CHAPTER 1
Introduction

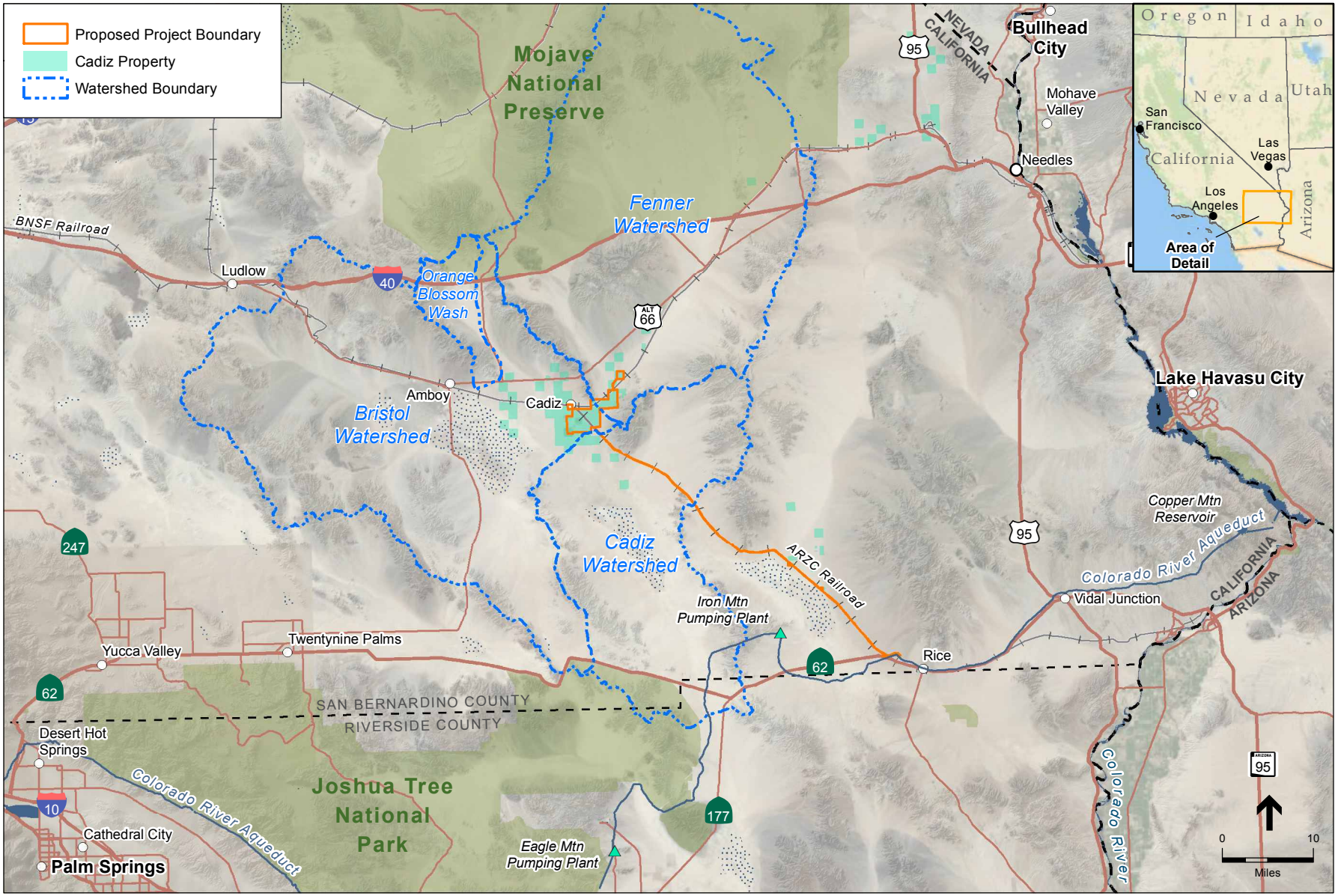
1.1 Purpose of the EIR

Santa Margarita Water District (SMWD) has prepared this Draft Environmental Impact Report (Draft EIR) to provide the public and responsible and trustee agencies with information about the potential effects on the local and regional environment associated with construction and operation of the proposed Cadiz Valley Water Conservation, Recovery, and Storage Project (Project). This Draft EIR has been prepared pursuant to the California Environmental Quality Act (CEQA) of 1970 (as amended), codified at California Public Resources Code Sections 21000 et. seq., and the *CEQA Guidelines* in the Code of Regulations, Title 14, Division 6, Chapter 3.

This Draft EIR describes the environmental impacts of the proposed Project and suggests mitigation measures to reduce any significant impacts to a less than significant level. The impact analyses are based on a variety of information sources, including agency consultation, technical studies, and field surveys. As Lead Agency under CEQA, SMWD may use this EIR to approve the proposed Project, make Findings regarding identified significant impacts, and if necessary, adopt a Statement of Overriding Considerations regarding these impacts.

