercial/office/industrial/public/institutional uses
Sources for 2005 Water Demand:
City of Rancho Cordova. *General Plan Environmental Impact Report.* Table 4.1-1. March 2006.
City of Rancho Cordova. *General Plan January Map Development Assumptions.* December 20, 2005.
Sacramento Area Council of Governments. Population, Housing and Household Estimates 2000-2009.
Sacramento County Water Agency. *Zone 40 Water Supply Master Plan.* Page 2-4. February 2005.
Sources for Water Energy and Electricity EFs:
California Energy Commission [CEC] 2006. Refining Estimates of Waterrelated Energy Use in California, CEC-500-2006-118, page 22.
Electric Power Research Institute [EPRI] 2002. Water & Sustainability (Volume 4): U.S. Electricity Consumption for Water Supply & Treatment. Technical Report 1006787. Page 1-4
SMUD emission factors provided by Obadiah Bartholomy at SMUD 10/21/10 (EFs for 2009, and projections beyond 2009, are not third-party verified).
Sources for 2020 Population, Employment, and Water Ordinances:
City of Rancho Cordova. 2008b. Demographics. Available: http://www.cityofranchocordova.org/Index.aspx?page=600.
City of Rancho Cordova. 2006f. Community Redevelopment Agency. Redevelopment Plan, Draft EIR, March 2006: page 4.2-7
Citywide Recycled Distribution Ordinance (Resolution No. 11-2006) and General Plan Policies NR.5.1 and NR.5.2 and associated actions (20% reduction per capita on water consumption from 2006 conditions)