1.2 Project Overview

The proposed Project is designed to actively manage the groundwater basin underlying a portion of the Cadiz and Fenner Valleys located in the eastern Mojave Desert portion of San Bernardino County, California (**Figure 1-1**). The Project would be developed in two phases, the first being the Conservation and Recovery Component and the second phase being the Imported Water Storage Component. The purpose of the Project is to maximize beneficial uses of the groundwater in the Fenner Valley for SMWD and other entities participating in the Project (Project Participants). SMWD, along with other Project Participants, is proposing to implement the Project in partnership with Cadiz Inc. (Cadiz), a Delaware corporation that owns approximately 34,000 contiguous acres of land in the Cadiz and Fenner Valleys (Cadiz Property), and the Fenner Valley Mutual Water Company (FVMWC), a non-profit California mutual water company that would be formed to deliver water to its shareholders which are comprised of the Project Participants (see Section 1.2.3 in this chapter). Cadiz would make available its land, easements, and appurtenant rights for the operation of the Project.



SOURCE: Bing Maps, 2011; ESRI, 2010; DeLorme, 2011; Cadiz Inc., 2011; and ESA, 2011

Cadiz Valley Water Conservation, Recovery, and Storage Project

Figure 1-1

Watershed Boundaries

Substantial quantities of percolating groundwater underlie the Cadiz Property and the surrounding Fenner, Orange Blossom Wash, Cadiz, and Bristol Watersheds (Watersheds). The total volume of groundwater in storage in the Fenner and Orange Blossom Wash Watershed has been estimated to be between 17 and 34 million acre-feet (MAF).[1] Figure 1-1 shows the boundaries of the Watersheds. Within this closed basin system, groundwater percolates and migrates downward from the higher elevations in the Watersheds and eventually flows to Bristol and Cadiz Dry Lakes. Once the fresh groundwater reaches the Dry Lake areas, it mixes with the highly saline groundwater zone under the Dry Lakes and ultimately evaporates. The proposed Project intercepts this flow and extracts groundwater for beneficial uses before it is wasted to the brine zone. The Project would prevent up to 2 MAF from mixing with the brine and evaporating over the 50-years of pumping an annual average of 50,000 acre feet (AF).

The Project has two components that would be implemented by the FVMWC. The first component—the Groundwater Conservation and Recovery Component—is ready for detailed analysis and implementation. The second component—the Imported Water Storage Component—is under development and would be implemented following completion of the first component. The first Component, analyzed in this Draft EIR at a "project-level," is required to set the stage for proceeding with the second Component, which is analyzed at a "program-level."

1.2.1 Groundwater Conservation and Recovery Component

In the first phase of the proposed Project, the Groundwater Conservation and Recovery Component, an annual average of 50,000 AF of groundwater would be pumped from the basin over a 50-year period and delivered to the Project Participants in accordance with the Cadiz Groundwater Management, Monitoring and Mitigation Plan (GMMMP) that has been developed to guide long-term groundwater management for the Project. The level of groundwater pumping proposed under the Groundwater Conservation and Recovery Component is designed specifically to extract and conserve groundwater that would otherwise migrate to the brine zone below the Dry Lakes where its beneficial use is lost before it evaporates. To implement the Project, extraction wells (wellfield) would be built on the Cadiz Property and a 43-mile underground water conveyance pipeline would be constructed within an active railroad right-of-way (ROW) that originates in Cadiz, California and intersects with the Colorado River Aqueduct (CRA) (Figure 1-1). The pipeline would convey an annual average of 50,000 acre-feet per year (AFY) of water from the Fenner Valley groundwater basin to the CRA and then on to SMWD and other Project Participants, for a period of 50 years. In accordance with *CEQA Guidelines* Sections 15161 and 15378(a), the Groundwater Conservation and Recovery Component is being analyzed at a project level in this Draft EIR.

1.2.2 Imported Water Storage Component

The second phase of the Project, the Imported Water Storage Component, would make available up to 1 MAF of groundwater storage space in the basin to be used as part of a conjunctive use project, which is consistent with State policy favoring and supporting conjunctive use projects

[1] CH2M Hill, *Cadiz Groundwater Conservation and Storage Project*, July 2010, page 3-1.

(California Water Code § 79170 et. seq.). Under the Imported Water Storage Component, water would be conveyed to recharge basins in the Fenner Valley to percolate into the ground for storage and future withdrawal as a dry-year supply (Figure 1-1). The Imported Water Storage Component is being evaluated in this Draft EIR at a programmatic level in accordance with *CEQA Guidelines* Section 15168, because the potential quantity and schedule for spreading, storage, and extraction is still under conceptual development, the participants have not yet been identified, and it would be implemented at a later date. A similar project proposed by the Metropolitan Water District of Southern California (Metropolitan) called the "Cadiz Groundwater Storage and Dry-Year Supply Program" was analyzed in detail in 2001. The analysis from this previously proposed project supports the programmatic analysis provided here.

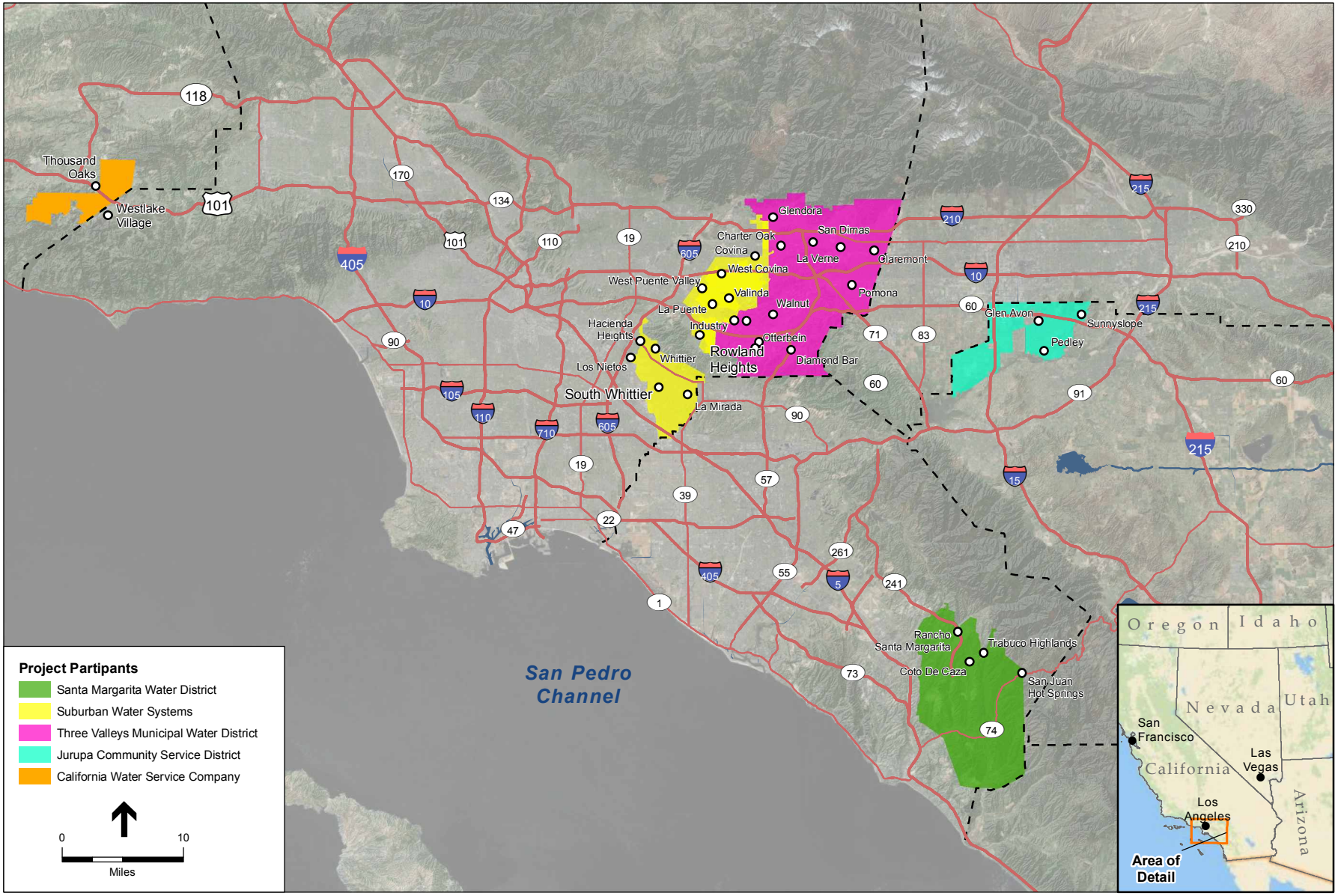
1.2.3 Project Participants

The following water providers and railroad company have entered into agreements with Cadiz Inc. to be Project Participants. Each Project Participant would receive water from the Project in accordance with the GMMMP that has been developed to guide the long-term groundwater management for the Project. Other participating entities may join the Project at any time until the established Project capacity is reached. The full term of the Project would be 50 years. In the event that circumstances beyond the control of the Project operator required additional time to complete contracted water deliveries, the Project term may be extended for a limited time under the terms of the agreements. If Project Participants elect to extend the Project for an additional term, new agreements and a new environmental analysis would be required.

Santa Margarita Water District – Lead Agency

SMWD is Orange County's second-largest water district, with a 97-square-mile service area that includes residents and businesses in southern Orange County, California. SMWD is divided into eight improvement districts that allow SMWD to meet the diverse needs of specific portions of its service area, factoring in land use, topography, property ownership, water supply, and wastewater treatment needs. SMWD is a member agency of the Municipal Water District of Orange County (MWDOC), which is a member agency of Metropolitan.[2] With limited local water supplies available within its service area, significant portions of SMWD's water supply are purchased from Metropolitan, which delivers to its customers water imported to the region from Northern California via the State Water Project (SWP) and from the Colorado River via the CRA. SMWD also delivers limited local groundwater reuse and recycled water supplies to its customers (see **Figure 1-2**).[3] As described in further detail in Section 1.3, SMWD is acting as Lead Agency for CEQA review of the Project.

[2] Santa Margarita Water District, *2010 Urban Water Management Plan*, July 2011, page 2-10.
[3] Santa Margarita Water District, *About Us: Operations*, www.smwd.com/operations.htm, accessed December 2010.



SOURCE: Bing Maps, 2011; ESRI, 2010; DeLorme, 2011; Cadiz Inc., 2011; and ESA, 2011

Cadiz Valley Water Conservation, Recovery, and Storage Project

Figure 1-2

Project Participants:
SMWD, Suburban, Three Valleys, Cal Water and JCSD
(See Figure 1-3 for Golden State)

Three Valleys Municipal Water District

Three Valleys Municipal Water District (Three Valleys) is a California Municipal Water District and a public water agency that distributes water for beneficial uses within Eastern Los Angeles County and provides imported water to 14 member agencies, serving a total population of over 600,000.[4] Three Valleys' service area spans over 133 square miles. Three Valleys is a member agency of Metropolitan and delivers water purchased from Metropolitan to its member agencies (see Figure 1-2). Three Valleys service area receives approximately 50 percent of its water supplies from Metropolitan. The majority of the remaining 50 percent is provided by local groundwater sources, and smaller percentages are provided by local surface water and recycled water.[5] Three Valleys would act as a Responsible Agency for purposes of evaluating environmental impacts of the proposed Project within its service area.

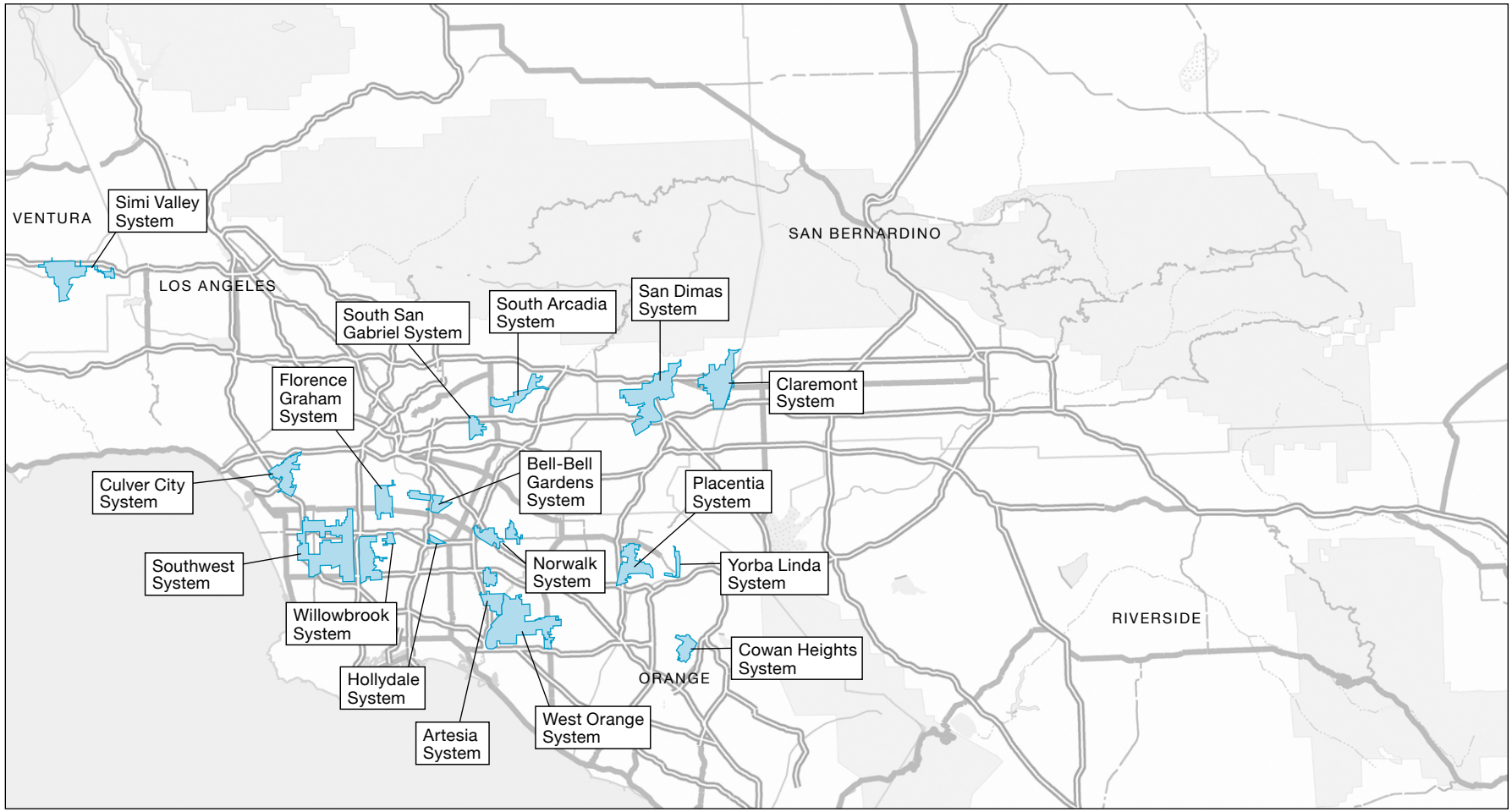
Golden State Water Company

Golden State Water Company (Golden State) is California's second-largest investor-owned water utility and a wholly-owned subsidiary of American States Water Company (NYSE: AWR). Golden State is engaged in the distribution and sale of water and power to over 275,000 customers in 10 counties across California. In Southern California, Golden State serves customers in cities throughout San Bernardino, Riverside, Los Angeles, Orange and Ventura counties (see **Figure 1-3**). Golden State's customers receive water from several sources, including imported water purchased from Metropolitan; surface water obtained from local rivers, lakes, and streams; groundwater pumped from local underground aquifers; and recycled or reclaimed water.[6] Golden State is regulated by the California Public Utilities Commission (CPUC).

Suburban Water Systems

Suburban Water Systems (Suburban) is an investor-owned water utility that provides water and water service to a population of approximately 300,000 people in Los Angeles and Orange Counties. Suburban is a wholly-owned subsidiary of SouthWest Water Company. Suburban's 42-square-mile service area is divided into two regions: the San Jose Hills Service Area and the Whittier/La Mirada Service Area (see Figure 1-2). The two service areas are about three miles apart, separated by the La Puente Hills. Suburban's water supply comes primarily from local groundwater (80 percent); the remaining 20 percent is provided by surface water from Metropolitan, Covina Irrigating Company and California Domestic Water Company.[7] Suburban's water distribution system includes 18 wells, 32 reservoirs and more than 800 miles of pipeline. Suburban is regulated by the CPUC.

4 Metropolitan Water District of Southern California, *Member Agencies: Three Valleys Municipal Water District*, www.mwdh2o.com/mwdh2o/pages/memberag/agencies/threevalleys.htm, accessed February 2011.
5 Three Valleys Municipal Water District, *2010 Urban Water Management Plan*, June 2011, page 3.
6 Golden State Water Company, *2010 Urban Water Management Draft Plan, Multiple Water Systems*, 2010.
7 SouthWest Water Company, *Suburban Water Systems*, www.swwc.com/suburban/about-our-water/, accessed February 2011.



SOURCE: Golden State Water Company; ESA, 2011.

Cadiz Valley Water Conservation, Recovery, and Storage Project

Figure 1-3

Project Participant:
Golden State Water Company
Southern California Service Areas

Jurupa Community Services District

Jurupa Community Services District (JCSD) is a public agency responsible for providing potable water, sewer and street lights to over 101,000 people located throughout 48 square miles in the Jurupa area of Riverside County (see Figure 1-2). JCSD utilizes a combination of wells and water treatment plants to deliver highly treated groundwater to customers throughout the service area. The treatment plants in use are the Chino I and II Desalters, which are owned and operated by Chino Basin Desalter Authority. Currently, JCSD operates 16 wells, 8 booster stations, and 16 reservoirs, providing a 46.2 million-gallon capacity.[8] JCSD would act as a Responsible Agency for purposes of evaluating environmental impacts of the proposed Project within its service area.

California Water Service Company

California Water Service Company (Cal Water) is California's largest investor-owned water utility. Cal Water is the largest subsidiary of the California Water Service Group, which also includes Washington Water Service Company, New Mexico Water Service Company, Hawaii Water Service Company, and CWS Utility Services. Cal Water distributes and sells water to 1.7 million Californians through 435,000 connections. Its 24 separate water systems serve 63 communities from Chico in Northern California to the Palos Verdes Peninsula in Southern California.[9] Cal Water's customers receive water from several sources, including imported water purchased from Metropolitan; surface water obtained from local rivers, lakes, and streams; groundwater pumped from local underground aquifers; and recycled or reclaimed water. Cal Water is regulated by the CPUC. Project water would be used to serve its Westlake District service area within the City of Thousand Oaks in Ventura County. (See Figure 1-2)

Arizona & California Railroad Company

The Arizona & California Railroad Company (ARZC) is the owner and operator of the shortline railroad that runs from Cadiz, California to Parker, Arizona. Cadiz Inc. has entered into an agreement with the ARZC to utilize a portion of its ROW for installing the proposed water conveyance pipeline from the Cadiz Property to the CRA. ARZC is also participating in the Project to meet railroad water demands along the ROW including fire suppression and future needs of the railroad.

1.3 CEQA Lead Agency and Responsible and Trustee Agencies

According to CEQA, when a project is to be carried out by more than one public agency, the public agency with the greatest responsibility for supervising or approving a project or the first public agency to make a discretionary decision to proceed with a proposed project should act as the Lead Agency (*CEQA Guidelines* §§ 15051(a) and 15051(b)). The term Responsible Agency

[8] Jurupa Community Services District, *2010 Urban Water Management Plan*, May 2011, page 5.
[9] California Water Service Company, *Westlake District 2010 Urban Water Management Plan*, June 2011.

includes all public agencies other than the Lead Agency which have discretionary approval power over a project (*CEQA Guidelines* §§ 15096 and 15381). The Lead Agency is responsible for preparing the appropriate CEQA document and has primary responsibility for approving or carrying out the project (*CEQA Guidelines* § 15050(a)). The decision-making bodies of the Lead Agency and Responsible Agencies consider the EIR prior to acting upon or approving a project (*CEQA Guidelines* § 15050(b)).

As the first public agency with a discretionary decision regarding the proposed Project and because the Project would be owned in part and operated by SMWD, SMWD is acting as Lead Agency. SMWD was the first Project Participant to enter into an Option Agreement for the largest portion of water supply and carry-over storage from the Project and is sharing CEQA costs with Cadiz. SMWD has prepared this Draft EIR in accordance with its responsibility as Lead Agency to evaluate the potential environmental impacts of the proposed Project. SMWD has the discretion to certify the EIR and to approve or reject the Project.

Trustee Agencies are defined in *CEQA Guidelines* Section 15386. Trustee Agencies are state agencies having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California. The California Department of Fish and Game (CDFG), which is responsible for fish and wildlife, is the only Trustee Agency defined in *CEQA Guidelines* Section 15386, with jurisdiction over the Project. CDFG would be reviewing the Draft EIR during its review of the proposed Project pursuant to the permitting authority under the California Fish and Game Code Sections 2081 and 1602.

1.4 Organization of the Draft EIR

This Draft EIR describes the proposed Project and the existing environmental setting, identifies short-term, long-term, and cumulative environmental impacts, identifies mitigation measures for impacts found to be significant, and provides an analysis of Project alternatives. The Notice of Preparation (NOP) for the proposed Project was published on February 28, 2011.

This Draft EIR has been organized into the following chapters:

ES. Executive Summary. This chapter contains an overview of the Draft EIR, as well as a summary of environmental impacts, proposed mitigation measures, level of significance after mitigation, and a description of significant but unavoidable impacts.

1. Introduction. This chapter discusses the purpose of CEQA, the purpose and format of this Draft EIR, the environmental review process, and the intended uses of this document, and describes the difference between a project level of analysis and a programmatic level of analysis.

2. Project Background. This chapter describes the Project history and background, including the relationship between the proposed Project and the former "Cadiz Groundwater Storage and Dry-Year Supply Program" (Cadiz Program) for which an EIR/EIS (environmental impact statement) was prepared in 2001.

3. **Project Description.** This chapter provides an overview of the proposed Project, describes the Project objectives, and identifies the Project Participants. It also describes the construction and operation of the two phases of the Project: the Groundwater Conservation and Recovery Component analyzed at the project level, and the Imported Water Storage Component analyzed at the programmatic level.

4. **Environmental Setting, Impacts, and Mitigation Measures.** This chapter describes the environmental setting and identifies impacts of the proposed Project on each of the following environmental resource areas: Aesthetics; Agriculture and Forestry Resources; Air Quality; Biological Resources; Cultural Resources; Geology and Soils; Greenhouse Gas Emissions; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Mineral Resources; Noise; Public Services and Utilities; Recreation; and Transportation and Traffic. Significance criteria have been developed for each environmental resource analyzed in this Draft EIR. The significance criteria are defined at the beginning of each impact analysis section.

   Impacts are categorized as follows:

   - **Significant and Unavoidable:** Mitigation may be recommended if feasible and if it would reduce impacts but impacts would remain significant with mitigation;
   - **Less than Significant with Mitigation:** Potentially significant impact that can be mitigated to a less than significant level;
   - **Less than Significant:** Mitigation is not required under CEQA but may be recommended; or
   - **No Impact:** Mitigation not required or recommended.

5. **Cumulative Impacts.** This chapter describes the incremental impacts of the proposed Project when considered together with closely related past, present, and reasonably foreseeable probable future projects consistent with *CEQA Guidelines* Section 15355(b).

6. **Growth Inducement.** This chapter describes the potential for the proposed Project to induce growth.

7. **Analysis of Alternatives**. This chapter presents an overview of the alternative development processes, describes the alternatives to the proposed Project that are being considered, and compares the impacts of the proposed Project to those of the Project alternatives.

8. **Irreversible and Irretrievable Commitment of Resources.** This chapter indentifies elements of the proposed Project that could result in irreversible and irretrievable commitment of resources and described the Project's long-term benefits and how these benefits offset the irretrievable commitment of resources.

9. **Report Preparers.** This chapter identifies the report preparers, including persons and organizations consulted.

10. **Acronyms.** This chapter defines the acronyms used throughout the Draft EIR.

11. **References.** This chapter provides the references for information in the Draft EIR.

1.5 Level of CEQA Analysis in this Draft EIR

1.5.1 Geographic Context

This Draft EIR considers potential environmental effects to the Project area and broader region. Localized impacts of Project construction and operation are analyzed in detail for the property that is proposed to be affected. The analysis expands in scope depending on the resource area potentially affected. For example, the groundwater basin underlying the Project area and the air basin extend for miles in every direction and public lands and utilities that could be affected by the Project extend even further from the local Project construction footprint. Finally, this Draft EIR includes an assessment of water demands in the context of the entire Southern California region, and particularly within Project Participant service areas and the greater Metropolitan service area. **Figure 1-4** provides a schematic overview of the geographic context of the environmental analysis contained in this Draft EIR.

1.5.2 Project-Level Analysis

This Draft EIR evaluates the first phase of the proposed Project, the Groundwater Conservation and Recovery Component, at a site-specific "project level" consistent with *CEQA Guidelines* Section 15161 and 15378(a). Project-level analyses examine all phases of a proposed project, including planning, construction, and operation, at a site-specific level.

1.5.3 Programmatic-Level Analysis

Because it could be implemented at a later date and the potential quantity and schedule for spreading, storage, and extraction of water is still under conceptual development, the Draft EIR evaluates the second phase of the proposed Project, the Imported Water Storage Project, at a programmatic-level providing more of a general level of analysis consistent with *CEQA Guidelines* Section 15168. Further appropriate environmental review would be conducted as determined appropriate pursuant to CEQA and when specific Project Participants that would access and utilize the storage space are identified. For example, additional information regarding the specific location and design of the proposed wellfield expansion could be necessary to fully evaluate groundwater quality impacts associated with the Imported Water Storage Component. This Draft EIR would provide the basis for any future project-level CEQA analyses.

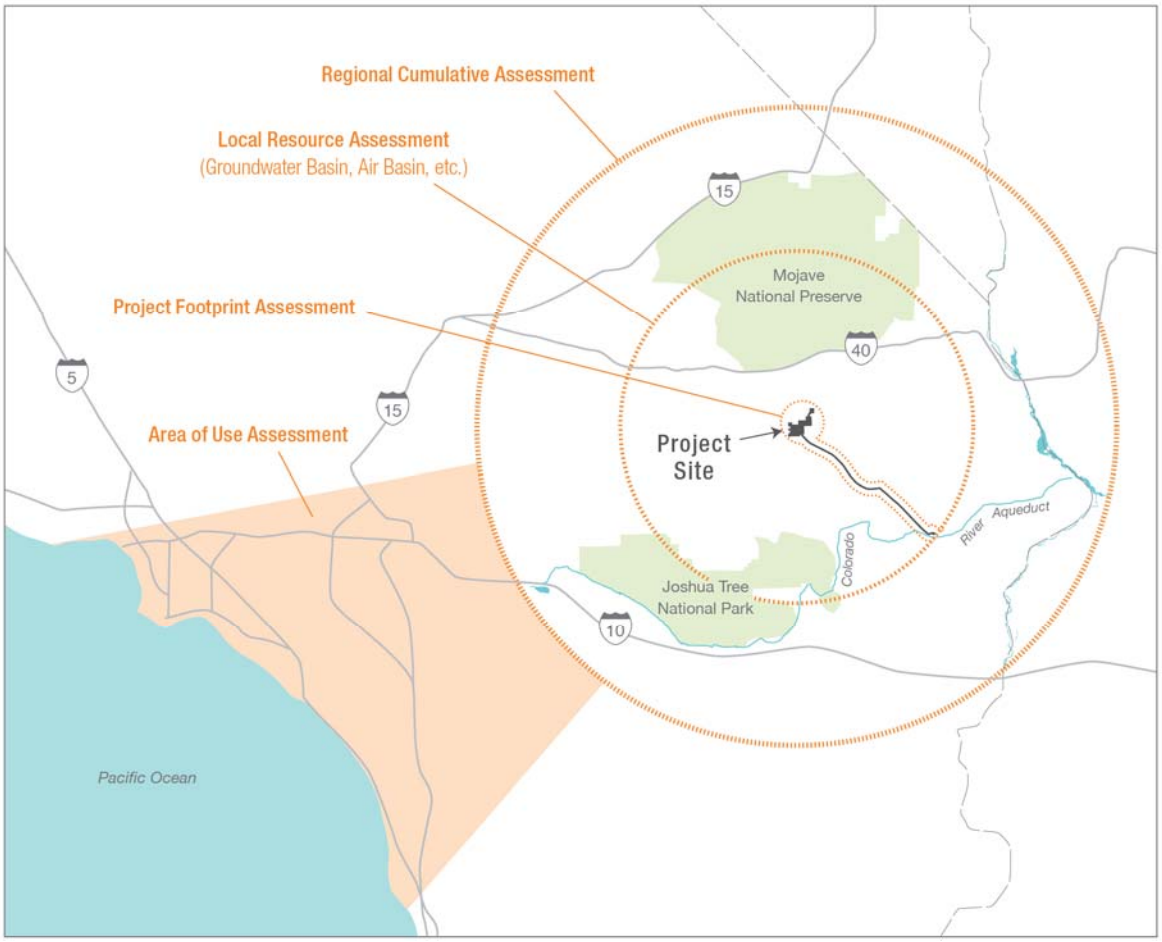


Figure 1-4
Geographic Context of Project Assessment

1.6 EIR Review Process

1.6.1 Notice of Preparation

In accordance with *CEQA Guidelines* Sections 15063 and 15082, SMWD prepared a NOP of a Draft EIR (see Appendix A) that was circulated to and available for comment by local, state, and federal agencies and other interested parties between February 28, 2011 and March 30, 2011. The NOP included the Project location and setting, the Project description for the first and second components, the Project approvals that would be required, the Project history, and a list of the potential environmental impacts to be discussed in the Draft EIR. As indicated in the NOP, this Draft EIR addresses all topics listed in Appendix G of the *CEQA Guidelines* regardless of whether the potential impact may be significant, so that information regarding this Project is available in a single document to facilitate public review.

Written comments were received during the 30-day public review period for the NOP. Comment letters received are included in Appendix A.

1.6.2 Public Scoping Meeting

CEQA recommends conducting early coordination with the general public, appropriate public agencies, and local jurisdictions to assist in developing the scope of the environmental document. Pursuant to *CEQA Guidelines* Section 15083, public scoping meetings were held on March 16, 2011 at the Santa Margarita Water District, 26111 Antonio Parkway, Rancho Santa Margarita, California and on March 24, 2011 at the Joshua Tree Community Center, 6171 Sunburst Street, Joshua Tree, California to allow agency consultation and public involvement in defining the scope and content of the Draft EIR. Public notices were placed in local newspapers (The Press Enterprise, Orange County Register, Hi-Desert Star, and The Desert Trail) to inform the public of the scoping meetings and the availability of the NOP. The purpose of the proposed Project and its potential environmental impacts were presented at the scoping meetings. Attendees were provided an opportunity to voice comments or concerns regarding the scope and content of the environmental information to be examined and included in the EIR for the proposed Project. Written comments and summaries of verbal comments received during the scoping meeting are included in the scoping report in Appendix A.

1.6.3 Public Review of the Draft EIR

SMWD has filed a Notice of Availability (NOA) of the Draft EIR with the Governor's Office of Planning and Research. The NOA is being circulated to local, state, and federal agencies and to organizations and individuals that have expressed interest in reviewing and commenting on the Draft EIR. Publication of this Draft EIR marks the beginning of a 70-day public review period. During this 70-day public review period, comments may be made on the Draft EIR either in writing or at the public informational meetings on the Draft EIR. Written comments may be sent to the following address and may be submitted via mail or via email:

Attn: Tom Barnes
ESA | Southern CA Water Group
626 Wilshire Boulevard, Suite 1100
Los Angeles, CA 90017
Email: tbarnes@esassoc.com

The Draft EIR is available for public review at the following locations:

- Santa Margarita Water District, 26111 Antonio Parkway, Rancho Santa Margarita, CA 92688
- Rancho Santa Margarita Public Library, 30902 La Promesa Drive, Rancho Santa Margarita, CA 92688
- Twentynine Palms Library, 6078 Adobe Rd., Twentynine Palms, CA 92277
- Joshua Tree Library, 6465 Park Blvd., Joshua Tree, CA 92252
- San Bernardino County Library, 104 W. 4th St., San Bernardino, CA 92415

The Draft EIR may also be reviewed on SMWD's website: www.smwd.com.

1.6.4 Final Environmental Impact Report Publication

Following the 70-day public review period of this Draft EIR, SMWD will prepare responses to comments received on the Draft EIR, which it will provide in a Final EIR on the Project. When considering the proposed Project for approval, SMWD will review and consider the information presented in the Final EIR and will certify that the Final EIR has been adequately prepared in accordance with CEQA (*CEQA Guidelines* §§ 15089 and 15090). If it approves the Project, SMWD shall make Findings regarding any significant, unavoidable environmental effects identified in the Final EIR, and if necessary, adopt a Statement of Overriding Considerations regarding these impacts (*CEQA Guidelines* §§ 15091, 15092, and 15093). If SMWD certifies the Final EIR and approves the Project, SMWD will file a Notice of Determination (NOD) with the State Clearinghouse and the county clerk of the county in which the Project will be located (*CEQA Guidelines* § 15094(d)). The Responsible Agencies also will review the Final EIR prior to considering relevant discretionary approvals for the proposed Project.

1.6.5 Mitigation Monitoring and Reporting Plan

CEQA requires lead agencies to adopt a mitigation monitoring and reporting program for mitigation measures or conditions of project approval that are necessary to mitigate or avoid significant effects on the environment (California Public Resources Code § 21081.6; *CEQA Guidelines* § 15097). A Mitigation Monitoring and Reporting Plan (MMRP) for the proposed Project will be prepared based on the mitigation measures and Project design features included in the Final EIR and will be included in the Findings made by SMWD and the Responsible Agencies.

1.7 References and Citations

Throughout this Draft EIR, technical citations are provided as footnotes and also listed in alphabetical order in Chapter 11, References. The material cited in each Chapter has been relied upon to substantiate the analysis. In addition, a substantial amount of technical data has been generated in evaluating the Project. Original technical reports prepared for this analysis are appended in Volumes 2, 3, and 4.